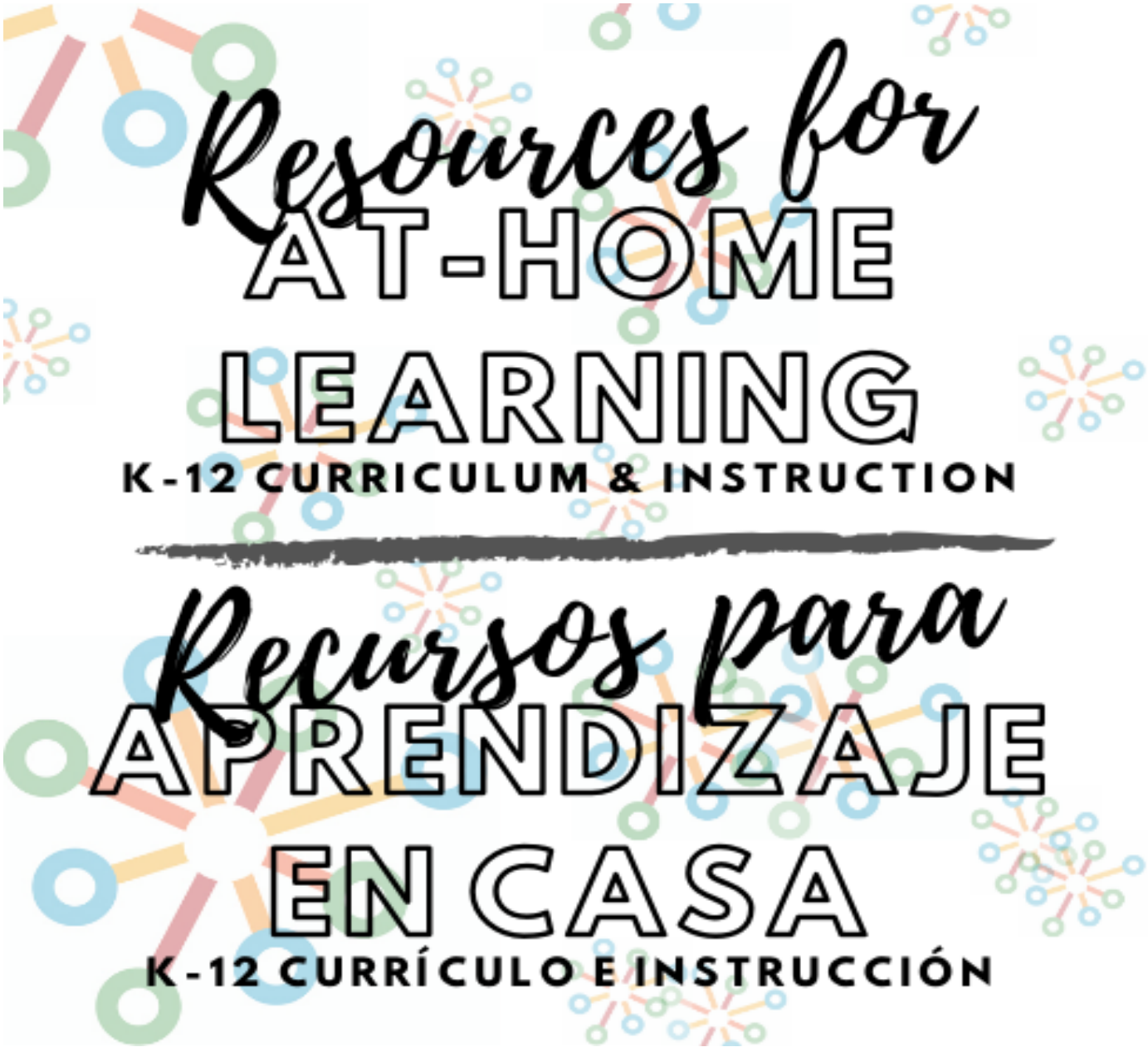
DURHAM
PUBLIC SCHOOLS

8th Grade/8vo Grado

ELA Literatura	Mathematics Matemáticas	Science Ciencias	Social Studies Ciencias Sociales



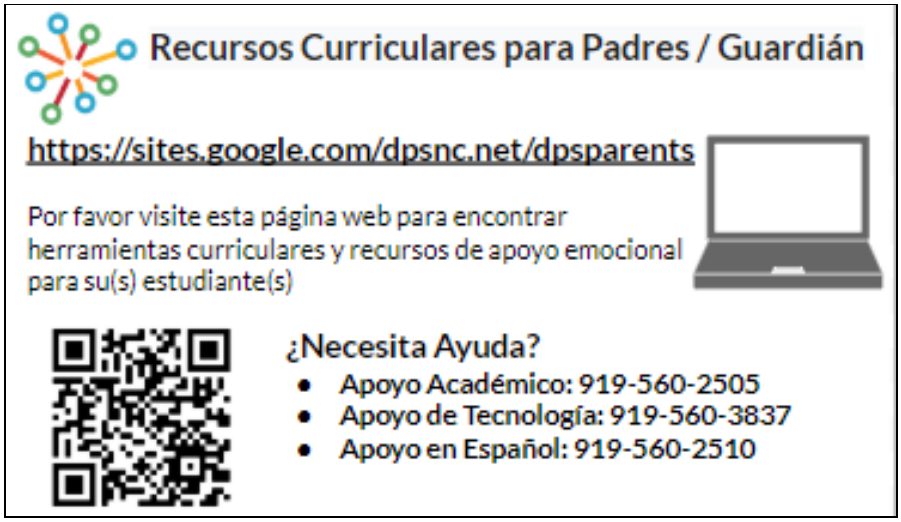
These materials are supplemental and will not be counted for a grade; students will not be penalized if the packet is not completed.

Estos materiales son suplementarios y no serán contados como calificación; los estudiantes no serán penalizados si el paquete no se completa.

DPS Support Services

EC Services: Each student with a disability has unique learning needs related to his/her disability, so it is very difficult to make recommendations for accommodations and how to differentiate learning that would be relevant to all students. If possible, referencing the supplementary aids and services (classroom accommodations) portion of each student's Individualized Education Program (IEP) to assist with access/accommodation needs may be helpful for parents who may be facilitating the supplementary work at home.

Servicios de Necesidades Excepcionales: Cada estudiante con una invalidez tiene necesidades de aprendizaje únicas relacionadas a su invalidez, entonces es bastante difícil hacer recomendaciones para acomodaciones y como diferenciar aprendizaje que seria pertinente para todos los estudiantes. Si es posible, referenciar las ayudas suplementarias y servicios (acomodaciones de salón de clase) porción del Programa Educativo Individualizado (PEI) de cada estudiante para ayudar con necesidades de acceso/acomodación puede ser útil para los padres que pueden estar facilitando el trabajo suplementario en casa.



ESL Instructional Services: Since school is cancelled and these are not instructional days students will not be receiving direct services. Packets for ELs will be included with other instructional material that will go to schools. ESL teachers will follow their schools' guidance.

Servicios Instruccionales de Inglés como Segundo Lenguaje: Ya que se cancela la escuela y estos no son días de instrucción, los estudiantes no recibirán servicios directos. Los Paquetes para los estudiantes del idioma inglés se incluirán con otro material instructivo que llegarán a las escuelas. Los profesores de Inglés como Segundo Lenguaje seguirán la dirección de la escuela.

Advanced Academics Services: Advanced learners need differentiation which provides them with more complex materials, tasks, and activities than their age peers – tasks that lead to authentic learning. To respect the unique learning needs of every student who needs more challenge, supplemental materials will be provided to offer 1) extension activities that are designed to broaden the understanding of a particular subject, idea, or concept by adding depth and complexity; and/or 2) enrichment options that provide a variety of learning opportunities that enhance a student's interests and talents through creative and academic exploration. These choice materials will be available in your student's At Home packet for your reference and student engagement opportunities.

Servicios Académicos Avanzados: Los estudiantes avanzados necesitan una diferenciación que les proporcione materiales, tareas y actividades más complejas que sus compañeros de edad-- tareas que conducen al aprendizaje auténtico. Para respetar las necesidades de aprendizaje únicas de cada estudiante que necesita más desafíos, se proporcionarán materiales suplementarios para ofrecer 1) actividades de extensión que están diseñadas para ampliar la comprensión de un tema, idea o concepto en particular al agregar profundidad y complejidad; y/o 2) opciones de enriquecimiento que proporcionan una variedad de oportunidades de aprendizaje que mejoran los intereses y talentos de un estudiante a través de la exploración creativa y académica. Estos materiales de elección estarán disponibles en el paquete de estudiantes para completar en casa para su referencia y oportunidades de participación estudiantil.

DURHAM PUBLIC SCHOOLS

At-Home Learning
Aprendizaje en Casa
April 6th – April 24th
6 abril - 24 abril

8th Grade – English Language Arts

8vo Grado - Artes del Lenguaje Inglés

Week 1 **Semana 1**	**Content** **Contenido**
Day 1 Día 1	StudySync Lesson: Blast – *Service with a Smile* Lección de StudySync: Blast – *Service with a Smile*
Days 2-3 Días 2-3	Skill: Citing Evidence Habilidad: Citando Evidencia
Days 4-5 Días 4-5	StudySync Lesson: First Read – *Born Worker* (with comprehension questions) Lección de StudySync: Primera Lectura – *Born Worker* (con preguntas de comprensión)
Week 2 **Semana 2**	**Content** **Contenido**
Days 1-2 Días 1-2	StudySync Lesson: First Read – *Born Worker* (with comprehension questions) Lección de StudySync: Primera Lectura – *Born Worker* (con preguntas de comprensión)
Day 3 Día 3	StudySync Lesson: First Read – *Born Worker* Access Sheet 3 and comprehension question Lección de StudySync: Primera Lectura – *Born Worker* Hoja de Acceso 3 y pregunta de comprensión
Days 4-5 Días 4-5	StudySync: Blast – *Trickster's Classroom* Access Sheet 4 StudySync: Blast – *Trickster's Classroom* Hoja de Acceso 4
Week 3 **Semana 3**	**Content** **Contenido**
Days 1-2 Días 1-2	StudySync Lesson: Blast – *Cool in the Pool* Access Sheet 4 Lección de StudySyncn: Blast – *Cool in the Pool* Hoja de Acceso 4
Days 3-5 Días 3-5	Reading Comprehension Sheet (with questions) Hoja de Comprensión Lectora (con preguntas)

Hello Parents/Guardians,

The enclosed At-Home Learning packet contains materials from StudySync, our core curriculum adoption. In preparing this learning packet, selections were made from the Instructional Reading Routine, with components that should be familiar to your child. Here are a few points of guidance as you work through the materials:

Blasts

- Brief informational text that will appear before and/or after a reading selection.
- Students will guess the connection of the number to the text (open-ended response, because correct connection is an online function).
- Questions that follow the Blasts are generally easier than questions from the selections. This is an area where the classroom teacher has the opportunity to further develop the concept prior to the First Read.

First Read/Focus Questions

- During regular instruction, these questions build upon students' understanding of the text and increase in difficulty. Only a few of many questions and activities are included in these lessons.
- Materials duplicated here are also in the student Reading & Writing Companion.

Writing Prompt:

- While each Instructional Reading Routine closes with a writing prompt, a menu of creative writing prompts is at the end of each grade level packet. These are highly engaging, and it is suggested that your child spend a few days constructing a thoughtful response to a prompt of his/her/they choice. Writing prompts also provide an opportunity for your student to research a topic/concept of interest to further enhance the response.

ELA classroom teachers will have access to this learning packet and you may communicate with him/her/they, or email me at Sharon.griffith@dpsnc.net.

Thank you and be well!

Sharon Griffith
ELA Specialist
Middle Schools

Hola Padres/Tutores,

El paquete adjunto de Aprendizaje en Casa contiene materiales de StudySync, nuestro plan de estudio formal. Al preparar este paquete de aprendizaje, se hicieron elecciones de la Rutina de Lectura instruccional, con componentes que deberían ser familiares para su hijo/a. Aquí hay algunos puntos de guía a medida que trabaja a través de los materiales:

"Blasts"

- Texto informativo corto que aparecerá antes y/o después de una elección de lectura.
- Los estudiantes predicen la conexión entre el número y el texto (respuesta abierta, porque la conexión correcta es una función en línea).
- Las preguntas que siguen a los "Blasts" son generalmente más fáciles que las preguntas de las elecciones. Esta es un área donde el maestro/a tiene la oportunidad de desarrollar aún más el concepto antes de la Primera Lectura.

Primera Lectura/Preguntas de Enfoque

- Durante la instrucción regular, estas preguntas están basadas en la comprensión del texto por parte de los estudiantes y aumentan en dificultad. Solo algunas de las muchas preguntas y actividades se incluyen en estas lecciones.
- Los materiales aquí duplicados, también están en el libro compañero de lectura & escritura del estudiante.

Pistas de Escritura "Writing Prompts":

- Mientras que cada Rutina de Lectura instruccional se cierra con un "Pistas de Escritura", al final de cada paquete de nivel de grado hay un menú con "Pistas de Escritura" creativos. Estos son altamente atractivos y se sugiere que su hijo/a pase algunos días elaborando una respuesta reflexiva a una pista o "prompt" que él o ella elija. Las pistas de escritura o "Writing prompts" también brindan una oportunidad para que su estudiante investigue un tema/concepto de interés para que amplíe la respuesta.

Los maestros de las clases de Artes del Lenguaje Inglés (ELA) tendrán acceso a este paquete de aprendizaje y usted se puede comunicar con él/ella/ellos o enviarme un correo electrónico a Sharon.griffith@dpsnc.net.

¡Gracias y espero que esté bien!

Sharon Griffith
ELA Especialista
Escuelas Intermedias

DAY 1

Nov 26, 2014

Blast: Service With a Smile

How can life experiences shape our values?

Create Your Blast

How can life experiences shape our values?

Blast back here...

140 characters left

Answer the StudySync QuikPoll

What is the most helpful thing we can do for others?

- [ ] Always make time to listen when someone needs to talk.
- [ ] Spend time volunteering in a community service organization.
- [ ] Teach other people to acquire skills.
- [ ] Give generous financial donations to charitable groups.
- [ ] Take up a career that involves helping people, such as being a nurse.

Number Crunch

1,000,000,000

How does this number connect to the text? (Guess)

StudySync Blast Info

Background

"I serve because it works!"
"To end hunger in America."
"Because every child should have the chance to be a rocket scientist."

Above, SERVE Philadelphia volunteers share some of the reasons they are motivated to help others—they point out that service accomplishes something worthwhile and can solve problems. But as you read their blog entries and see their wide smiles, you realize that helping others also makes us feel good about ourselves. Why are many individuals driven to help others?

For many of us, the reason lies in some youthful experience of our own; people often have an urge to protect others from the hardships they've endured. "Child Is Father of the Man," says the song on the Beach Boys' *Smile* album (1966). Lyricist Brian Wilson adapted this line from the work of English poet William Wordsworth. This striking phrase means that the crucial events of your childhood have a strong influence on what kind of adult you'll become.

One example of this is movie star Audrey Hepburn, beloved by millions of fans for her enchanting performances in *Breakfast at Tiffany's* and *Roman Holiday.* Though Audrey could have enjoyed an easy, relaxing life after retiring from the screen, she opted to serve others instead, traveling thousands of miles to raise money for UNICEF, the United Nations Children's Fund. What inspired Audrey to help the world's hungry children? She used to be one of them herself.

Audrey grew up in Holland during World War II, when naval blockades prevented the Dutch from importing foodstuffs. Starvation and want during those years meant that after the war Audrey no longer had the physical toughness required for the career she had dreamed about—being a ballerina. Even though she enjoyed success and fame as an actress, Audrey never forgot what it was like to go hungry. Therefore, as much as she was able through her work for UNICEF, she made sure that other hungry children would be properly fed and taken care of.

In this unit, you will explore articles, poetry, non-fiction accounts, dramas, and stories about children and young people helping others. Many are driven to serve because of their own life experiences, but in giving to others, they often get a lot back in return. As you explore the selections in this unit, think about how life experiences can shape our values.

Questions:

1. Besides the reasons given in the opening of the Background, why do we enjoy helping others?

2. What does the phrase "The child is father of the man" mean to you?

3. Can you think of examples besides Audrey Hepburn of famous people who dedicate themselves to helping others?

4. What is the greatest benefit we gain from helping others?

DAY 2

Lesson 3 Part 1: Introduction

Citing Evidence to Make Inferences

CCSS
RI.8.1: Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

Theme: *Light Phenomena*

People who believe there's life on other planets use evidence, such as UFO sightings, to back up their claims. **Evidence** is information used to support an opinion or belief. Evidence can also be used to support an **inference**, or reasonable guess, that's based on new facts combined with what you already know.

Look at the picture below, which many people thought showed an alien spacecraft. What evidence in the image and the caption supports or disproves that idea?

While returning from the Moon to Earth on April 27, 1972, Apollo 16 astronauts captured an unidentified flying object (UFO) on film. The image, described as "a saucer-shaped object with a dome on top," was visible in the film for about 4 seconds. It has since been identified.

Complete the chart with evidence that helps you figure out whether or not the object was an alien spacecraft. Consider details in both the image and the caption.

Text/Photo Evidence	+	Background Knowledge	=	Inference
• The photo was taken in 1972. • The object looks "saucer-shaped." • Something else can be seen to the left of the "saucer." •		• People often misunderstand what they see in photos. • No one has yet confirmed that alien life exists.		This "saucer-shaped object" is probably NOT an alien spacecraft. There is probably another explanation.

Good readers combine evidence and their own knowledge to support inferences. Although this UFO was spotted in 1972, no proof of alien life has ever been discovered. Plus, the image to the left of the "saucer" has to be explained, too. As it turns out, NASA scientists have shown that the "UFO" was actually the floodlight and boom from the Apollo 16 spacecraft itself!

Read the first three paragraphs of a scientific account about auroras.

Genre: **Scientific Account**

What Are Auroras? *by Georgiana Tomes*

Imagine a brilliant laser light show in the sky where ribbons of green, red, or violet dance across the atmosphere. While these fascinating lights might look like they come from machines, they are actually a natural phenomenon known as an aurora.

Auroras occur when highly charged electrons from solar wind interact with elements such as oxygen and nitrogen in the atmosphere. When the electrons strike the oxygen and nitrogen atoms, rays of light are formed. The color of these rays depends on which atoms collide and the altitude, or height, at which they meet. The rays often run parallel and take turns dimming and brightening in the night sky.

But where exactly do these light spectacles form? Like the needles of a compass, auroras are attracted to Earth's two magnetic ends: the geographic North and South Poles. The rays themselves follow the slanting direction of Earth's magnetic field.

(continued)

Explore how to answer this question: *"What inference can you make about why auroras fascinate people?"*

Think about the evidence the author provides about what auroras look like and where they appear.

Fill in the chart below with text evidence that helps you determine how auroras are similar to laser lights. Combine this text evidence with the provided background knowledge to form an inference.

Text Evidence	+	Background Knowledge	=	Inference
• Auroras look like green, red, or violet ribbons of light. • Auroras only appear near the North and South Poles. • •		• People are always amazed by unusual natural events •		

With a partner, discuss which piece of text evidence most strongly supports your inference and why. How does this evidence help you understand the appeal of the auroras?

Continue reading about auroras. Use the Close Reading and the Hint to help you answer the question.

Close Reading

Where are auroras visible? **Underline** two sentences that provide textual evidence explaining where people can view auroras.

(continued from page 20)

Auroras occur along "auroral ovals," which surround the magnetic poles. These ovals roughly correspond with the Arctic and Antarctic circles. Aurora borealis (the Northern Lights) are visible near Earth's magnetic north pole from high northern latitudes in North America, Europe, and Asia. Aurora australis (the Southern Lights) are visible near Earth's magnetic south pole, from high southern latitudes in Antarctica, South America, New Zealand, and Australia.

Auroras also occur on other planets with magnetic poles, including Saturn and Jupiter.

Hint

Think about which choice provides you with the coordinates where auroras are visible.

Circle the correct answer.

A student makes the following inference based on reading the text.

Auroras are not visible from the low latitudes around the equator.

Which choice is the strongest piece of evidence in support of this claim?

A Auroras are seen from high latitudes near each magnetic pole.

B The Aurora borealis is visible in North America and Europe.

C The Aurora australis is visible in Antarctica and New Zealand.

D Auroras form near the magnetic poles of other planets as well.

Show Your Thinking

Explain why the answer you chose is the strongest support for the claim about auroras' visibility.

With a partner, look for additional evidence on the previous page that would support the above inference. Discuss its strength.

Read the newspaper article. Use the Study Buddy and the Close Reading to guide your reading.

As I read the first paragraph, I learn that the airline employees are upset because no one believes them. As I keep reading, I'll look for more information about what is causing their unhappiness.

Close Reading

Does the FAA think the UFO sighting is real? **Circle** evidence that supports your inference.

What evidence can you find that shows the employees were not making up their story? **Underline** these details and **put a star (*)** next to the strongest piece of evidence.

Genre: **Newspaper Article**

from "In the sky! A bird? A plane? A . . . UFO?"

by Jon Hilkevitch, Chicago Tribune

January 1, 2007

1 It sounds like a tired joke—but a group of airline employees insist they are in earnest, and they are upset that neither their bosses nor the government will take them seriously.

2 A flying saucerlike object hovered low over O'Hare International Airport for several minutes before bolting through thick clouds with such intense energy that it left an eerie hole in overcast skies, said some [airline] employees who observed the phenomenon.

3 Was it an alien spaceship? A weather balloon lost in the airspace over the world's second-busiest airport? A top-secret military craft? Or simply a reflection from lights that played a trick on the eyes?

4 Officials at [the airline] professed no knowledge of the Nov. 7 event—which was reported to the airline by as many as a dozen of its own workers—when the *Tribune* started asking questions recently. But the Federal Aviation Administration said its air traffic control tower at O'Hare did receive a call from [an airline] supervisor asking if controllers had spotted a mysterious elliptical-shaped craft sitting motionless over Concourse C of the [airline] terminal.

5 No controllers saw the object, and a preliminary check of radar found nothing out of the ordinary, FAA spokeswoman Elizabeth Isham Cory said.

6 The FAA is not conducting a further investigation, Cory said. [. . .]

7 "Our theory on this is that it was a weather phenomenon," she said. "That night was a perfect atmospheric condition in terms of low [cloud] ceiling and a lot of airport lights. When the lights shine up into the clouds, sometimes you can see funny things. That's our take on it."

Hints

Based on what you know about what the witnesses think they saw, which fact from the text explains their frustration?

What position does the FAA take regarding the UFO and why?

What led witnesses to say they saw a UFO? What support is there for this claim?

Use the Hints on this page to help you answer the questions.

1 Which of the following best explains why the witnesses are upset?

A The UFO left "an eerie hole in the overcast skies" after flying through the clouds over O'Hare.

B No air traffic controllers saw the UFO and there is no record of anything out of the ordinary on radar.

C The airline denied having knowledge of the UFO and the FAA will not investigate the incident further.

D The FAA admits that its air traffic control tower received a call about "a mysterious elliptical-shaped craft."

2 Based on the article, which statement most strongly supports the FAA's position on the UFO sighting?

A A preliminary radar check found nothing out of the ordinary at the time of the alleged UFO appearance.

B Although at least twelve airline employees saw the object, no air traffic controllers did.

C Many people saw an elliptical-shaped craft hover over Concourse C and leave a hole in the clouds.

D When lights shine up into the clouds during certain weather conditions, optical illusions can occur.

3 What evidence supports the claim that a flying saucer flew over O'Hare International Airport? Evaluate which piece of evidence is strongest.

DAY 3

Read the article. Then answer the questions that follow.

The Mysterious Marfa Lights

by Rachel Bernstein

1 Near the little town of Marfa in western Texas is one of the most incredible sights in the United States: the Marfa lights.

What Are the Marfa Lights?

2 The Marfa lights are spheres of light the size of soccer balls in bright colors of red, orange, green, blue, white, or yellow. They appear only 10 to 20 times each year, in all seasons and any kind of weather. Sightings occur between dusk and dawn, lasting from a few seconds to several hours. The Marfa lights seem to occur more frequently during the second half of the lunar cycle, between the full moon and the next new moon.

3 The balls of light may remain motionless as they pulse on an off with intensity varying from faint to almost blinding radiance. Then again, they can zigzag far up in the air and dart across the desert against prevailing winds. The ghostly lights can move singly, in pairs, or in groups; they can split apart and merge, or sometimes vanish and then reappear. Their movements are unpredictable, and nobody has quite determined what they are or where they come from.

Who Has Seen Them?

4 Robert Ellison reported seeing the Marfa lights in 1883 while driving cattle through Paisano Pass. In 1885, Texas settlers Joe and Sally Humphreys encountered the lights. More recently, Kyle Miller, a local business owner, reported his encounter with the lights:

> *Late one night, I was driving home from a business meeting. Route 90 was deserted, except for a few armadillos crossing the road. I was listening to an awesome country song when a single green ball flashed in the distance. Unfortunately, it lasted only a few seconds, but I remember thinking I'd seen a glowing basketball frozen in midair. It was so shocking that I nearly jumped out of my seat, and the hair stood on the back of my neck. I've heard about the ghost lights my whole life, but I had never seen them before.*

These are just a few eyewitness reports. There are probably many people who have seen the lights but said nothing for fear of having their sanity doubted.

What Causes Them?

5 There are many theories about what causes the Marfa lights. In the past, superstitious locals thought they were the spirit of an Apache warrior. In 1883, a railroad engineer suggested they were kerosene lanterns at a nearby ranch. More recent proposals abound. Some investigators believe swamp gases cause them, while others believe they result from moonlight reflecting off the nearby Chinati Mountains. Still another hypothesis is that quartz crystals discharge static electricity when they warm in the daytime and cool at night.

6 Several studies have attempted to find the source of the Marfa lights. During World War II, pilots at Midland Army Air Field searched for a source from the air. In 1975, local pilot Fritz Kahl led one hundred observers on the "Marfa Ghost Light Hunt." Neither investigation proved successful.

7 In May 2004, a group of university physics students conducted a new study using high-tech equipment. After four days, the students concluded that automobile headlights from a nearby highway caused the Marfa lights. They attributed the strange appearance and movement of these lights to what is called the Fata Morgana mirage.

8 The Fata Morgana mirage is a superior mirage, which is characterized by multiple distortions. With superior mirages, what you perceive to be higher in the sky is really lower to the ground. Light bends downwards when it hits a layer of cold air, making it appear as if what is below your sight line is actually straight ahead or above because you are seeing the inverted image of what is on the horizon projected above it. A Fata Morgana mirage can make distant objects appear to hover in the air.

9 Does this mean that the mystery of the Marfa lights has been solved? The answer is not quite that simple. In his 2010 book *Hunting Marfa Lights*, engineer James Bunnell describes sightings of the lights he and others have witnessed that couldn't possibly have been caused by a superior mirage.

How Can You See Them?

10 With so many conflicting theories about the lights, people complain that there will never be a definitive answer about their origin. However, the local population has few complaints about the mysterious lights. The highway department has constructed an official viewing site near Marfa. And every Labor Day weekend, there is a Marfa Lights Festival held in celebration of the lights that includes a parade and other events. Marfa's economy booms as hotels fill up quickly and tourists spend their money on food, entertainment, and souvenirs.

11 If you want to attempt to see the Marfa lights, spend time between Marfa and Paisano Pass, south of Route 90. The most advantageous viewing spot is near U.S. Highway 67 on Mitchell Flat.

Answer Form

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ

Number Correct ___/3

1 Which sentence from the article **best** explains why the Marfa lights remain a mystery?

A "They appear only 10 to 20 times each year, in all seasons and any kind of weather."

B "Sightings occur between dusk and dawn, lasting from a few seconds to several hours."

C "The Marfa lights seem to occur more frequently during the second half of the lunar cycle, between the full moon and the next new moon."

D "With so many conflicting theories about the lights, people complain that there will never be a definitive answer about their origin."

2 Read these sentences from paragraph 4 of the article.

> These are just a few eyewitness reports. There are probably many people who have seen the lights but said nothing for fear of having their sanity doubted.

Which statement explains why there are few eyewitness reports?

A Those who saw the lights and reported them were ignored.

B Kyle Miller was ill when he reported that he saw the lights.

C People who report strange phenomena are usually not believed.

D The Humphreys probably saw the lights again but said nothing.

3 Which detail from the article illustrates that not all of the Marfa lights are caused by headlights from a nearby highway?

A The balls of light remain motionless and pulse on and off, switching from faint to bright.

B Robert Ellison saw the Marfa lights in 1883 while driving cattle, before cars were invented.

C The lights are the size of soccer balls in bright colors of red, orange, green, blue, white, or yellow.

D There are too many conflicting theories, so there will never be a definitive answer about their origin.

4 Paragraph 10 states, "the local population has few complaints about the mysterious lights." Explain why you think this is true. Use **one** quote from the article to support your explanation.

✓ Self Check *Go back and see what you can check off on the Self Check on page 1.*

DAYS 4&5

DAYS 1&2(wk2)

Read and Annotate

They said that José was born with a ring of dirt around his neck, with grime under his fingernails, and skin calloused from the grainy twist of a shovel. They said his palms were already rough by the time he was three, and soon after he learned his primary colors, his squint was the squint of an aged laborer. They said he was a born worker. By seven he was drinking coffee slowly, his mouth pursed the way his mother sipped. He wore jeans, a shirt with sleeves rolled to his elbows. His eye could measure a length of board, and his knees **genuflected** over flower beds and leafy gutters.

They said lots of things about José, but almost nothing of his parents. His mother stitched at a machine all day, and his father, with a steady job at the telephone company, climbed splintered, sun-sucked poles, fixed wires and looked around the city at tree level.

“What do you see up there?” José once asked his father.

“Work,” he answered. “I see years of work, *mi’jo* .”

José took this as a truth, and though he did well in school, he felt destined to labor. His arms would pump, his legs would bend, his arms would carry a world of earth. He believed in hard work, believed that his strength was as ancient as a rock’s.

“Life is hard,” his father repeated from the time José could first make out the meaning of words until he was stroking his fingers against the grain of his sandpaper beard.

His mother was an example to José. She would raise her hands, showing her fingers pierced from the sewing machines. She bled on her machine, bled because there was money to make, a child to raise, and a roof to stay under.

One day when José returned home from junior high, his cousin Arnie was sitting on the lawn sucking on a stalk of grass. José knew that grass didn’t come from his lawn. His was cut and pampered, clean.

“José!” Arnie shouted as he took off the earphones of his CD Walkman.

“Hi, Arnie,” José said without much enthusiasm. He didn’t like his cousin. He thought he was lazy and, worse, spoiled by the trappings of being middle class. His parents had good jobs in offices and showered him with clothes, shoes, CDs, vacations, almost anything he wanted. Arnie’s family had never climbed a telephone pole to size up the future.

Arnie rose to his feet, and José saw that his cousin was wearing a new pair of high-tops. He didn't say anything.

"Got an idea," Arnie said cheerfully. "Something that'll make us money."

José looked at his cousin, not a muscle of curiosity twitching in his face.

Still, Arnie explained that since he himself was so clever with words, and his best cousin in the whole world was good at working with his hands, that maybe they might start a company.
"What would you do?" José asked.

"Me?" he said brightly. "Shoot, I'll round up all kinds of jobs for you. You won't have to do anything." He stopped, then started again. "Except—you know—do the work."

"Get out of here," José said.

"Don't be that way," Arnie begged. "Let me tell you how it works."

The boys went inside the house, and while José stripped off his school clothes and put on his jeans and a T-shirt, Arnie told him that they could be rich.

"You ever hear of this guy named Bechtel?" Arnie asked.

José shook his head.

"Man, he started just like us," Arnie said. "He started digging ditches and stuff, and the next thing you knew, he was sitting by his own swimming pool. You want to sit by your own pool, don't you?" Arnie smiled, waiting for José to speak up.

"Never heard of this guy Bechtel," José said after he rolled on two huge socks, worn at the heels. He opened up his chest of drawers and brought out a packet of Kleenex.

Arnie looked at the Kleenex.

"How come you don't use your sleeve?" Arnie joked.

José thought for a moment and said, "I'm not like you." He smiled at his retort.

"Listen, I'll find the work, and then we can split it fifty-fifty."

José knew fifty-fifty was a bad deal.

“How about sixty-forty?” Arnie suggested when he could see that José wasn’t going for it. “I know a lot of people from my dad’s job. They’re waiting for us.”

José sat on the edge of his bed and started to lace up his boots. He knew that there were agencies that would find you work, agencies that took a portion of your pay. They’re cheats, he thought, people who sit in air-conditioned offices while others work.

“You really know a lot of people?” José asked.

“Boatloads,” Arnie said. “My dad works with this millionaire—honest—who cooks a steak for his dog every day.”

He’s a liar, José thought. No matter how he tried, he couldn’t picture a dog grubbing on steak. The world was too poor for that kind of silliness.

“Listen, I’ll go eighty-twenty.” José said.

“Aw, man,” Arnie whined. “That ain’t fair.”

José laughed.

“I mean, half the work is finding the jobs,” Arnie explained, his palms up as he begged José to be reasonable.

José knew this was true. He had had to go door-to-door, and he disliked asking for work. He assumed that it should automatically be his since he was a good worker, honest, and always on time.

“Where did you get this idea, anyhow?” José asked.

“I got a business mind,” Arnie said proudly.

“Just like that Bechtel guy,” José retorted.

“That’s right.”

José agreed to a seventy-thirty split, with the condition that Arnie had to help out. Arnie hollered, arguing that some people were meant to work and others to come up with brilliant ideas. He was one of the latter. Still, he agreed after José said it was that or nothing.

In the next two weeks, Arnie found an array of jobs. José peeled off shingles from a rickety garage roof, carried rocks down a path to where a pond would go, and spray-painted lawn furniture. And while Arnie accompanied him, most of the time he did nothing. He did help occasionally. He did shake the cans of

spray paint and kick aside debris so that José didn't trip while going down the path carrying the rocks. He did stack the piles of shingles, but almost cried when a nail bit his thumb. But mostly he told José what he had missed or where the work could be improved. José was bothered because he and his work had never been criticized before.

But soon José learned to ignore his cousin, ignore his comments about his spray painting, or about the way he lugged rocks, two in each arm. He didn't say anything, either, when they got paid and Arnie rubbed his hands like a fly, muttering, "It's payday."

Then Arnie found a job scrubbing a drained swimming pool. The two boys met early at José's house. Arnie brought his bike. José's own bike had a flat that grinned like a clown's face.

"I'll pedal," José suggested when Arnie said that he didn't have much leg strength.

With Arnie on the handlebars, José tore off, his pedaling so strong that tears of fear formed in Arnie's eyes.

"Slow down!" Arnie cried.

José ignored him and within minutes they were riding the bike up a gravel driveway. Arnie hopped off at first chance.

"You're scary," Arnie said, picking a gnat from his eye.

José chuckled.

When Arnie knocked on the door, an old man still in pajamas appeared in the window. He motioned for the boys to come around to the back.

"Let me do the talking," Arnie suggested to his cousin. "He knows my dad real good. They're like this." He pressed two fingers together.

José didn't bother to say OK. He walked the bike into the backyard, which was lush with plants—roses in their last bloom, geraniums, hydrangeas, pansies with their skirts of bright colors. José could make out the splash of a fountain. Then he heard the hysterical yapping of a poodle. From all his noise, a person might have thought the dog was on fire.

"Hi, Mr. Clemens," Arnie said, extending his hand. "I'm Arnie Sanchez. It's nice to see you again."

José had never seen a kid actually greet someone like this. Mr. Clemens said, hiking up his pajama bottoms, "I only wanted one kid to work."

"Oh," Arnie stuttered. "Actually, my cousin José really does the work and I kind of, you know, supervise."

Mr. Clemens pinched up his wrinkled face. He seemed not to understand. He took out a pea-sized hearing aid, fiddled with its tiny dial, and fit it into his ear, which was surrounded with wiry gray hair.

“I’m only paying for one boy,” Mr. Clemens shouted. His poodle click-clicked and stood behind his legs. The dog bared its small crooked teeth.

“That’s right,” Arnie said, smiling a strained smile. “we know that you’re going to **compensate** only one of us.”

Mr. Clemens muttered under his breath. He combed his hair with his fingers. He showed José the pool, which was shaped as round as an elephant. It was filthy with grime. Near the bottom some grayish water shimmered and leaves floated as limp as cornflakes.

“It’s got to be real clean,” Mr. Clemens said, “or it’s not worth it.”

“Oh, José’s a great worker,” Arnie said. He patted his cousin’s shoulders and said that he could lift a mule.

Mr. Clemens sized up José and squeezed his shoulders, too.

“How do I know you, anyhow?” Mr. Clemens asked Arnie, who was aiming a smile at the poodle.

“You know my dad,” Arnie answered, raising his smile to the old man. “He works at Interstate Insurance. You and he had some business deals.”

Mr. Clemens thought for a moment, a hand on his mouth, head shaking. He could have been thinking about the meaning of life, his face was so dark.

“Mexican fella?” he inquired.

“That’s him,” Arnie said happily.

José felt like hitting his cousin for his cheerful attitude. Instead, he walked over and picked up the white plastic bottle of bleach. Next to it was a wire brush, a **pumice** stone, and some rags. He set down the bottle and, like a surgeon, put on a pair of rubber gloves.

“You know what you’re doing, boy?” Mr. Clemens asked.

José nodded as he walked into the pool. If it had been filled with water, his chest would have been wet. The new hair on his chest would have been floating like the legs of a jellyfish.

“Oh, yeah,” Arnie chimed, speaking for his cousin. “José was born to work.”

José would have drowned his cousin if there had been more water. Instead, he poured a bleach solution into a rag and swirled it over an area. He took the wire brush and scrubbed. The black algae came up like a foamy monster.

“We’re a team,” Arnie said to Mr. Clemens.

Arnie descended into the pool and took the bleach bottle from José. He held it for José and smiled up at Mr. Clemens, who, hands on hips, watched for a while, the poodle at his side. He cupped his ear, as if to pick up the sounds of José’s scrubbing.

“Nice day, huh?” Arnie sang.

“What?” Mr. Clemens said.

“Nice day,” Arnie repeated, this time louder. “So which ear can’t you hear in?” Grinning, Arnie wiggled his ear to make sure that Mr. Clemens knew what he was asking.

Mr. Clemens ignored Arnie. He watched José, whose arms worked back and forth like he was sawing logs.

“We’re not only a team,” Arnie shouted, “but we’re also cousins.”

Mr. Clemens shook his head at Arnie. When he left, the poodle leading the way, Arnie immediately climbed out of the pool and sat on the edge, legs dangling.

“It’s going to be blazing,” Arnie complained. He shaded his eyes with his hand and looked east, where the sun was rising over a sycamore, its leaves hanging like bats.

José scrubbed. He worked the wire brush over the black and green stains, the grime dripping like tears. He finished a large area. He hopped out of the pool and returned hauling a garden hose with an attached nozzle. He gave the cleaned area a blast. When the spray got too close, his cousin screamed, got up, and, searching for something to do, picked a **loquat** from a tree.

“What’s your favorite fruit?” Arnie asked.

José ignored him.

Arnie stuffed a bunch of loquats into his mouth, then cursed himself for splattering juice on his new high-tops. He returned to the pool, his cheeks fat with the seeds, and once again sat at the edge. He started to tell José how he had first learned to swim. “We were on vacation in Mazatlán. You been there, ain’t you?

José shook his head. He dabbed the bleach solution onto the sides of the pool with a rag and scrubbed a new area.

“Anyhow, my dad was on the beach and saw this drowned dead guy,” Arnie continued. “And right there, my dad got scared and realized I couldn’t swim.”

Arnie rattled on about how his father had taught him in the hotel pool and later showed him where the drowned man’s body had been.

“Be quiet,” José said.

“What?”

“I can’t concentrate,” José said, stepping back to look at the cleaned area.

Arnie shut his mouth but opened it to lick loquat juice from his fingers. He kicked his legs against the swimming pool, bored. He looked around the backyard and spotted a lounge chair. He got up, dusting off the back of his pants, and threw himself into the cushions. He raised and lowered the back of the lounge. Sighing, he snuggled in. He stayed quiet for three minutes, during which time José scrubbed. His arms hurt but he kept working with long strokes. José knew that in an hour the sun would drench the pool with light. He hurried to get the job done.

Arnie then asked, “You ever peel before?”

José looked at his cousin. His nose burned from the bleach. He scrunched up his face.

“You know, like when you get sunburned.”

“I’m too dark to peel,” José said, his words echoing because he had advanced to the deep end. “Why don’t you be quiet and let me work?”

Arnie babbled on that he had peeled when on vacation in Hawaii. He explained that he was really more French than Mexican, and that’s why his skin was sensitive. He said that when he lived in France, people thought that he could be Portuguese or maybe Armenian, never Mexican.

José felt like soaking his rag with bleach and pressing it over Arnie’s mouth to make him be quiet.

Then Mr. Clemens appeared. He was dressed in white pants and flowery shirt. His thin hair was combed so that his scalp, as pink as a crab, showed.

“I’m just taking a little rest,” Arnie said.

Arnie leaped back into the pool. He took the bleach bottle and held it. He smiled at Mr. Clemens, who came to inspect their progress.

“José’s doing a good job,” Arnie said, then whistled a song.

Mr. Clemens peered into the pool, hands on knees, admiring the progress.

“Pretty good, huh?” Arnie asked.

Mr. Clemens nodded. Then his hearing aid fell out, and José turned in time to see it roll like a bottle cap toward the bottom of the pool. It leaped into the stagnant water with a plop. A single bubble went up, and it was gone.

“Dang,” Mr. Clemens swore. He took shuffling steps toward the deep end. He steadied his gaze on where the hearing aid had sunk. He leaned over and suddenly, arms waving, one leg kicking out, he tumbled into the pool. He landed standing up, then his legs buckled, and he crumbled, his head striking against the bottom. He rolled once, and half of his body settled in the water.

“Did you see that!” Arnie shouted, big-eyed.

José had already dropped his brushes on the side of the pool and hurried to the old man, who moaned, eyes closed, his false teeth jutting from his mouth. A ribbon of blood immediately began to flow from his scalp.

“We better get out of here!” Arnie suggested. “They’re going to blame us!”

José knelt on both knees at the old man’s side. He took the man’s teeth from his mouth and placed them in his shirt pocket. The old man groaned and opened his eyes, which were shiny wet. He appeared startled, like a newborn.

“Sir, you’ll be all right,” José cooed, then snapped at his cousin. “Arnie, get over here and help me!”

“I’m going home,” Arnie whined.

“You punk!” José yelled. “Go inside and call 911.”

Arnie said that they should leave him there.

“Why should we get involved?” he cried as he started for his bike. “It’s his own fault.”

José laid the man’s head down and with giant steps leaped out of the pool, shoving his cousin as he passed. He went into the kitchen and punched in 911 on a telephone. He explained to the operator what

had happened. When asked the address, José dropped the phone and went onto the front porch to look for it.

“It’s 940 East Brown,” José breathed. He hung up and looked wildly about the kitchen. He opened up the refrigerator and brought out a plastic tray of ice, which he twisted so that a few of the cubes popped out and slid across the floor. He wrapped some cubes in a dish towel. When he raced outside, Arnie was gone, the yapping poodle was doing laps around the edge of the pool, and Mr. Clemens was trying to stand up.

“No, sir,” José said as he jumped into the pool, his own knees almost buckling. “Please, sit down.”

Mr. Clemens staggered and collapsed. José caught him before he hit his head again. The towel of ice cubes dropped from his hands. With his legs spread to absorb the weight, José raised the man up in his arms, this fragile man. He picked him up and carefully stepped toward the shallow end, one slow elephant step at a time.

“You’ll be all right,” José said, more to himself than to Mr. Clemens, who moaned and struggled to be let free.

The sirens wailed in the distance. The poodle yapped, which started a dog barking in the neighbor’s yard.

“You’ll be OK,” José repeated, and in the shallow end of the pool, he edged up the steps. He lay the old man in the lounge chair and raced back inside for more ice and another towel. He returned outside and placed the bundle of cubes on the man’s head, where the blood flowed. Mr. Clemens was awake, looking about. When the old man felt his mouth, José reached into his shirt pocket and pulled out his false teeth. He fit the teeth into Mr. Clemens’s mouth and a smile appeared, something bright at a difficult time.

“I hit my head,” Mr. Clemens said after smacking his teeth so that the fit was right.

José looked up and his gaze floated to a telephone pole, one his father might have climbed. If he had been there, his father would have seen that José was more than just a good worker. He would have seen a good man. He held the towel to the old man’s head. The poodle, now quiet, joined them on the lounge chair.

A fire truck pulled into the driveway and soon they were surrounded by firemen, one of whom brought out a first-aid kit. A fireman led José away and asked what happened. He was starting to explain when his cousin reappeared, yapping like a poodle.

“I was scrubbing the pool,” Arnie shouted, “and I said, ‘Mr. Clemens, you shouldn’t stand so close to the edge.’ But did he listen? No, he leaned over and …Well, you can just imagine my horror.”

José walked away from Arnie’s **jabbering.** He walked away, and realized that there were people like his

cousin, the liar, and people like himself, someone he was getting to know. He walked away and in the midmorning heat boosted himself up a telephone pole. He climbed up and saw for himself what his father saw—miles and miles of trees and houses, and a future lost in the layers of yellowish haze.

Think Questions:

1. Why do you think José feels he is "destined to labor"? Support your answer with textual evidence.

2. José doesn't like his cousin Arnie, so why does he decide to go into business with him? Support your answer with textual evidence.

3. Use details from the text to cite some of the major differences between Arnie and José.

4. Use context to determine the meaning of the word jabbering as it is used in "Born Worker." Write your definition of "jabbering" here and show how you found it. Check your answer against the dictionary definition.

Focus Questions:

1. José doesn't like his cousin because he feels Arnie is "lazy and, worse, spoiled by the trappings of being middle class." What details does the author include in the story that reveal how Arnie really feels about José? Does he see José as his equal? Support your answer with textual evidence.

2. José's father works for the telephone company, and throughout the story, Gary Soto refers to telephone poles. What is the significance of the telephone pole as the author uses it in the story? How does it relate to the theme? Cite textual evidence to support your answer.

DAY 3

Access 3

Close Read: Born Worker

Summarize and Analyze the Text

Complete the sentences below using information from the story. Then use these completed sentences to help you annotate the story.

1. José feels destined to _____. Both his father and mother work very hard and José claims he is born to be a _____.
2. José's cousin Arnie is the complete _____ of him. José doesn't care for Arnie because he is _____, and worst of all, _____.
3. Arnie wants to start a business with José. Arnie says he is good with _____ and José is good with his _____. Arnie claims that José won't have to do anything, except the _____.
4. When José tells Arnie he has to work, Arnie hollers and _____ that some people are born to work while others are born to come up with brilliant _____.
5. José _____ Mr. Clemens's pool while Arnie stuffs _____ _____ into his mouth.
6. When Mr. Clemens falls and _____ himself, José immediately _____ him. Arnie _____, but is quick to _____ to tell the police how he told Mr. Clemens to be careful by the pool.

Your Turn

Read this section from "Born Worker" to identify story structure and answer the follow-up questions.

"I hit my head," Mr. Clemens said after smacking his teeth so that the fit was right.

José looked up and his gaze floated to a telephone pole, one his father might have climbed. If he had been there, his father would have seen that José was more than just a good worker. He would have seen a good man. He held the towel to the old man's head. The poodle, now quiet, joined them on the lounge chair.

A fire truck pulled into the driveway and soon they were surrounded by firemen, one of whom brought out a first-aid kit. A fireman led José away and asked what happened. He was starting to explain when his cousin reappeared, yapping like a poodle.

CCSS: RL.8.3, RL.8.5

Part A

What does José learn about himself after his experience with Mr. Clemens?

- [ ] A. He should have listened to Arnie and run away from the scene.
- [ ] B. Do your own work instead of relying on others to do it for you.
- [ ] C. A willingness to do what is hard shows that someone is a good person, and his future may have more in it than just labor.
- [ ] D. The only people who succeed in life are those who look out for themselves first.

Part B

Which sentence(s) from the passage supports your answer?

- [ ] A. "A fireman led José away and asked what happened. He was starting to explain when his cousin reappeared, yapping like a poodle."
- [ ] B. "He climbed up and saw for himself what his father saw—miles and miles of trees and houses, and a future lost in the layers of yellowish haze."
- [ ] C. "'I was scrubbing the pool,' Arnie shouted, 'and I said, 'Mr. Clemens, you shouldn't stand so close to the edge. But did he listen?'"
- [ ] D. "José walked away from Arnie's jabbering."

DAYS 4&5

Apr 29, 2015

Blast: The Trickster's Classroom

How do tricksters in literature teach others a lesson?

Create Your Blast

How do tricksters in literature teach others a lesson?

Blast back here...

140 characters left

Answer the StudySync QuikPoll

Do you think tricksters teach us valuable lessons?

- [ ] Never. They are irritating, immature, and selfish, and they bring only silliness--or worse.
- [ ] Sometimes. The way some tricksters behave so differently makes you think about what you value and how you live.
- [ ] Always. They are interesting characters who create new ways for us to think about things.

Number Crunch

1711

How does this number connect to the text? (Guess)

StudySync Blast Info

Background

Have you ever been tricked? Have you ever tricked someone?

Story characters who are "tricksters" belong to an archetype as old as storytelling itself. Tricksters disobey rules, ignore what is customary, and often encourage chaos. They use clever words to fool

others and to make up for their own shortcomings, such as physical or moral weakness. They often put on an act to sway a certain victim and get what they want. Tricksters are both funny and frustrating as they teach their victims lessons in living.

Trickster characters appear across all cultures. Native American tales, for example, present tricksters who are coyotes, rabbits, or other clever animals. In European folklore, crows, ravens, and foxes are often tricksters. From West Africa comes Anansi, the clever spider. In African American folklore, Br'er Rabbit is a famous trickster. These tricksters are often animals that use their wit to survive against animals that are physically stronger than they are. Other animals in these stories often learn this lesson: You can't always expect to come out on top just because you are strong. However long the stories have existed, the lessons they have to teach never seem to get old.

Many famous tricksters appear throughout modern storytelling, too. Perhaps the most famous in American literature is that of Tom Sawyer, the character created by author Mark Twain in his famous novel *The Adventures of Tom Sawyer,* and who also appears in *The Adventures of Huckleberry Finn.* In the famous fence-painting scene, Tom is a perfect illustration of the trickster character type: a person who uses clever words, including verbal irony, to get others to do what he wants. Tom Sawyer looks out for his own interests while fooling others into thinking that they are the winners. The ones who really benefit from the trickster's schemes, of course, are the readers who have been entertained by such characters for generations.

In popular culture today, we enjoy the antics of Bart Simpson, who flouts the rules of his parents and teachers. He sometimes takes his lumps along the way, but he almost always emerges victorious. The Joker from the *Batman* comics and movies is a more sinister trickster, for his actions threaten lives and society itself. In *The Dark Knight,* the Joker says, "You were a schemer, you had plans, and uh, look where that got you. I just did what I do best. I took your plan and I turned it on itself." This is the essence of tricksters: to take what is expected and turn it upside down for their own benefit, while teaching important lessons along the way.

Think about the character of Arnie in Gary Soto's story "Born Worker." How do our modern tricksters continue to teach us lessons today?

Questions:

1. What qualities define a trickster?

2. What are some examples of tricksters in folklore? What do these animal tricksters teach the other characters in their stories?

3. What other lessons that tricksters can teach us can you think of?

Access 4

Blast: The Trickster's Classroom

Read and Summarize

Read the Background information and complete the summary below. Use what you learn during the reading to complete the sentences.

Tricksters are as old as _____ itself. They _____ rules, ignore what is customary, and often encourage _____. Tricksters use clever words to _____ others. They often try to make up for their own _____ _____. Tricksters can be funny, yet _____ as they teach their victims lessons in living.

Many cultures have _____ with tricksters. Native American folktales have coyotes or _____ as the tricksters. European folktales use crows, ravens, and _____. African folktales have _____, who is a clever spider. All of the tricksters use their _____ to survive against other animals that are physically _____ than they are.

In popular culture, _____ Simpson is known as a trickster. The Joker from *Batman* is a _____ trickster. He takes what he wants for his own _____.

Blast Glossary

As you read the Background section of the Blast, look for these key words and use the definitions below to help you understand the information.

Word or Phrase	**Meaning**
archetype	a recurrent symbol or character in literature, art, or mythology
shortcomings	a character's faults or failures
antics	foolish, outrageous, or amusing behavior
flouts	breaks or ignores a law or a rule without showing fear or shame
sinister	menacing or wicked

DAYS 1&2

Apr 29, 2015

Blast: Cool in the Pool!

How do text features help us understand instruction manuals?

Create Your Blast

How do text features help us understand instruction manuals?

Blast back here...

140 characters left

Answer the StudySync QuikPoll

What is the most important text feature in an instruction manual?

- [ ] Clear, concise text
- [ ] Headings and subheadings
- [ ] Pictures and diagrams
- [ ] Boldface text and bullet points

Number Crunch

66 million

How does this number connect to the text? (Guess)

StudySync Blast Info

Background

In Gary Soto's story "Born Worker," Arnie has a dream of sitting by his own swimming pool. Of course, Arnie doesn't stop to imagine how much work it would be to install such a luxury item. How would Arnie and his cousin José begin to do that kind of work? It starts with an instruction manual.

You've probably used an instruction manual before. Maybe you've set up a new TV, or built a model, or learned to play a new board game. All of these things come with instruction manuals that tell you how to use them or how to put them together. Instruction manuals are designed to be easily read and understood, and they often use text features to accomplish this.

Let's take, for example, this instruction manual for an above-ground swimming pool. A pool is a large item, and this one has many parts. Therefore, the instructions need to be extra clear and easy to follow, in order to minimize confusion.

The first thing you'll see when you click on the link is the name of the item the instruction manual will discuss, along with the name of the company that makes it. This section of the instructions also gives customers two important pieces of information, including a picture of the pool and an important warning. This is helpful because it shows what the pool should look like when it has been put together according to the instructions. In addition, the warning (DANGER!) tells customers about important safety information. This reminds them that a pool is not only fun, but is also a responsibility.

The text is divided by short black bands with arrows with white text in all-capital letters. The sections include "General," "Contract Installations," "Local Codes," and "Barrier Requirements." In each section is important information on a variety of issues related to the pool, and the text features help to alert the reader to each type of information. Boldface type is another indication that certain information is especially important, and we see a boldface note that tells us what drill setting to use.

At the bottom of the first page, in a text box, are the manufacturer's address, telephone number, website, and email address. This is called a footer. This information is included in case you need help understanding the instruction manual, or in case you're interested in purchasing another product from them. The manufacturer's use of the text box sets the information apart.

Keep in mind that reading text features alone will not help consumers get all the information from an instruction manual. No manufacturer wants to waste consumers' time with text they don't need, so all the information is important. Consumers need to read all the paragraphs of information along with the features, recognizing how each sentence helps to develop the key concepts related to installing the product.

What other text features does this instruction manual include? How do these features help guide consumers through a complicated process?

Questions:

Why is the picture of the pool on the first page of the manual helpful?

Why is the manufacturer's contact information included?

What other text features do you think we might find in this manual?

Locate the heading "General." What is the key idea of the paragraph that follows?

Access 4

Blast: Cool in the Pool!

Read and Summarize

Read the Background information and complete the summary below. Use what you learn during the reading to complete the sentences.

An instructional manual tells you how to _____ an item or how to _____ it together. They are designed to be easily _____ and _____, and they often use _____ to accomplish this.

The first thing you often see when viewing an instruction manual is the name of the _____ _____. You will also see the name of the _____ that makes it. In the swimming pool manual, the first thing you see is a _____ of the pool and an important _____, which lists the dangers. This reminds customers that a pool is not only fun, but is also a _____.

The swimming pool manual is divided by short _____ in the shape of arrows with white text in all-capital letters. Each section lists important information related to the pool and the _____ alert the reader of each type of information. _____ type is another indication that certain information is especially important.

At the bottom of the first page, in a _____, are the manufacturer's address, telephone number, _____, and email address. This is called a _____. The information is included in case you need help understanding this swimming pool instruction manual, or in case you're interested in purchasing another _____ from them.

Blast Glossary

As you read the Background section of the Blast, look for these key words and use the definitions below to help you understand the information.

Word or Phrase	**Meaning**
installation	the action or process of making a machine, a service, etc., ready to be used in a certain place
drill setting	a specific mode on a power drill
consumer	a person who purchases goods and services for personal use
manual	a book of instructions, especially for operating a machine or learning a subject; a handbook for setting up a machine

DAYS 3-5

Defying Gravity (1280L)

Step 1: Before Reading Poll (Write Your Answer)

Simone Biles has been called the greatest gymnast ever. However, she has had some setbacks on her path to success. What do you think?

With enough hard work, anything is possible.

- Do you agree or disagree?

Step 2: Article (Read the Article)

Photo credit: Marijan Murat/dpa via AP

Simone Biles shows off her hardware. The gymnast won five gold medals at the 2019 gymnastics world championships in Stuttgart, Germany.

STUTTGART, Germany (Achieve3000, October 24, 2019). Is 25 a lot? It depends. Twenty-five days of summer vacation are not nearly enough, but 25 gymnastics medals? Now that's *a lot* of hardware. Just ask Simone Biles.

In October 2019, the 22-year-old gymnast not only expertly nailed her landings at the gymnastics world championships, she vaulted her way into the history books, winning her 25th world championship medal, more than any other gymnast in the world. And as if that wasn't enough, two of her moves during the competition were added to the list of signature moves bearing her name. One, now officially dubbed the "Biles," is a mind-boggling double-double dismount from the balance beam involving a double-twisting double backflip. Whew—that's even hard to *say*!

Biles' performances are so death-defying, you might find yourself thinking gravity's merely a suggestion rather than a natural law as she twists and turns in the air like a leaf in the wind. And yet, her techniques necessitate stupendous physical strength to pull off, so if you've ever witnessed her impeccable execution, you likely won't need much convincing that she's the greatest gymnast in the world. Seems like magic, and yes, natural talent's got a lot to do with it, but chalk it up to good ole fashioned practice and perseverance that skyrocketed this go-getter to the top.

Born on March 14, 1997, in Columbus, Ohio, Biles didn't have a picture-perfect childhood, spending her early years in foster care until 2003, when her grandparents, Ron and Nellie Biles, adopted her. Biles has said her success wouldn't be possible without the support of her adoptive parents, and they can't be missed cheering her on from the bleachers at every competition.

Biles discovered gymnastics during a field trip when she was just 6 years old, and even from a young age, she was resolute in her commitment to the sport. Her mother has said that skipping practice was never an

option for Biles, who practiced even when she was sick, when, let's face it, most of us would probably crawl back into bed.

But Biles' path to success didn't come without setbacks that threatened to impede her progress. In 2011, she finished 14th at the U.S. Junior Championships, after which the U.S. women's junior national team was named. Thirteen gymnasts made the team, meaning Biles missed by one spot—a defeat she describes in her autobiography, *Courage to Soar: A Body in Motion, A Life in Balance*, as a demoralizing, heartbreaking failure.

But Biles' disappointment pushed her to work that much harder, and soon enough her tenacity began to pay off. In 2013, she was named as a replacement gymnast when two members of the U.S. Women's Gymnastics Team withdrew due to injuries. Biles was to replace none other than Olympic gold medalist Kyla Ross, so you could say she had big shoes to fill, but then again, gymnasts usually perform barefoot!

Biles continued to compete against Olympic medalists in top-tier meets, where she went toe-to-toe with the best of the best, often capturing the gold. At age 19, she was chosen to lead Team U.S.A at the 2016 Olympic Games in Rio de Janeiro. By then, many already recognized Biles as the greatest of all time, or GOAT, but it was during her Olympic debut that she became a household name. Along with fellow American, swimmer Katie Ledecky, Biles was the most decorated female athlete at Rio, winning five medals in total and four of them gold!

Indeed, Simone Biles' journey from childhood to the Olympic Games and astonishing, jaw-dropping success as a gymnast is one of overcoming, and she has become an inspiration to young women everywhere as well as innumerable others striving to make their dreams come true. And with Biles gearing up to compete at the 2020 Summer Olympics in Tokyo, it's safe to say this champion isn't done breaking records and dazzling audiences just yet.

Credit: Video Credit: Team USA

Dictionary

dub *(verb)* to give (someone or something) a name or title
impeccable *(adjective)* free from fault or error
impede *(verb)* to slow the movement, progress, or action of (someone or something)
tenacious *(adjective)* very determined to do something

Step 3: Activity (Answer the Questions)

Question 1

What is this Article mainly about?

Ⓐ At a recent world championship, Simone Biles performed her trademark move the "Biles," which is a double-double balance beam dismount with a double-twisting double backflip.

Ⓑ With an abundance of physical strength, talent, and persistence, Simone Biles overcame obstacles and adversity to become what many consider to be the greatest gymnast in the world.

Ⓒ Gymnast Simone Biles said in her autobiography that failing to achieve a spot on the 2011 U.S. women's junior national team was a demoralizing, heartbreaking failure on her part.

Ⓓ Simone Biles' childhood was far from perfect, and, in fact, she spent her early years in foster care until her grandparents, Ron and Nellie Biles, adopted her in 2003.

Question 2

Which of these is a statement of opinion?

Ⓐ After years of hard work, Simone Biles was named as a replacement for Olympic gold medalist Kyla Ross as a member of the U.S. Women's Gymnastics Team in 2013.

Ⓑ In October 2019, Simone Biles made U.S. gymnastics history when she won her 25th world championship medal, more than any other gymnast in the world.

Ⓒ Simone Biles was born in 1997 and didn't have an easy childhood, spending her early years in foster care until she was adopted by her grandparents, Ron and Nellie Biles, in 2003.

Ⓓ Although her hard work and persistence have no doubt contributed to her phenomenal performances, Simone Biles' natural physical ability has been the true key to her success.

Question 3

The Article states:

> **But Biles' disappointment pushed her to work that much harder, and soon enough her tenacity began to pay off. In 2013, she was named as a replacement gymnast when two members of the U.S. Women's Gymnastics Team withdrew due to injuries. Biles was to replace none other than Olympic gold medalist Kyla Ross, so you could say she had big shoes to fill, but then again, gymnasts usually perform barefoot!**

Why did the author include this passage?

Ⓐ To point out that a rivalry between gymnasts Simone Biles and Kyla Ross gave Biles the motivation needed to replace Ross on the United States' national gymnastics team

Ⓑ To draw emphasis to the fact that gymnast Simone Biles wouldn't have been able to join the U.S. Women's Gymnastics Team without a great deal of natural athletic ability

Ⓒ To suggest that Simone Biles worked just as hard as Olympic gold medalist Kyla Ross to achieve success in gymnastics

Ⓓ To show how Simone Biles was able to overcome a demoralizing, heartbreaking failure and achieve a coveted spot on the U.S. Women's Gymnastics Team

Question 4

Which is the closest **synonym** for the word *impede*?

Ⓐ allay

Ⓑ ascribe

Ⓒ facilitate

Ⓓ fetter

Question 5

What is one inference the reader can make from the Article?

Ⓐ Gymnast Simone Biles competed head-to-head against Olympic gold medalist Kyla Ross and won her own gold medal in doing so.

Ⓑ Simone Biles only missed gymnastics practice as a child when she was very sick, in spite of the fact that her mother often urged her to attend.

Ⓒ Gymnast Simone Biles doesn't give up easily even when faced with what she describes as a demoralizing, heartbreaking failure.

Ⓓ Simone Biles' grandparents, Ron and Nellie Biles, didn't want Simone to become a gymnast at first because they worried about possible injury.

Question 6

Which information is **not** in the Article?

Ⓐ Why Simone Biles didn't finish higher than 14th at the 2011 U.S. Junior Championships

Ⓑ Why Kyla Ross was replaced by Simone Biles on the U.S. Women's Gymnastic Team in 2013

Ⓒ How Simone Biles' poor showing at the U.S. Junior Championships affected her actions

Ⓓ How old Simone Biles was when she was first introduced to the sport of gymnastics

Question 7

Look at this passage from the Article:

> **Biles discovered gymnastics during a field trip when she was just 6 years old, and even from a young age, she was *resolute* in her commitment to the sport. Her mother has said that skipping practice was never an option for Biles, who practiced even when she was sick, when, let's face it, most of us would probably crawl back into bed.**

In this passage, the word *resolute* means _____.

Ⓐ easily convinced not to do something

Ⓑ not showing much emotion or interest

Ⓒ having or showing a lot of determination

Ⓓ repeatedly changing one's opinions or desires

Question 8

Which passage from the Article best supports the idea that Simone Biles faced difficulties on her road to gymnastic success?

Ⓐ Biles' performances are so amazing, you might find yourself thinking gravity's merely a suggestion rather than a natural law as she twists and turns in the air like a leaf in the wind. And yet, her techniques necessitate stupendous physical strength to pull off, so if you've ever witnessed her impeccable execution, you likely won't need much convincing that she's the greatest gymnast in the world.

Ⓑ In 2011, she finished 14th at the U.S. Junior Championships, after which the U.S. women's junior national team was named. Thirteen gymnasts made the team, meaning Biles missed by one spot—a defeat she describes in her autobiography, *Courage to Soar: A Body in Motion, A Life in Balance*, as a demoralizing, heartbreaking failure.

Ⓒ By then, many already recognized Biles as the greatest of all time, or GOAT, but it was during her Olympic debut that she became a household name. Along with fellow American, swimmer Katie Ledecky, Biles was the most decorated female athlete at Rio, winning five medals in total and four of them gold!

Ⓓ In October 2019, the 22-year-old gymnast not only expertly nailed her landings at the gymnastics world championships, she vaulted her way into the history books, winning her 25th world championship medal, more than any other gymnast in the world. And as if that wasn't enough, two of her moves during the competition were added to the list of signature moves bearing her name. One, now officially dubbed the "Biles," is a mind-boggling double-double dismount from the balance beam involving a double-twisting double backflip.

Step 4: After Reading Poll (Did you change your mind?)

Now that you have read the article, indicate whether you agree or disagree with this statement.
With enough hard work, anything is possible.

- Agree
- Disagree

Step 5: Thought Question (Write Your Response)

Who is Simone Biles and why has she been called the greatest gymnast ever? Include facts and details from the Article in your response.

CREATIVE WRITING PROMPTS (Optional)

Here is a list of creative, reflective, and thought-provoking writing prompts for journal writing that students can respond to for offline writing while they are working from home.

1. Talk to your family. Call your relatives, talk to your parents and grandparents. Find out what their lives were like when they were young. What crisis or big event can they remember and describe? Write down the details of the things you learn. If you're feeling creative turn it into a podcast.

2. Write a first hand historical account of your own Coronavirus 2020 experience. You may be telling your own children or grandchildren about it someday. Describe what you do with your time, how you're feeling, thinking and what you're observing in the world around you.

3. Is it important to learn in a physical classroom, today, or is an online classroom just as good?

4. Outside your window what is the weather like right now? If it's not inspiring, what is the weather like somewhere you wish you could be?

5. Write a letter to your future self about your experiences up to this point in your life, including your hopes and dreams. Seal it up and put it somewhere safe and open it in 5 years.

6. List three people you admire and explain why you admire them.

7. Do your dreams at night resemble a movie? What does your dream life look like?

8. Write about a movie you have watched today - a review, a summary, or a critique with a rating.

9. Use the alphabet and make a list of adjectives that describe you with words that start with A, B, C, etc.

10. Choose your favorite photograph from your childhood and write about what is happening that you can remember surrounding the events lead up to, and following what is depicted in that photo

11. Describe a day in your life if you were a butterfly or a bird...

12. What are you grateful for this week?

13. What are you most proud of?

14. What good deed can you do this week?

15. Describe your deepest fear. Why do you have this fear? Is this a rational or irrational fear?

16. What does success mean to you?

17. What is one problem in our world that really needs to be solved immediately? Why is this issue so urgent?

18 In what ways have you changed the most over the last three years? What led to this transformation?

19 Describe your bedroom? How does your bedroom reflect your personality?

20 If you could invent something that would change the world, what would it be? Sketch your invention.

21 If you won the lottery what would you do with the money? Why?

22 If one person can be a change agent in the world, how can you be the change the world needs?

23 What does it mean to be a good neighbor? Are you a good neighbor? If not, what can you do to be a better neighbor?

24 How do you deal with people who bother you? Is this effective?

25 What brings you joy? Why?

26 What are some ways you can reduce your "carbon footprint?" How can you and your family take steps to conserve water, fuel, food, etc?

27 Write about a time when you learned a hard truth about yourself. How did you feel afterward?

28 What is the most important thing anyone has ever said to you? How did it make you feel?

29 Write down a list of the ten most defining people in your life and the ten most defining moments in your life, to this point. . Explain why these were "defining" people or moments, either positive or negative. Save this list and in two years see if the list is the same or if the "top ten" have changed.

30 What is the difference between a "right" and a "privilege?" Provide examples.

31 Describe a specific place in your state that you particularly like. Why do you like it?

32 Write a poem about your favorite food, pet, or most prized possession.

33 Create a photo essay of one day in your life and write captions for each photo. You can upload this to a digital platform in the form of a slideshow.

34 Choose a painting or piece of artwork in your house. Describe this artwork and write a fictional story for it.

35 What is the most selfless thing you have ever done. Why did you do it and how did it make you feel?

36 How much time do you spend online each day? Is it too much? Why or why not?

37 Write about something you once believed in your childhood that turned out to be wrong. How did you find out?

38 Write about a time when you or someone you know, showed courage in dealing with a problem in life.

39 Write a letter to a friend or relative whom you haven't seen in a long time.

40 What would you do with your time if there was no such thing as television, video games or the internet?

41 What is leadership? Define what the word means to you and give an example.

42 Do you think leaders are born or become leaders through experience? Why?

43 Has social media changed relationships between people? Why or why not?

44 What do you think you will own in the future that has not been invented yet?

45 Write about a time when you gave in to peer pressure.

46 Describe the qualities of a best friend. Do you have a best friend? Are these the same qualities you see in yourself? Do you think you are a good friend? Why or why not?

47 What is your superpower? How does this power reflect your personality?

48 What is the biggest obstacle you face? What would help you overcome it?

49 If you could travel anywhere in the world, where would you go and why?

50 If you could try one new thing - an experience, a food, a hobby - what would it be and why?

51 If you could curate a soundtrack for how you're feeling today which artists and songs would you choose? Why?

DPS Math 8 At-Home Learning Packet #2 *April 6 - April 24*		Matemáticas de 8vo Grado Paquete para Aprendizaje en Casa *6 de abril-24 de abril*	
Day(s) **Día(s)**	**Topic** **Tema**	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
Days 1-2 **Días 1-2**	Volume of Cylinders Volumen de Cilindros	https://youtu.be/s0IOtwKMaEQ?t=149	
Days 3-4 **Días 3-4**	Volume of Cones Volumen de Conos	https://youtu.be/6ArZQFFKDHY	
Days 5-6 **Días 5-6**	Volume of Spheres Volumen de Esferas	https://youtu.be/IeIS2vg7JO8	
Day 7 **Día 7**	Qualitative Graphing Gráfica Cualitativa	https://youtu.be/4v2J5kBhwkM	
Day 8 **Día 8**	Functions Funciones	https://youtu.be/52tpYl2tTqk	
Days 9-10 **Días 9-10**	Linear Functions Funciones Lineales	https://youtu.be/YB1XuQ1Pc5s	
Day 11 **Día 11**	Solving Equations Resolviendo Ecuaciones	https://youtu.be/f15zA0PhSek	
Day 12 **Día 12**	Solving Inequalities Resolviendo Desigualdades	https://youtu.be/y7QLay8wrW8	
Day 13 **Día 13**	Systems of Equations Sistemas de Ecuaciones	https://youtu.be/Pd4hwS8qHms	
Day 14 **Día 14**	Problem Solving with Scientific Notation Resolviendo Problemas con Notación Científica	https://youtu.be/497oIjqRPco	
Day 15 **Día 15**	EOG-Style Questions Preguntas del Estilo-Pruebas de Fin de Grado	https://youtu.be/0aF7G0TMh7M	

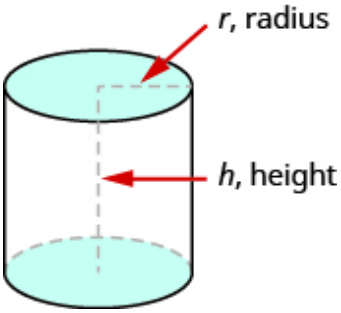
Days/Días
1-2

DPS Math 8
Matemáticas de 8vo Grado

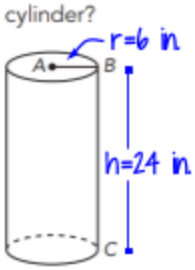
Volume of Cylinders Volumen de Cilindros	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/s0IOtwKMaEQ?t=149	

Cylinder

$V = \pi r^2 h$



The given figure is a cylinder. The radius of the cylinder is 6 inches and the height of the cylinder is 24 inches. What is the volume of the cylinder?



$V=\pi r^2 h$
$V=\pi(6)^2(24)$
$V=\pi(36)(24)$
$V=\pi 864$
$V=864\pi$
$\approx 2712.96\ in^3$

8.3b Class Activity: Volume of Cylinders

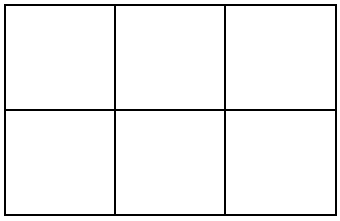
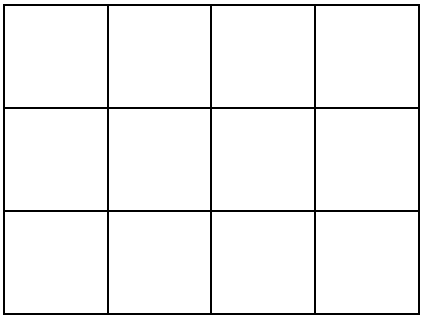
1. Gunner just started his summer job doing swimming pool maintenance. He has a variety of things to do for each pool. For each item below fill in the missing measurement in the space provided for each pool.

   a. He needs to build a fence around each of the swimming pools below. If each unit represents one meter determine how much fencing he needs for each pool. Write your answer below each pool in the appropriate spot.

   b. Gunner now has to cover each pool. Determine how much material he will need to cover each pool. Write your answer below each pool in the appropriate spot.

   c. After Gunner has put up a fence and knows how much material he needs to cover the pools he needs to fill the pools back up with water. Determine how much water he would need to fill each pool to a depth of one meter. Write your answer below each pool in the appropriate spot.

   d. Now determine of much water he would need to fill each pool to a depth of 2 meters. Continue filling in the chart to 10 meters deep for each pool.

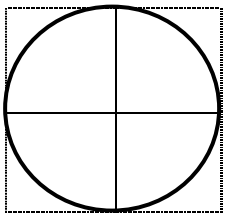
Pool #1	**Pool #2**
	
Perimeter:	Perimeter:
Area:	Area:
1 meter deep volume:	1 meter deep volume:
2 meter deep volume:	2 meter deep volume:
3 meter deep volume:	3 meter deep volume:
4 meter deep volume:	4 meter deep volume:
10 meter deep volume:	10 meter deep volume:

2. Describe how to find the volume of the pool for any given depth.

3. Explain how the formula $V=Bh$ helps you find the volume.

4. Gunner has one more pool to work on. Use what you know about the formula above to fill in the missing information for Pool #3. Recall that each unit represents 1 meter.

Pool #3



Perimeter:

Area:

1 meter deep volume:

2 meter deep volume:

3 meter deep volume:

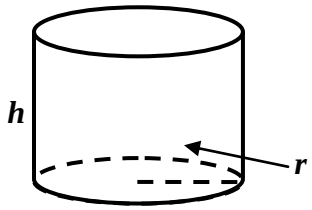
4 meter deep volume:

10 meter deep volume:

5. What type of three-dimensional object is Pool #4?

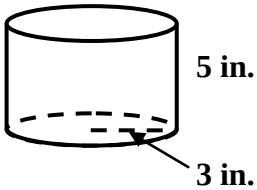
6. Use the picture given below to describe how to find the volume of a Cylinder. Be sure to describe each part of the formula and how it relates to the formula $V = Bh$.

A cylinder is a solid obtained by taking a circle in a plane (called the base) and drawing it out in a direction perpendicular to the base for a distance h (called the height).



Directions: Find the volume for each cylinder described below. If needed draw and label a picture.

7.



8.

9. Cylinder with a Radius = 21 mm and Height = 19 mm.	10. Cylinder with a Diameter = 8.8 cm and Height = 9 cm.

Directions: Find the missing measurement for each cylinder described below.

11. The volume of a cylinder is 117.1 cubic feet, and its height is 15 ft. Find the diameter of the base of the cylinder.	12. The volume of a cylinder is 4,224.8 cubic millimeters, it has a diameter of 16.4 mm, find the height of the cylinder. Extension: Find the circumference of the base of the cylinder.

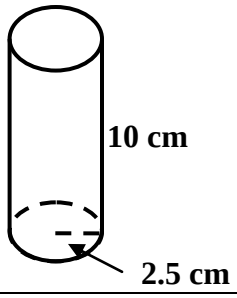
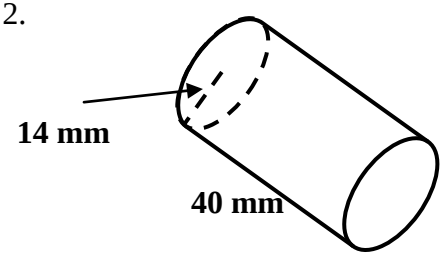
Directions: For each problem given below draw and label a picture that describes each cylinder. Then solve the problem.

13. An ice cream company wants to package a pint of ice cream in a circular cylinder that is 4 inches high. A pint is 16 fluid ounces and 1 fluid ounce is 1.8 cubic inches. What does the radius of the base circle have to be?

14. For a science project, Hassan put a can out to collect rainwater. The can was 11 inches tall and had a diameter of 8 inches. If it rained exactly 20 cubic inches each day, how many days did it take to fill the can?

8.3b Homework: Volume of Cylinders

Directions: Find the volume for each cylinder described below. If needed draw and label a picture.

1. 	2. 
3. Cylinder with a radius of 2 ft and a height of 7 ft.	4. Cylinder with a diameter of 2.7 m and a height of 30 m.

Find the missing measurement for each cylinder described below.

5. The volume of a cylinder is 63.6 cubic inches, and its height is 9 inches. Find the diameter of the base of the cylinder. Extension: Find the circumference of the base of the cylinder.	6. The volume of a cylinder is 8,685.9 cubic ft, it has a diameter of 19.2 ft, find the height of the cylinder.

Directions: For each problem given below draw and label a picture that describes each cylinder. Then solve the problem.

7. What is the volume of Keisha's thermos if it has a radius of 2.5 in at the opening and 10 in for a height?

8. Mr. Riley bought 2 cans of paint to paint his garage. Each can had a radius of 5.5 inches and a height of 8 inches. How many cubic inches of paint did he buy in all?

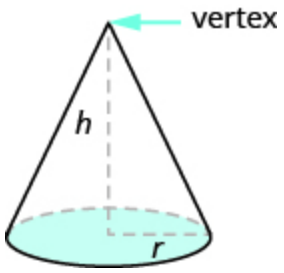
Days/Días
3-4

DPS Math 8
Matemáticas de 8vo Grado

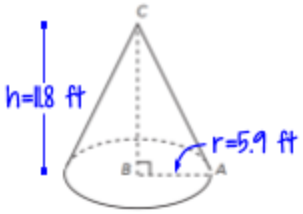
Volume of Cones Volumen de Conos	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/6ArZQFFKDHY	

Cone

$V = \frac{1}{3}\pi r^2 h$



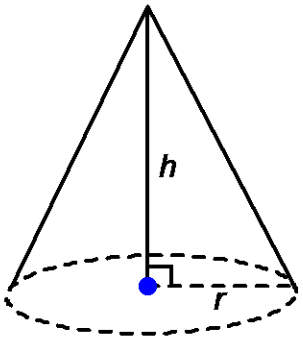
A silo is used to store harvested crops such as corn. The silo roof is a cone. The radius of the silo roof is 5.9 feet and the height of the silo roof is 11.8 feet. What is the volume of the silo roof?



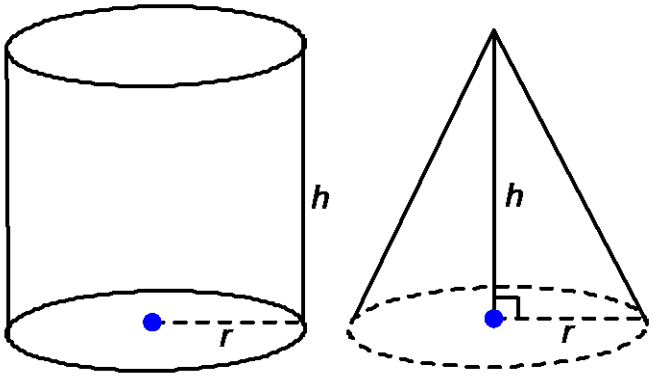
$V=\frac{1}{3}\pi r^2 h$
$V=\frac{1}{3}\pi(5.9)^2(11.8)$
$V=\frac{1}{3}\pi(34.81)(11.8)$
$V=\frac{1}{3}\pi 410.758$
$V=\pi 136.92$
$V\approx 429.93\ ft^3$

8.3c Class Activity: Volume of Cones

Recall from seventh grade, that a cone is a three-dimensional figure with a circular base. A curved surface connects the base and the vertex.



The cylinder and cone given below have the same height and their bases are congruent.



1. Predict how the volume of the cone compares to the volume of the cylinder.

2. If you fill the cone with water or other filling material, predict how many cones of water will fit into the cylinder.

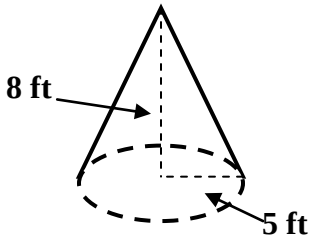
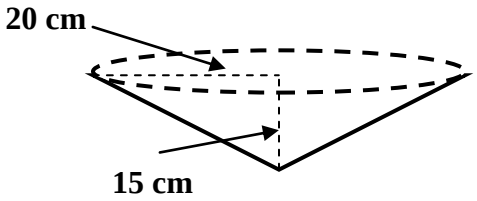
3. Now try it. How many cones fit into the cylinder?

4. About what fraction of the cylinder is filled by the volume of one cone?

5. Manipulate the equation for the volume of the cylinder to show the volume of the cone.

6. Explain in your own words how the volume of a cone compares to the volume of a cylinder. Describe the parts of the formula for the volume of a cone. Write this formula below the cone in the picture above.

Directions: Find the volume for each cone described below. If needed draw and label a picture.

7.  The volume of the cone is	8.  The volume of the cone is
9. A cone with a radius of 8.4 feet and a height of 5.5 feet.	10. A cone with a diameter of 9 meters and a height of 4.2 meters.

Directions: Find the missing measurement for each cylinder described below. Round your answer to the nearest tenth.

11. The volume of a cone is 122.8 cubic inches, and its height is 4.5 inches. Find the diameter of the base of the cone.	12. The volume of a cone is 188.5 cubic ft, it has a diameter of 12 ft, find the height of the cylinder.

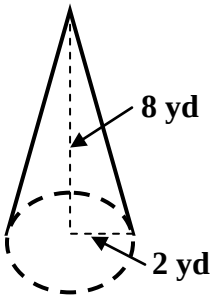
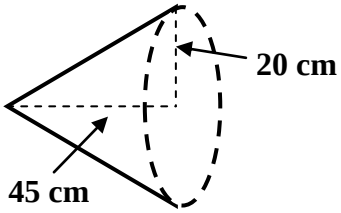
For each problem given below draw and label and picture that describes each cylinder. Then solve the problem.

13. Salt and sand mixtures are often used on icy roads. When the mixture is dumped from a truck into the staging area, it forms a cone-shaped mound with a diameter of 10 feet and a height of 6 feet. What is the volume of the salt-sand mixture?

14. A glass in the shape of a cone has a diameter of 8 cm. If the glass has a volume of 200 ml (or 200 cubic centimeters), what is the greatest depth that a liquid can be poured into the glass? Explain.

8.3c Homework: Volume of Cones

Directions: Find the volume for each cone described below. If needed draw and label a picture.

1. 	2. 
3. A cone with a radius of 40 feet and a height of 100 feet.	4. A cone with a diameter of 4.2 meters and a height of 5 meters.

Directions: Find the missing measurement for each cone described below.

5. The volume of a cone is 37.7 cubic inches, and its height is 4 inches. Find the diameter of the base of the cone.	6. The volume of a cone is 628.3 cubic ft, it has a diameter of 20 ft, find the height of the cone.

Directions: For each problem given below draw and label a picture that describes each cylinder. Then solve the problem.

7. The American Heritage Center at the University of Wyoming is a conical building. If the height is 77 feet, and the area of the base is about 38,000 square feet, find the volume of air that the heating and cooling systems would have to accommodate.

8. A stalactite, a geological formation, in the Endless Caverns in Virginia is cone-shaped. It is 4 feet long and has a diameter at its base of 1.5 feet.

   a. Assuming that the stalactite forms a perfect cone, find the volume of the stalactite.

   b. The stalactite is made of calcium carbonate, which weighs 131 pounds per cubic foot. What is the weight of the stalactite?

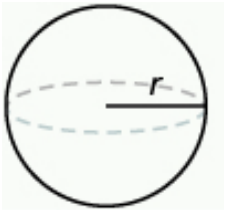
Days/Días
5-6

DPS Math 8
Matemáticas de 8vo Grado

Volume of Spheres Volumen de Esferas	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/IelS2vg7JO8	

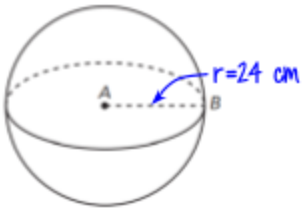
Sphere

$V = \frac{4}{3}\pi r^3$



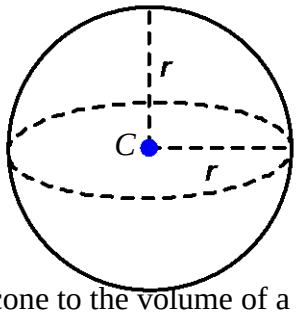
The given figure is a sphere. The radius of the sphere is 24 centimeters. What is the volume of the sphere?

$V=4/3\pi r^3$
$V=4/3\pi(24)^3$
$V=4/3\pi(13824)$
$V=\pi 18432$
$V=57876.48\ cm^3$



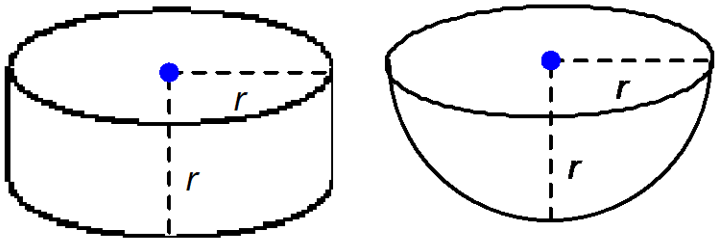
8.3d Class Activity Volume of Spheres

Recall that a sphere is a set of points in space that are a distance of r away from a point C, called the center of the sphere.



Just like you compared the volume of a cone to the volume of a cylinder to find the formula for the volume of a cone you are going to compare the volume of a sphere to the volume of a cylinder.

The cylinder and hemisphere given below have the same radius and the height of the cylinder is also the same as its radius.



1. Predict how the volume of the hemisphere compares to the volume of the cylinder. Which one holds more volume?

2. If you fill the hemisphere with water or other filling material, predict what fraction of the cylinder is filled by the volume of one hemisphere.

3. Now try it, what fraction of the cylinder is filled by the volume of one hemisphere?

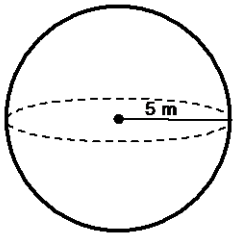
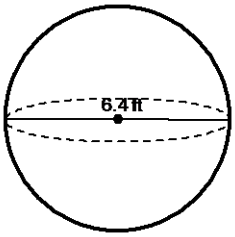
4. Write down the formula for the volume of the cylinder below the cylinder, be sure to write your height in terms of the radius or r.

5. Manipulate the equation for the volume of the cylinder to show the volume of the hemisphere.

6. In number 10 you found the volume for a hemisphere. Adjust this formula to find the volume of a sphere.

7. Explain in your own words how the volume of a sphere compares to the volume of a cylinder. Describe the parts of the formula for the volume of a sphere. Write this formula below the sphere in the picture on the previous page.

Directions: Find the volume for each sphere described below. If needed draw and label a picture.

8. 	9. 
10. A sphere with a radius of 1.3 yds.	11. A sphere with a diameter of 25 inches

Directions: Find the missing measurement for each sphere described below. Round your answer to the nearest tenth.

12. The volume of a sphere is 6882.3 in^3; find the diameter of the sphere.	13. The volume of a sphere is 1436.8 ft^3; find the radius of the sphere.

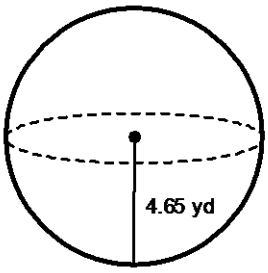
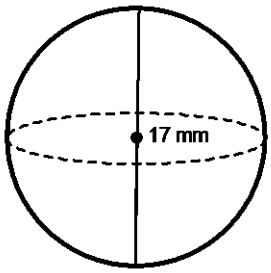
Directions: For each problem given below draw and label a picture that describes each sphere. Then solve the problem.

14. If a golf ball has a diameter of 4.3 centimeters and a tennis ball has a diameter of 6.9 centimeters, find the difference between the volumes of the two balls.

15. Kauri pours the water out of a cylindrical flower vase with a height of 5 inches and a radius of 4 inches into a spherical flower vase. The spherical vase has a radius of 4 inches. Will the water overflow? If so, by how much? If not, how much space is left in the spherical vase?

8.3d Homework: Volume of Spheres

Directions: Find the volume for each sphere described below. If needed draw and label a picture.

1. 	2. 
3. A sphere with a radius of 10 yards.	4. A sphere with a diameter of 60 inches

Directions: Find the missing measurement for each sphere described below.

5. The volume of a sphere is 113.1 cm^3; find the diameter of the sphere.	6. The volume of a sphere is 4,188.8 cubic feet; find the radius of the sphere.

Directions: For each problem given below draw and label a picture that describes each sphere. Then solve the problem.

7. The diameter of the moon is 3,476 kilometers. Approximate the volume of the moon.

8. Find the volume of the empty space in a cylindrical tube of three tennis balls. The diameter of each ball is 2.5 inches. The cylinder is 2.5 inches in diameter and is 7.5 inches tall.

Day/Día
7

DPS Math 8
Matemáticas de 8vo Grado

Qualitative Graphing
Gráfica Cualitativa

Video Resource
Recurso de Vídeo

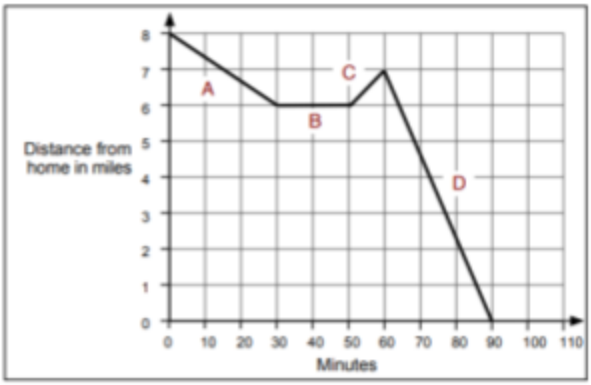
Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.
La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.

https://youtu.be/4v2J5kBhwkM

A In this section of the journey Sylvia bikes towards home at a speed of 4 miles per hour (2 ÷ 0.5) for 30 minutes.

B Here the slope is zero. Six miles from home Sylvia has stopped for 20 minutes.

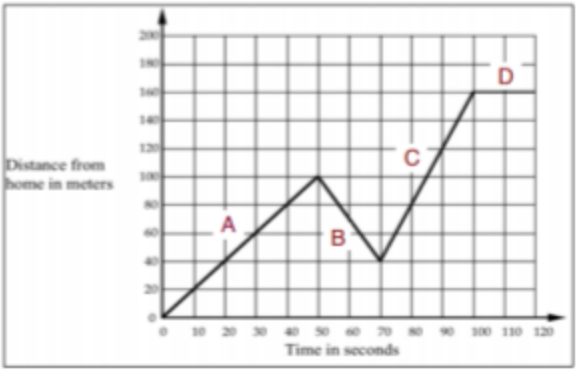
C The positive slope here means a change in direction. After 50 minutes Sylvia bikes away from home for 1 mile. She bikes at a speed of 6 miles per hour (1 ÷ 10/60).



D In this section Sylvia spends 30 minutes biking 7 miles home. Her speed is 14 miles per hour (7 ÷ 1/2).

A In this section of the journey Tom walks away from home at a speed of 2 meters per second (100 ÷ 50) for 50 seconds.

B The negative slope here means a change in direction. At 100 meters from home Tom starts to walk towards home. He walks for 60 meters at a speed of 3 meters per second (60 ÷ 20).

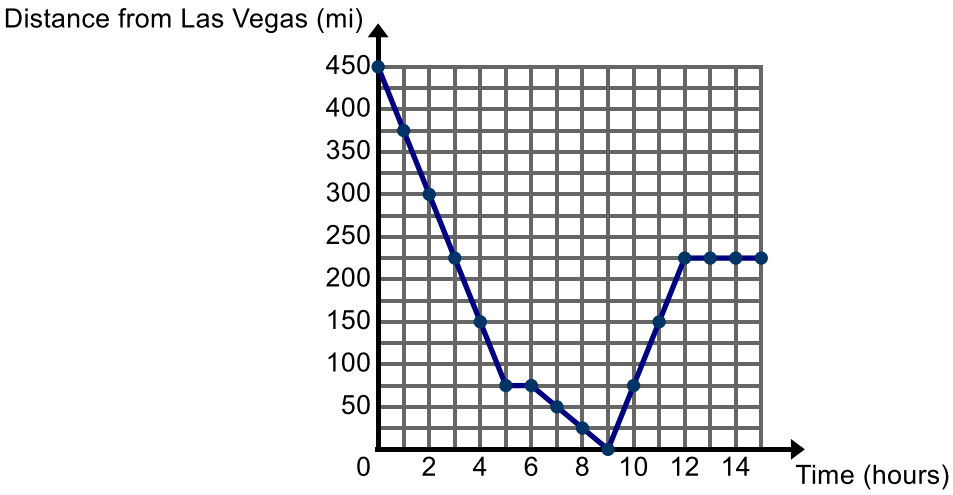


C At the start of this section Tom changes direction. He is now walking away from home at a fast pace. His speed is 4 meters per second (120 ÷ 30). He moves at this speed for 30 seconds and covers 120 meters.

D Here the slope is zero. This means at 160 meters from home Tom stops. It has taken him 100 seconds to get to this point.

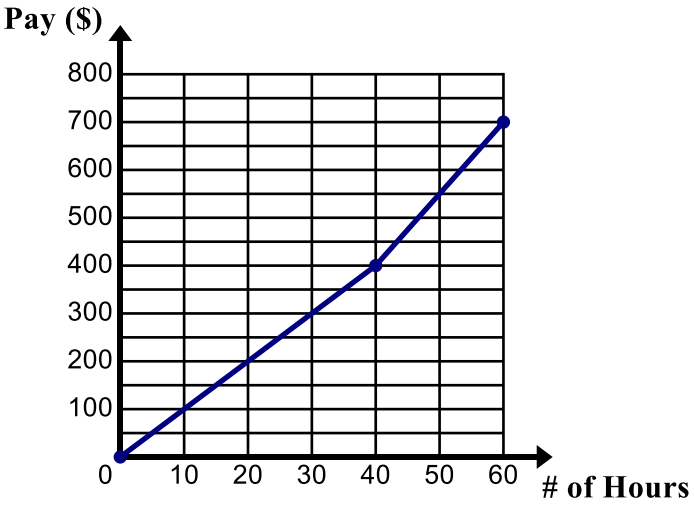
5.3f Class Activity: From Graphs to Stories

1. Ben and his family took a road trip to visit their cousins. The graph below shows their journey. Label the key features of the graph.



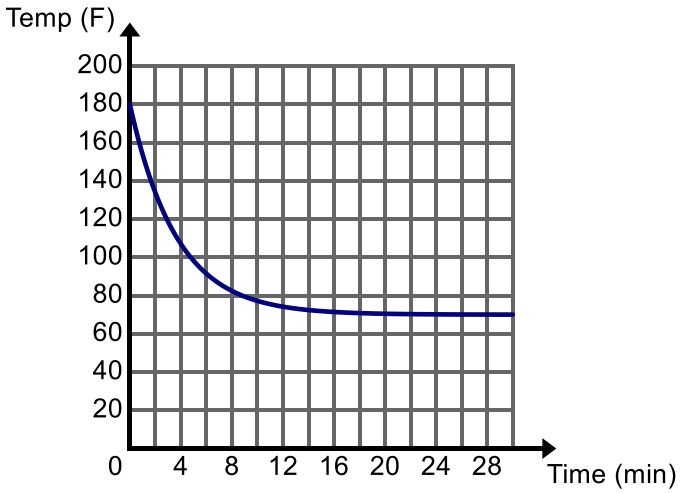
   a. Tell the story of the graph.

2. The graph below shows the amount Sally makes based on how many hours she works in one week. Label the key features of the graph.



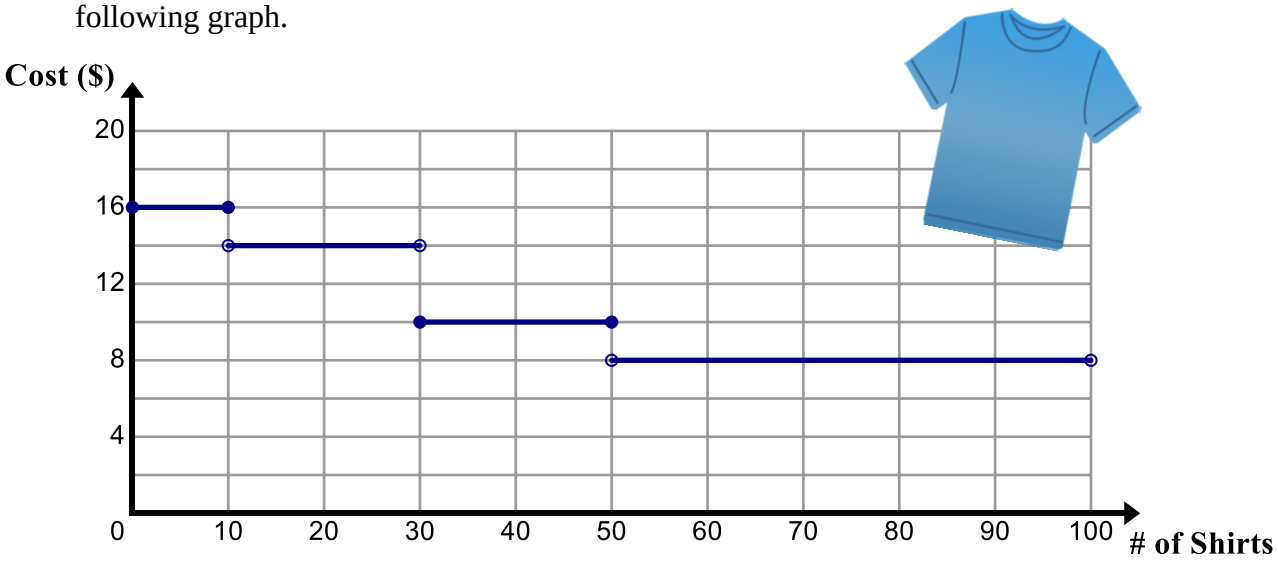
   a. Tell the story of the graph.

3. Cynthia is doing research on how hot coffee is when it is served. The graph below shows the temperature of a coffee (in ˚F) as a function of time (in minutes) since it was served. Label the key features of the graph.



a. Tell the story of the graph.

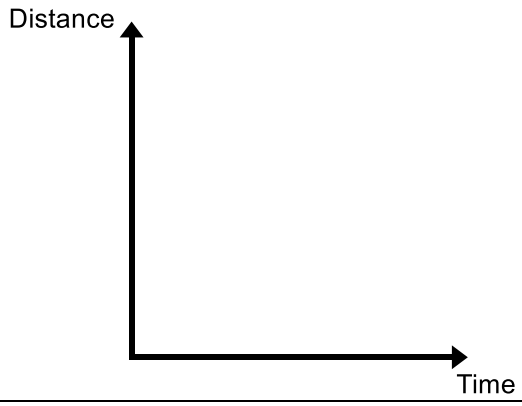
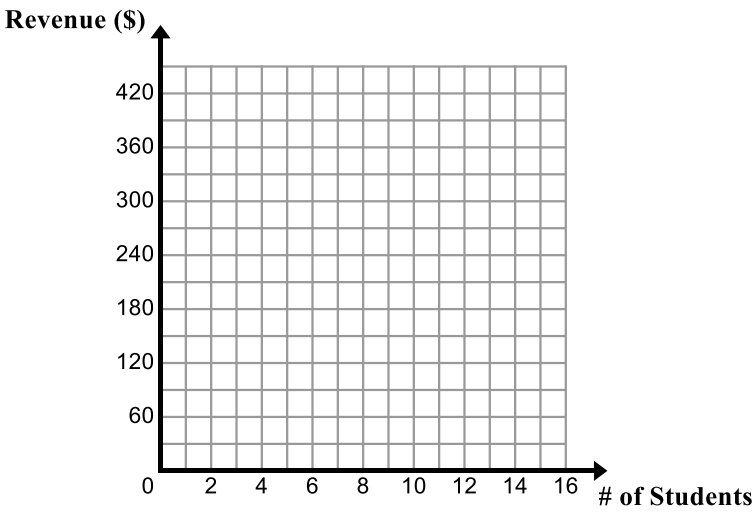
4. Jorge is the team captain of his soccer team. He would like to order shirts for the team and is looking into how much it will cost. He called Custom T's to ask about pricing and the manager sent him the following graph.



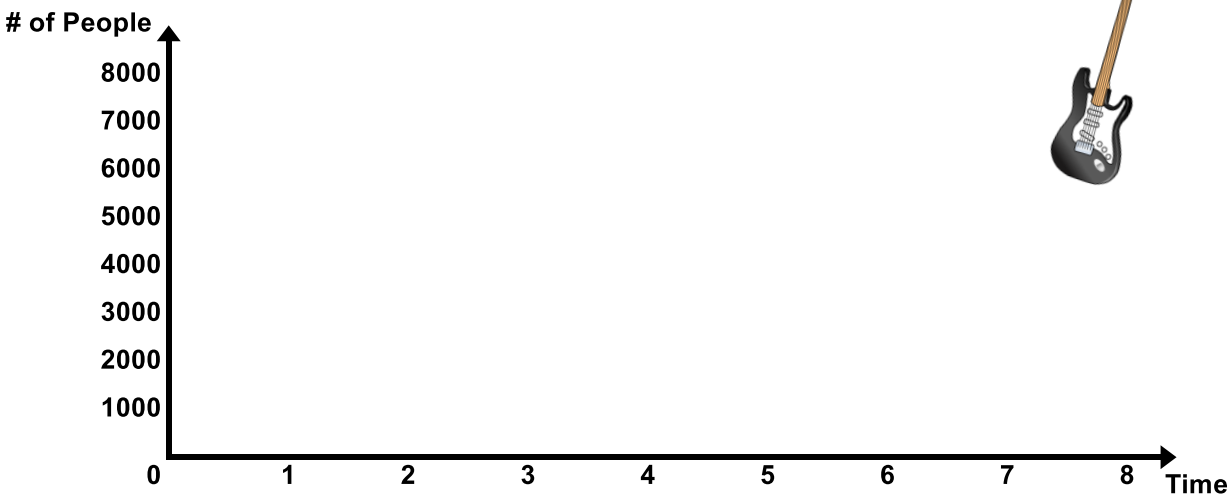
a. Tell the story of the graph.

5.3g Class Activity: From Stories to Graphs

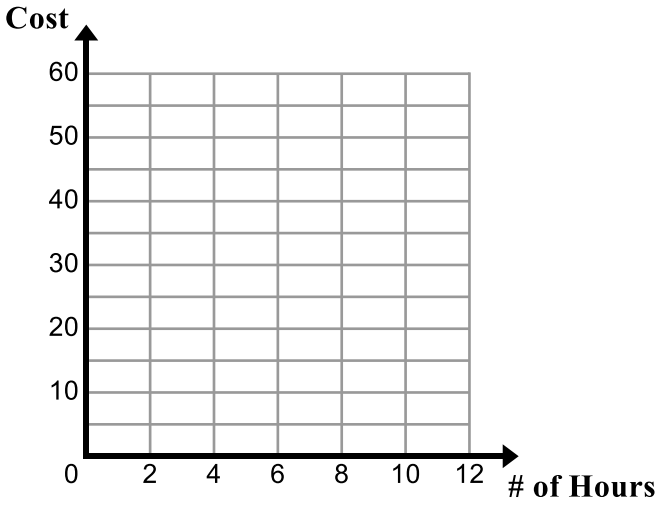
Directions: Sketch a graph to match each of the following stories. Label key features of your graph.

Story	Graph
1. Zach walks home from school each day. Sketch a graph of Zach's distance from school as a function of time since the bell rang if the following happens: When the bell rings, Zach runs to his locker to grab his books and starts walking home. When he is about halfway home, he realizes that he forgot his math book so he turns around and runs back to school. After retrieving his math book, he realizes that he is going to be late so he sprints home.	
2. Solitude is offering a ski clinic for teens. The cost of the class is $30 per student. A minimum of 5 students must sign up in order for Solitude to hold the class. The maximum number of students that can participate in the class is 12. Sketch a graph that shows the revenue Solitude will bring in dependent on the number of students that take the class.	
3. A biker is riding up a hill at a constant speed. Then he hits a downhill and coasts down the hill, picking up speed as he descends. At the bottom of the hill, he gets a flat tire. Sketch a graph that shows the distance traveled by the biker as a function of time.	

4. A concert for a popular rock group is sold out. The arena holds 8,000 people. The rock group is scheduled to take the stage at 8 pm. A band that is not very well known is opening for the rock band at 6:30 pm. The rock band is scheduled to play for 2 hours and the staff working the concert have been told that the arena must be cleared of people by 11:30 pm. Sketch a graph of the number of people in the arena from 5 pm to midnight. Time 0 on the grid below is 5 pm.



5. A parking garage charges $5 per hour and has a maximum cost of $40 for 12 hours. Sketch a graph of the total cost depending on how many hours a car is in the garage.



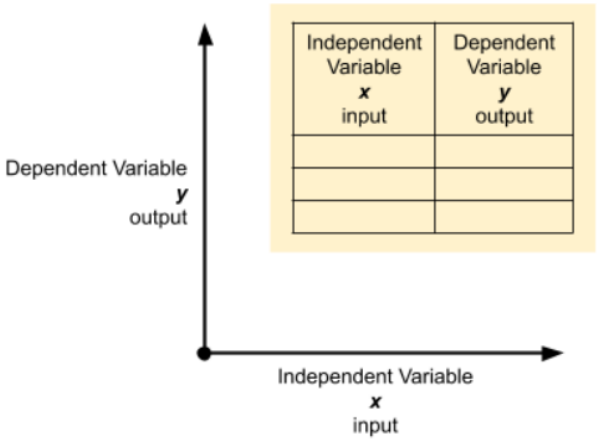
Day/Día 8

DPS Math 8
Matemáticas de 8vo Grado

Functions Funciones	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.* https://youtu.be/52tpYl2tTqk

Key Vocabulary:

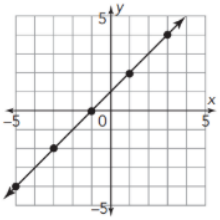
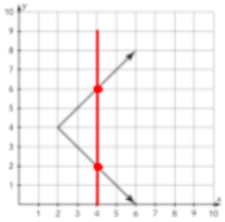
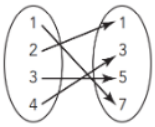
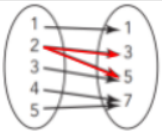
A set of ordered pairs is called a **relation**.



Independent Variable x input	Dependent Variable y output

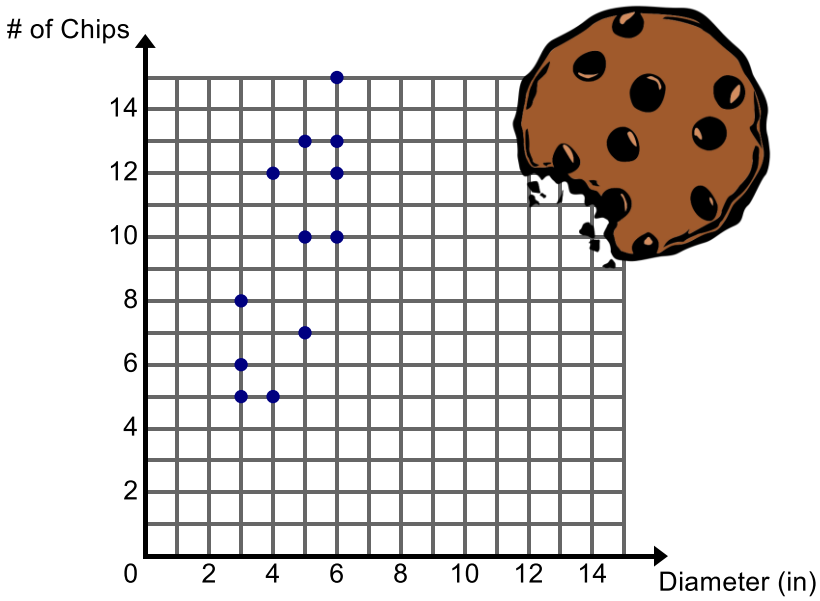
A **function** maps each input to *one and only one* output.

Key Ideas:

	Yes! It's a function.	**No!** It's not a function.
Graph		
Mapping Diagram		
Table	x | y 0 | 4 1 | -2 2 | -1 3 | 4	x | y -8 | 0 1 | 1 2 | 2 1 | 3

5.1a Homework: Introduction to Functions

1. Betty's Bakery makes cookies in different sizes measured by the diameter of the cookie in inches. Curious about the quality of their cookies, Betty and her assistant randomly chose cookies of different sizes and counted the number of chocolate chips in each cookie. The graph below shows the size of each cookie and the number of chocolate chips it contains.

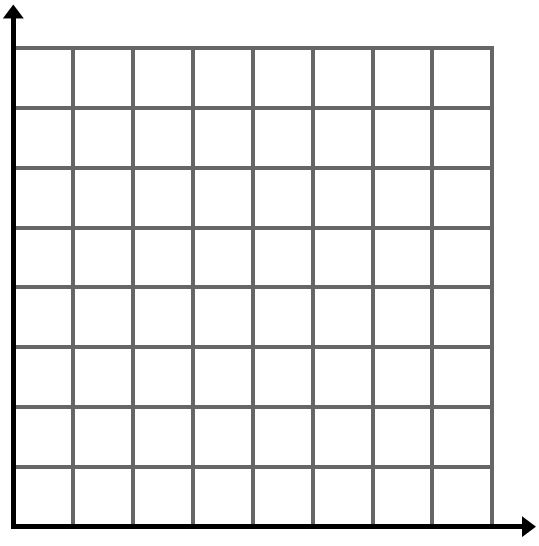


Diameter of Cookie (in) x	# of Chocolate Chips y

   a. Complete the table to the right of the graph.
   b. Is the number of chocolate chips in a cookie a function of the diameter of the cookie? Why or why not?

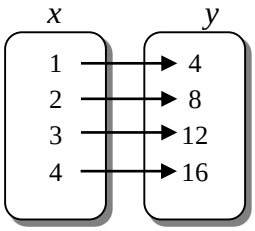
2. The number of tires y in the parking lot at Hank's Honda Dealership can be modeled by the equation $y = 4x$ where x represents the number of cars in the parking lot.
   a. Complete the table and graph below for this relationship.

Number of cars x	Number of tires y



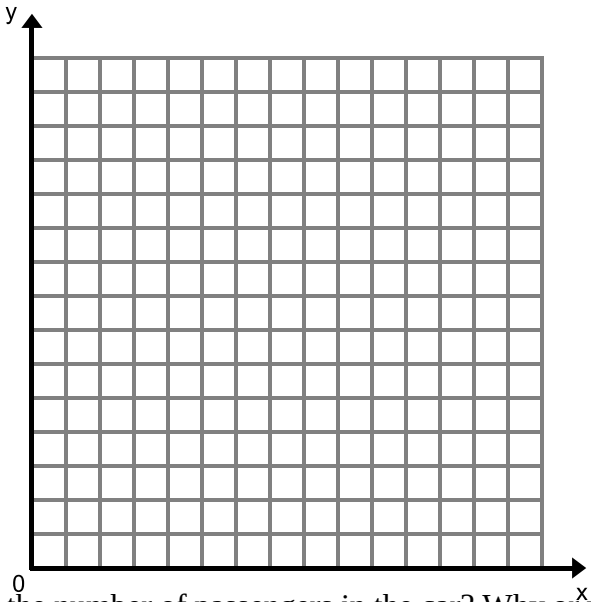
   b. Is the number of tires a function of the number of cars? Why or why not?

3. The cost for cars entering a scenic by-way toll road in Wyoming is given by the mapping below. In this relation *y* is the dollar amount to enter the by-way and *x* is the number of passengers in the car.



a. Complete the graph and table below for this relationship.

Number of passengers *x*	Amount per car (dollars) *y*

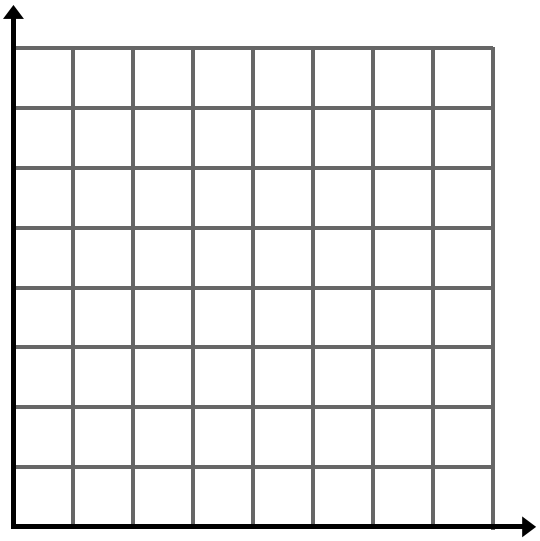


b. Is the amount spent per car a function of the number of passengers in the car? Why or why not?

4. The cost for cars entering a scenic by-way toll road in Utah is $5 regardless of the number of passengers in the car.

a. Complete the graph and table below for this relationship.

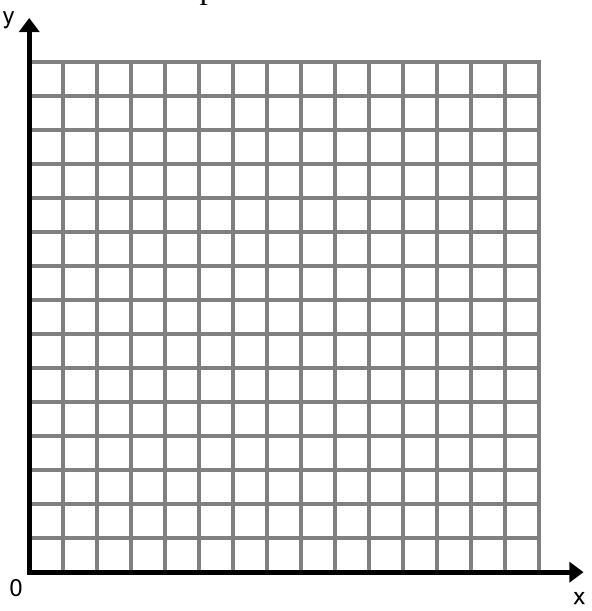
Number of passengers *x*	Amount per car *y*



b. Is the amount spent per car a function of the number of passengers in the car? Why or why not?

5. Create your own context or story that represents a relation that is a function.
   a. Story:

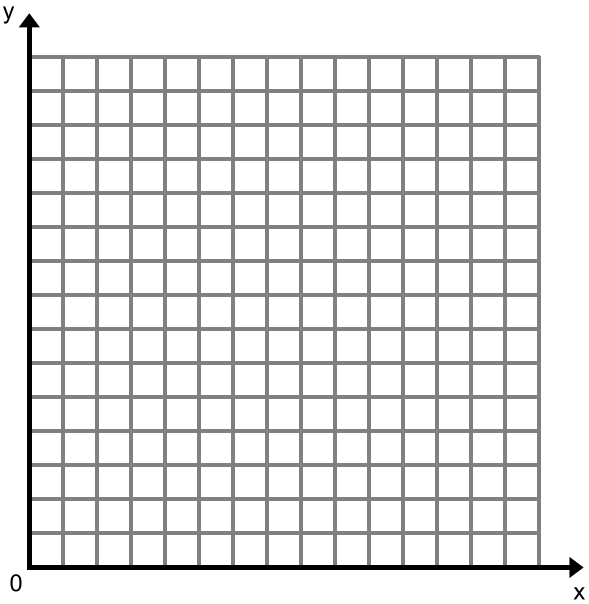
   b. Complete the graph and table below for this relationship.



   c. Explain why this relation is a function.

6. Create your own context or story that represents a relation that is **not** a function.
   a. Story:

   b. Complete the graph and table below for this relationship.

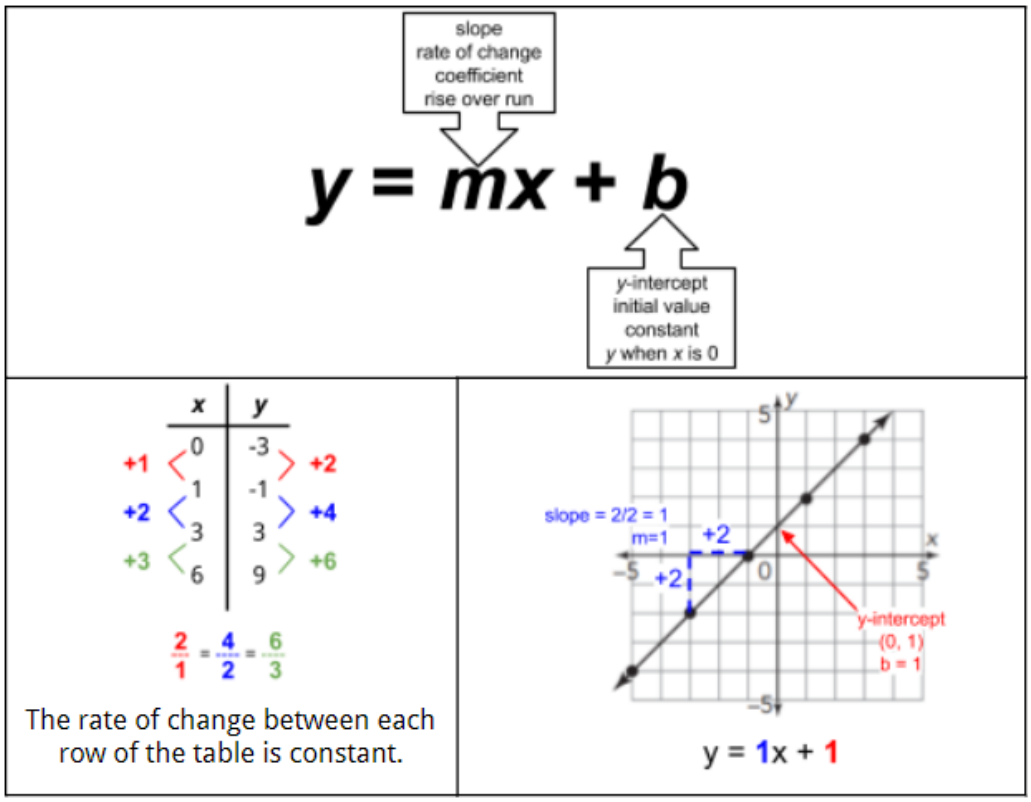


   c. Explain why this relation is not a function.

Days/Días
9-10

DPS Math 8
Matemáticas de 8vo Grado

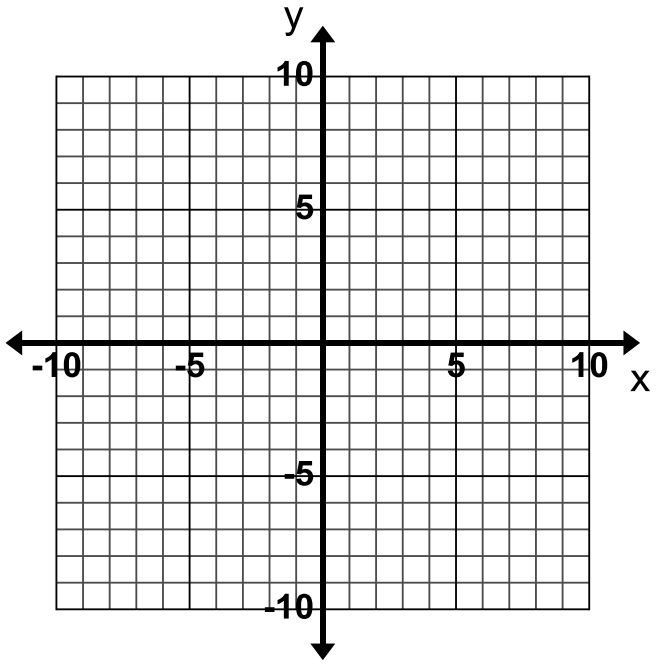
Linear Functions Funciones Lineales	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/YB1XuQ1Pc5s	



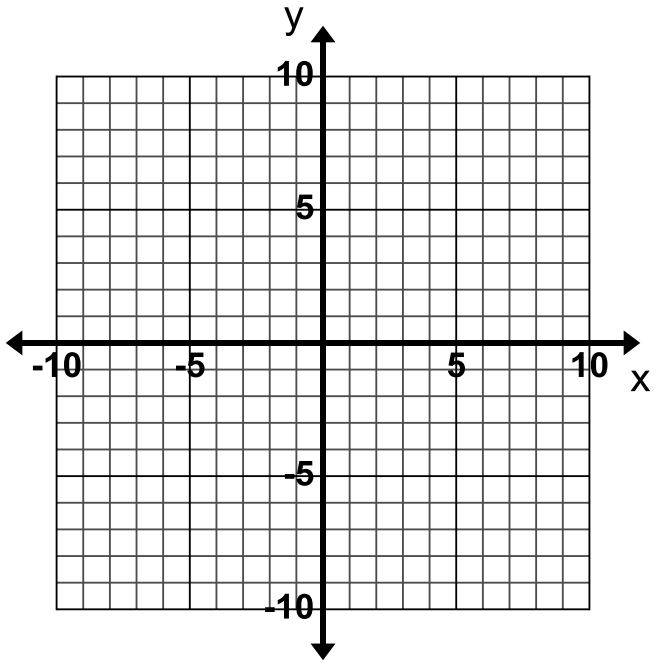
3.1f Class Activity: Graphing and Writing Equations for Lines, Mixed Review

Directions: Graph the lines for the following given information.

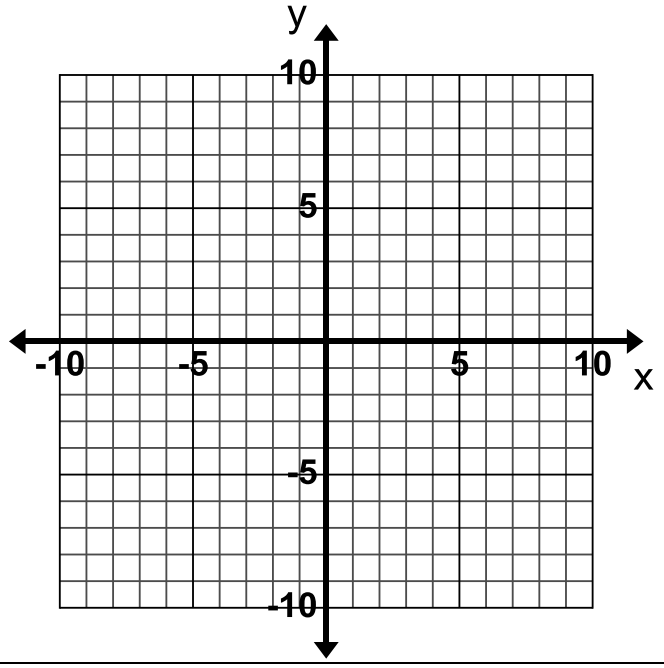
1. The equation of the line is $y = -\frac{1}{4}x$.



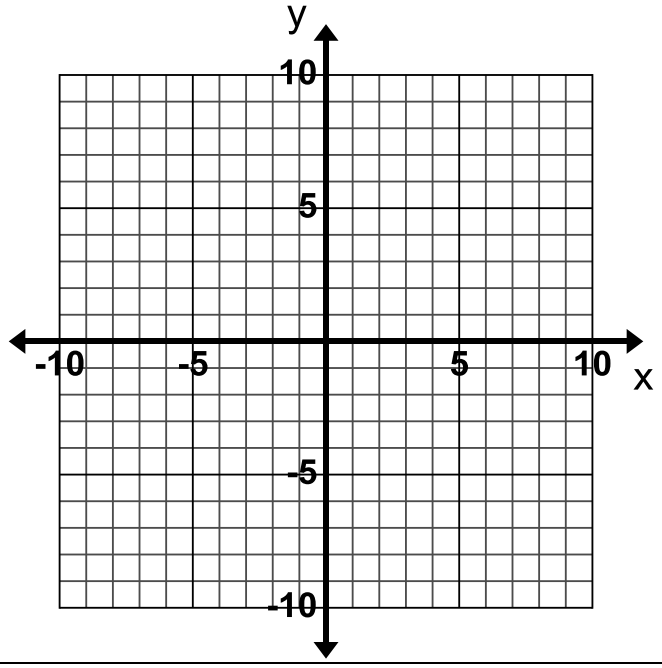
2. The equation of the line is $y = x - 8$.



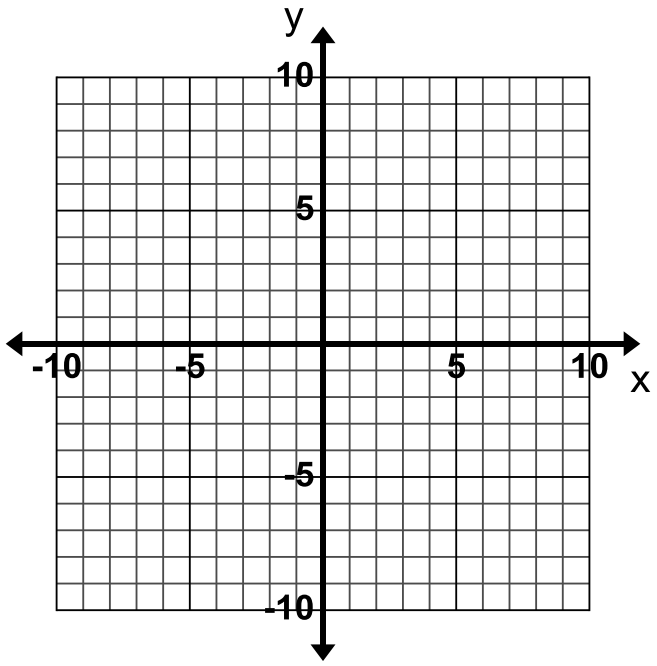
3. The equation of the line is $y = 9 - 7x$.



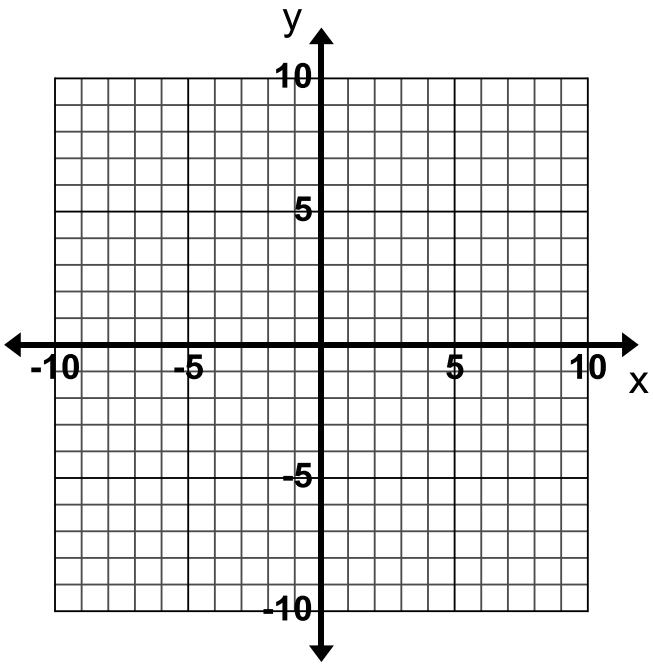
4. The equation of the line is $y = {}^{3}/_{5}x + 6$.



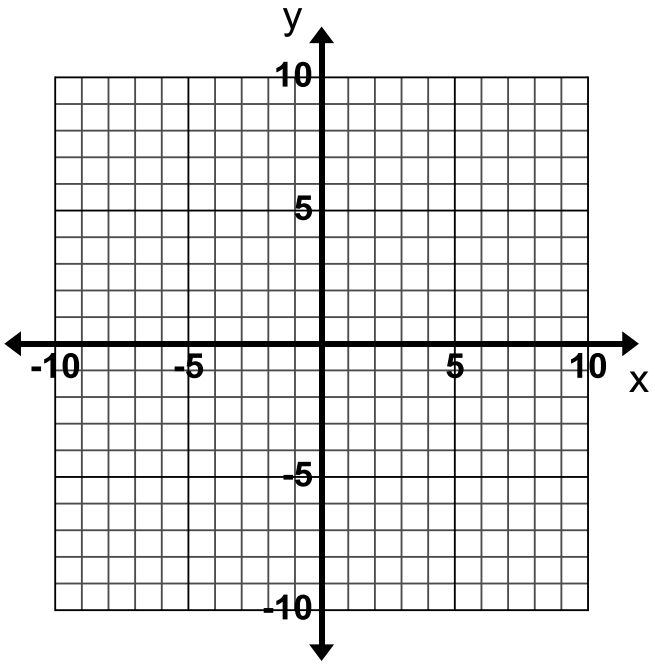
5. The equation of the line is $y = -8$.



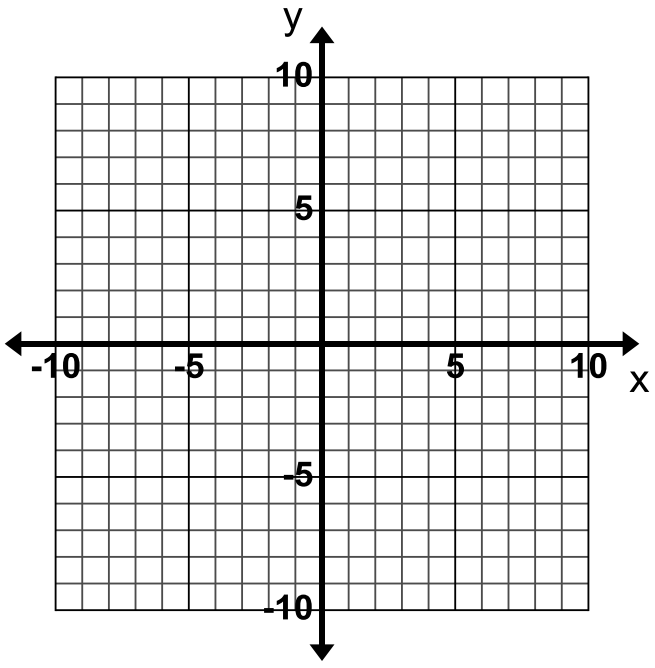
6. The equation of the line is $x = 1$.



7. The line contains the point (5, 5) and has a slope of 3.



8. The line contains the point (7, 3) and has a slope of 0.



Directions: Write the equation in slope-intercept form for each line based on the information given.

9. The slope of the line is $-$ and the y-intercept is 5.

10. The line has a slope of 4 and goes through the point (6, 1).

11. The line contains the points (2, 7) and (3, 3).

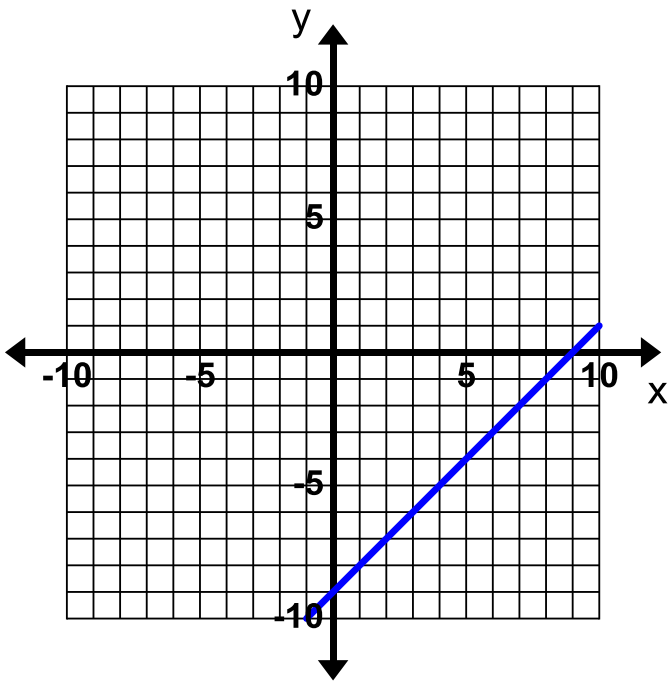
12. The line contains the points in the table.

x	y
0	6
1	2
2	2
3	6

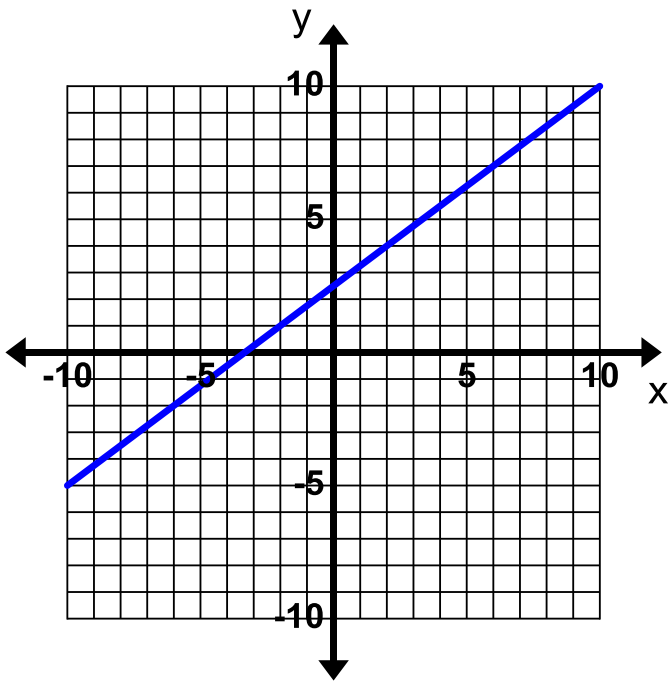
13. The line contains the points in the table.

x	y
2	2
4	1
8	1
14	4

14. The line graphed below.



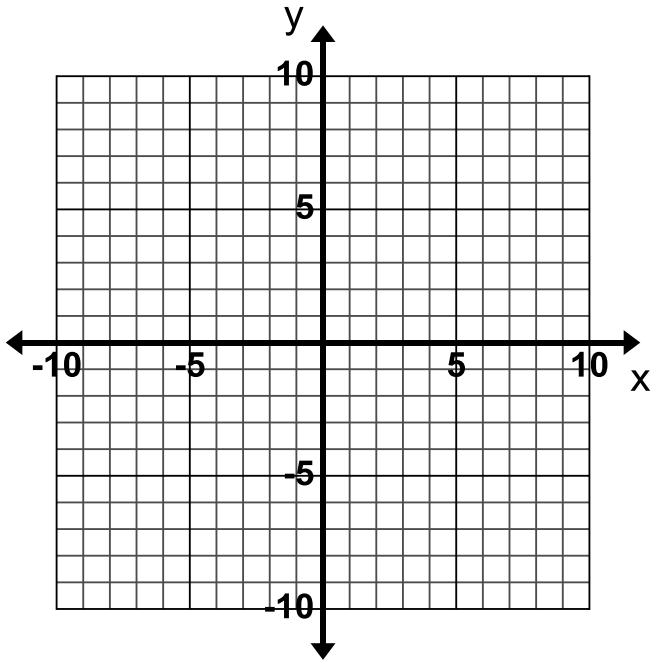
15. The line graphed below.



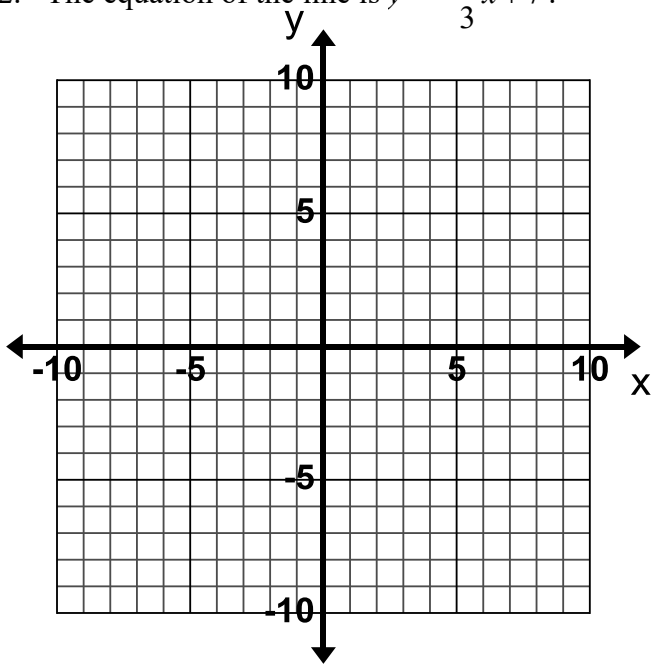
3.1f Homework: Graphing and Writing Equations for Lines, Mixed Review

Directions: Graph the lines for the following given information.

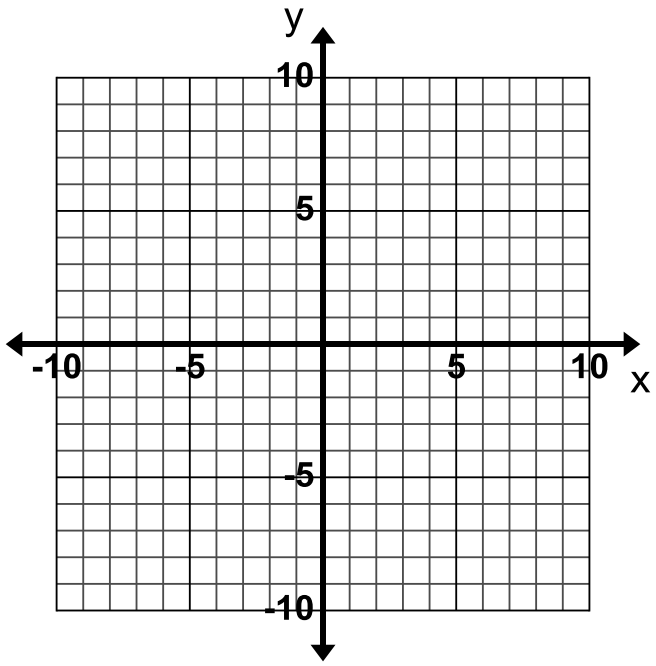
1. The equation of the line is $y = 5x - 8$.



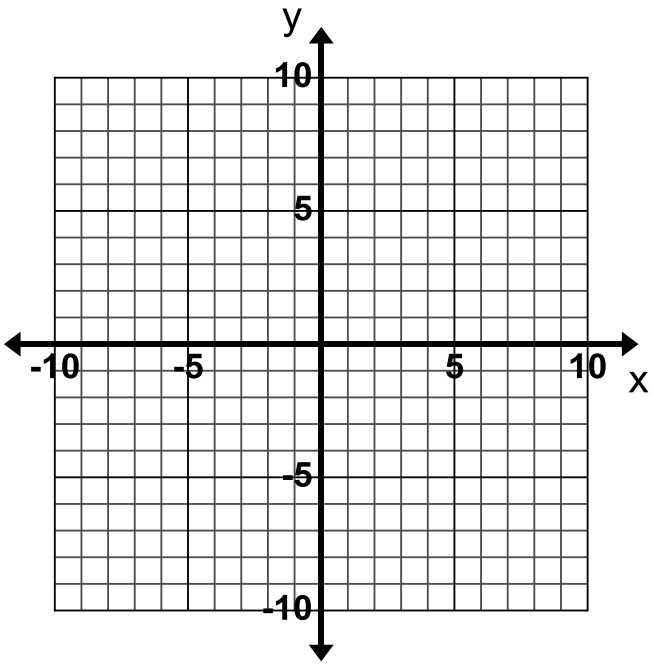
2. The equation of the line is $y = -\frac{1}{3}x + 7$.



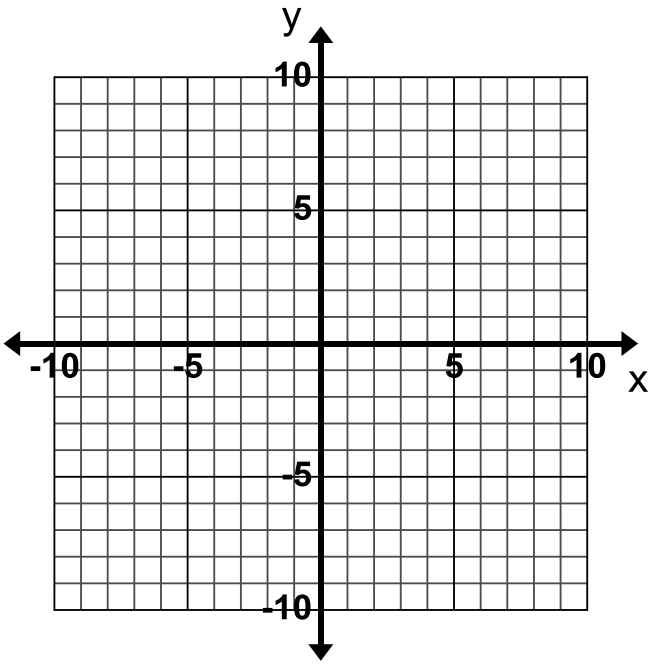
3. The equation of the line is $y = 2x + 4$.



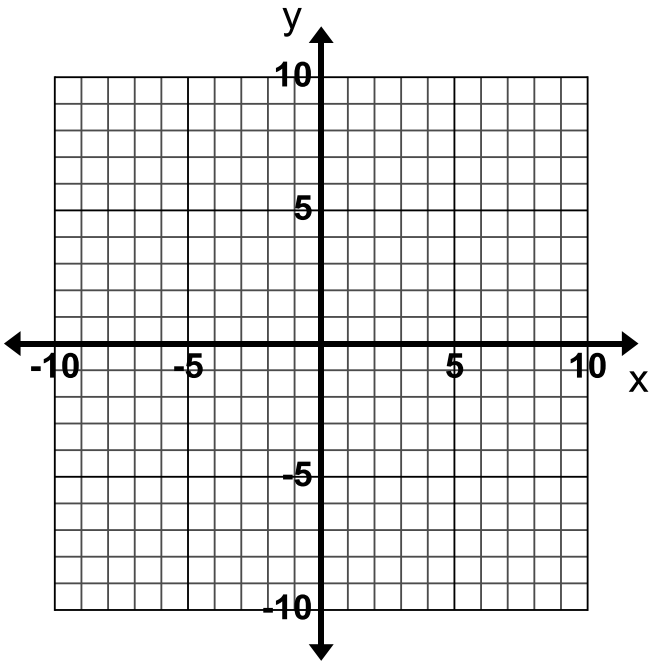
4. The equation of the line is $y = {}^1/_3x - 3$.



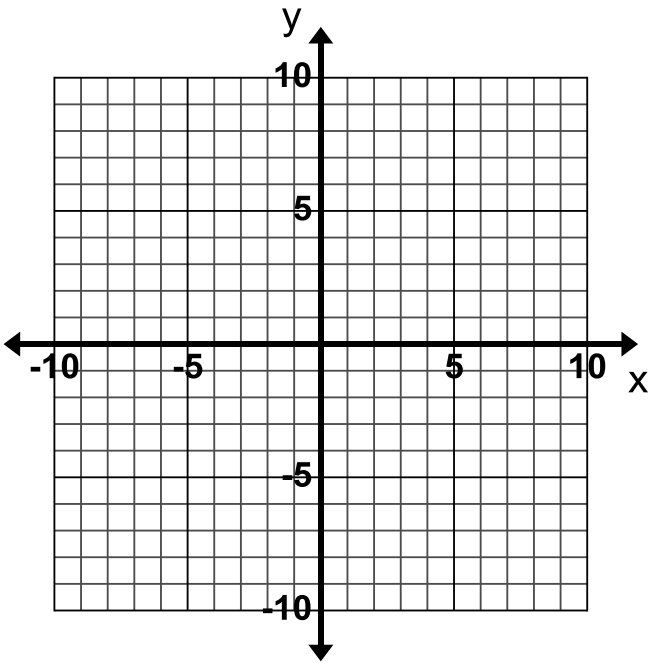
5. The equation of the line is $x = -1$.



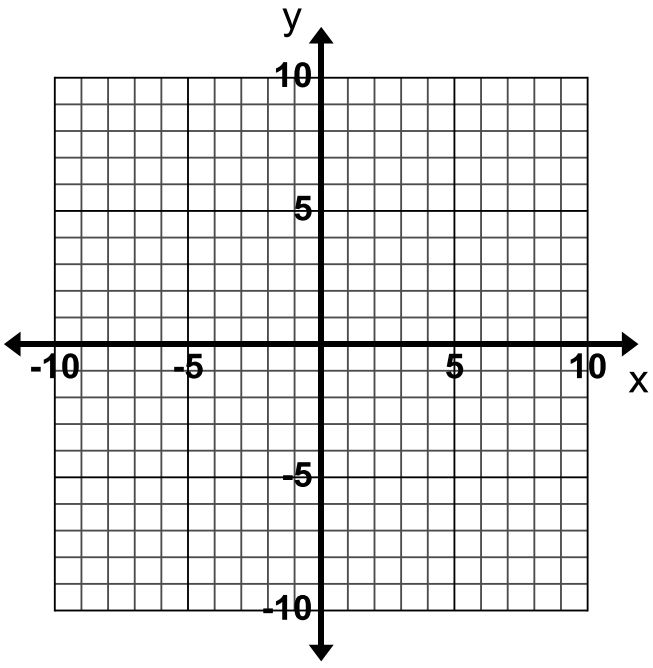
6. The equation of the line is $y = 6$.



7. The line contains the point (1,2) and has a slope of -0.5



8. The line contains the point (6, 3) and the slope is undefined.



Directions: Write the equation in slope-intercept form for each line based on the information given.

9. The slope of the line is and the y-intercept is 4.

10. The line has a slope of − and goes through the point (2, 4).

11. The line contains the points (1, 2) and (2, 4).

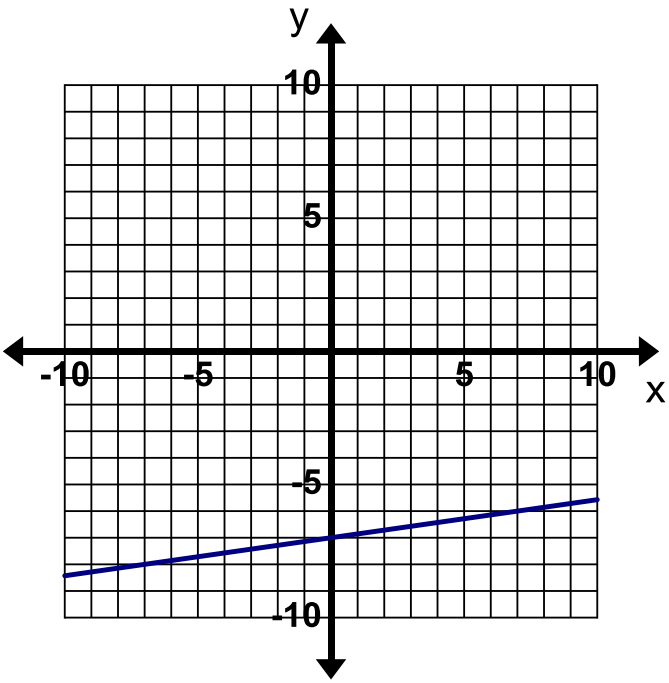
12. The line contains the points in the table.

x	y
0	0
1	2
2	4
3	6

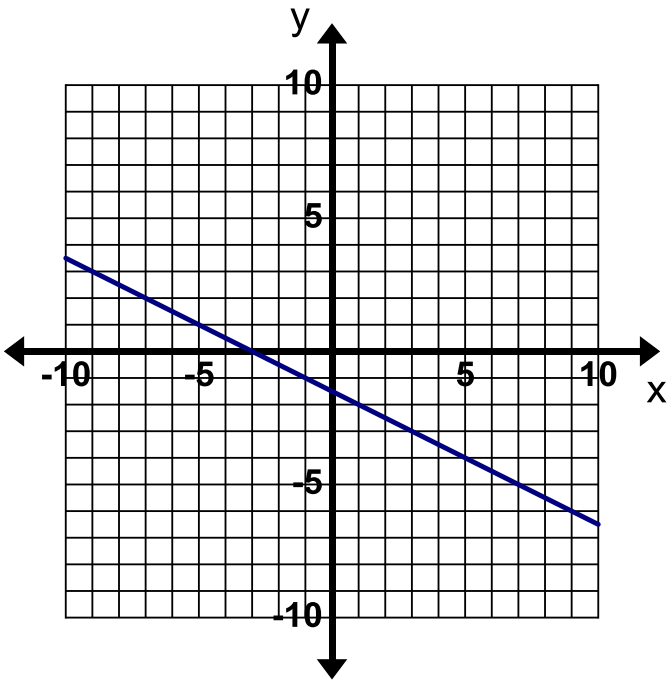
13. The line contains the points in the table.

x	y
1	5
3	1
4	4
6	10

14. The line graphed below.



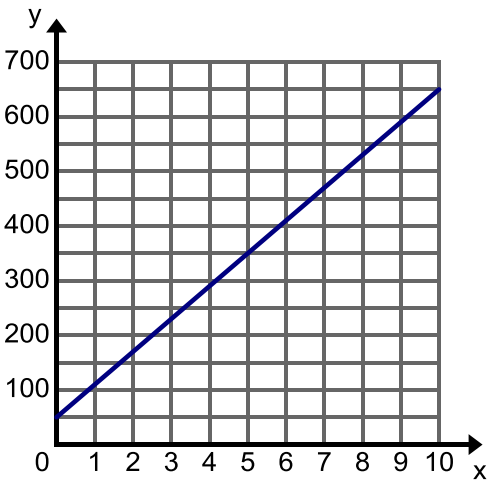
15. The line graphed below.



3.1g Classwork: Write Equations to Solve Real-world Problems

Directions: Write the equation for each of the following real-world problems.

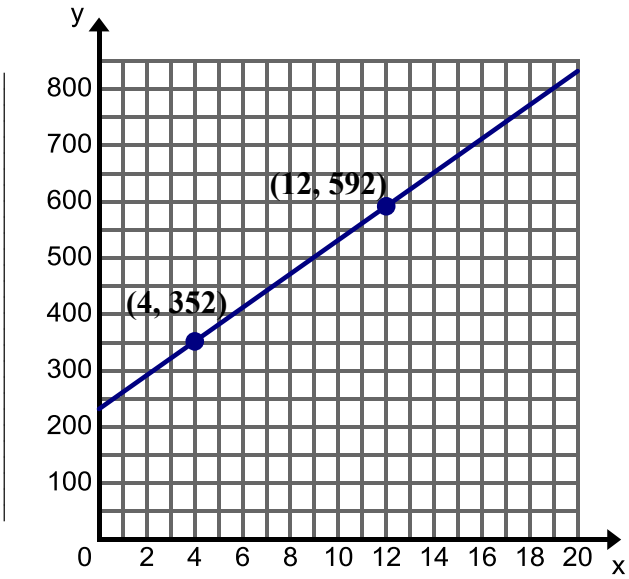
1. The graph below shows a trip taken by a car where x is time (in hours) the car has driven and y is the distance (in miles) from Salt Lake City. Label the axes of the graph.



Equation:

Use your graph and equation to tell the story of this trip taken by the car.

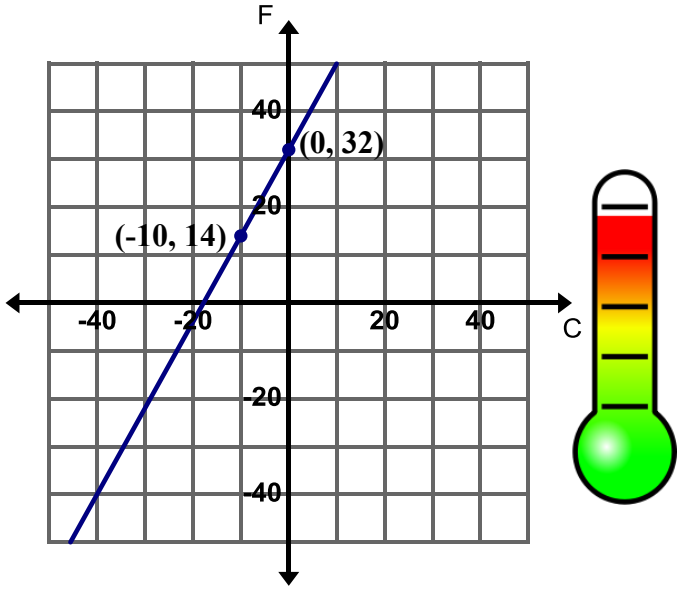
2. The graph below shows the weight of a baby elephant where x is the time (in weeks) since the elephant's birth and y is the weight (in pounds). At 4 weeks, the elephant weighed 352 lbs. and at 12 weeks, the elephant weighed 592 lbs. Label the axes of the graph.



Equation:

Use your graph and equation to tell the story of this elephant.

3. The graph below shows the relationship between temperature in degrees Celsius and temperature in degrees Fahrenheit.



Equation:

4. Peter is draining his hot tub so that he can clean it. He puts a hose in the hot tub to drain the water at a constant rate. After 5 minutes there are 430 gallons of water left in the hot tub. After 20 minutes there are 370 gallons of water left in the hot tub. Let x be time (in minutes) and y be water remaining (in gallons).

Equation:

Use your equation to add more details to the story of Peter draining the hot tub.

5. A handyman charges $40 an hour plus the cost of materials. Rosanne received a bill from the handyman for $477 for 8 hours of work.

Equation:

Use your equation to add more details to the story about the work the handyman did for Roseanne.

6. The table below shows the height h (in feet) of a hot air balloon t minutes after it takes off from the ground. It rises at a constant rate.

t (minutes)	h (feet)
2	300
5	750
9	1,350

Equation:

Use the table and equation to tell the story of the hot air balloon.

Day/Día 11

DPS Math 8
Matemáticas de 8vo Grado

Solving Equations Resolviendo Ecuaciones	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.* https://youtu.be/f15zA0PhSek

Steps for Solving an Equation:

1. **Simplify each side** of the equation (distribute, combine like terms *on one side at a time)*.

$$\frac{2}{3}(3x+6) = 4x+3$$
$$2x+4 = 4x+3$$

2. **Use inverse operations** to group variables on one side of the equation and constants on the other side.

$$2x+4 = 4x+3$$
$$\underline{-2x \qquad -2x}$$
$$4 = 2x+3$$
$$\underline{-3 \qquad -3}$$
$$1 = 2x$$

3. **Undo multiplying or dividing** from the variable. What you do to one side, you must also do to the other!

$$\frac{1}{2} = \frac{2x}{2}$$
$$\frac{1}{2} = x$$

✓ **Check your answer!** Plug your solution into the original equation. You should get a TRUE statement (3=3). If you get a FALSE statement (3=11), look for your mistake!

$$\frac{2}{3}\left(3\left(\frac{1}{2}\right)+6\right) = 4\left(\frac{1}{2}\right)+3$$
$$\frac{2}{3}\left(\frac{3}{2}+6\right) = 2+3$$
$$1+4 = 2+3 \qquad \checkmark\text{true}$$

1.2a Homework: Solving Multi-Step Linear Equations (variables on both sides)

Directions: Solve the following equations. Verify your solutions.

1. $3x = 2x + 2$	2. $3x + 5 = 4x + 1$	3. $6x + 3 = 3x + 12$
4. $3x + 8 = 2x + 10$	5. $5x + 3 = 3x + 7$	6. $5a - 5 = 7 + 2a$
7. $3b - 6 = 8 - 4b$	8. $-3y + 12 = 3y - 12$	9. $3x = -3x + 1$
10. $-2x + 8 = -3x - 1$	11. $3p - 4 = 5p + 4$	12. $3 - 0.25x = -\frac{1}{2}x + 9$

Directions: In the following problems, a common mistake has been made. Circle the mistake and describe the mistake in words. Then, solve the equation correctly.

13. $4x - 8 = -2x + 20$

$2x - 8 = 20$ Combine like terms (4*x* and -2*x*)

$2x = 28$ Add 8 to both sides.

$x = 14$ Divide both sides by 2.

Explanation of Mistake:

Solve Correctly:

14. $6x + 4 = -2x$

$8x = 4$ Add $2x$ to both sides.

$x = \frac{4}{8}$ Divide both sides by 8.

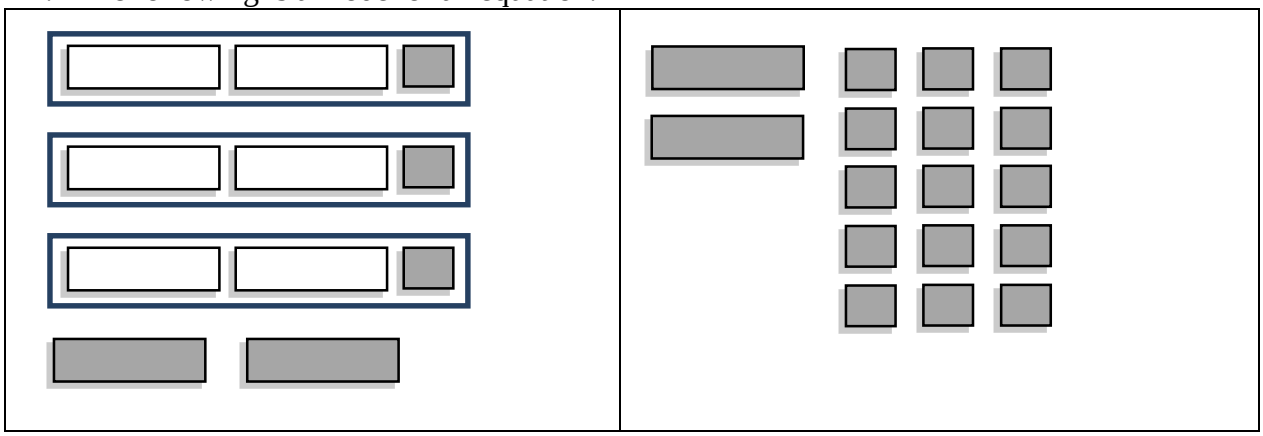
$x = \frac{1}{2}$ Simplify the fraction.

Explanation of Mistake:

Solve Correctly:

1.2b Homework: Solving Multi-Step Linear Equations (putting it all together)

1. The following is a model of an equation.



   a. Write the symbolic representation of the equation for this model.

   b. Solve the equation.

Directions: Solve the following equations. Verify your solutions.

2. $x + 3x = 9 + x$	3. $4c + 4 = c + 10$	4. $3(4x - 1) = 2(5x - 7)$
5. $3x + 10 + 2x = 2(x + 8)$	6. $2(x + 8) = 2(2x + 1)$	7. $4(x + 3) = x + 26 + x$

8. $3a + 5(a - 2) = 6(a + 4)$	9. $13 - (2c + 2) = 2(c + 2) + 3c$	10. $2(4x + 1) - 2x = 9x - 1$
11. $2 - (2x + 2) = 2(x + 3) + x$	12. $3(x - 6) = 4(x + 2) - 21$	13. $3(y + 7) = 2(y + 9) - y$
14. $-4(x - 3) = 6(x + 5)$	15. $\frac{1}{2}(12 - 2x) - 4 = 5x + 2(x - 7)$	16. $\frac{1}{2}(12n - 4) = 14 - 10n$

Day/Día 12

DPS Math 8
Matemáticas de 8vo Grado

Solving Inequalities Resolviendo Desigualdades	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/y7QLay8wrW8	

Steps for Solving an Inequality:

1. **Simplify each side** of the inequality (distribute, combine like terms *on one side at a time).*

$$-4(x-3) > \tfrac{1}{2}x + 2$$
$$-4x + 12 > \tfrac{1}{2}x + 2$$

2. **Use inverse operations** to group variables on one side of the equation and constants on the other side.

$$-4x + 12 > \tfrac{1}{2}x + 2$$
-½x -½x
$$-\tfrac{9}{2}x + 12 > 2$$
-12 -12
$$-\tfrac{9}{2}x > -10$$

3. **Undo multiplying or dividing** from the variable. What you do to one side, you must also do to the other!

If you multiply or divide by a *negative* on an inequality, you must reverse the direction of the inequality sign!

$$-\tfrac{2}{9} \cdot -\tfrac{9}{2}x > -10 \cdot -\tfrac{2}{9}$$
$$x < \tfrac{20}{9}$$

✓ **Check your answer!** Plug your solution into the original equation. You should get a TRUE statement (3=3). If you get a FALSE statement (3=11), look for your mistake!

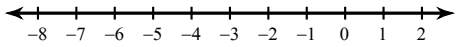
Since the solution is $x < \frac{20}{9}$, we need to check with an x that is *less than* $\frac{20}{9}$ (let's use 2):

$$-4(2-3) > \tfrac{1}{2}(2) + 2$$
$$-4(-1) > 1 + 2$$
$$4 > 3 \quad \text{✓true}$$

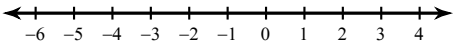
Solving Inequalities

Solve each inequality and graph its solution.

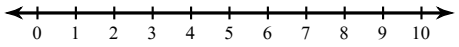
1) $3 < -5n + 2n$



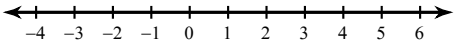
2) $6x + 2 + 6x < 14$



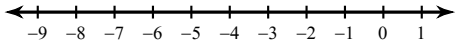
3) $-p - 4p > -10$



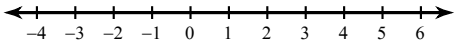
4) $18 \geq 5k + 4k$



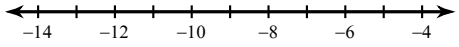
5) $9 \geq -2m + 2 - 3$



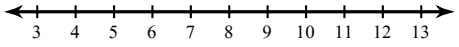
6) $-3 - 6(4x + 6) > -111$



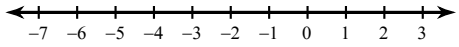
7) $6 - 4(6n + 7) \geq 122$



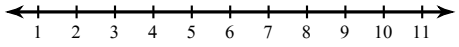
8) $-138 \geq -6(6b - 7)$



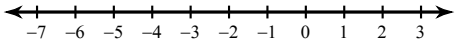
9) $167 < 6 + 7(2 - 7r)$



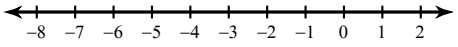
10) $5(6 + 3r) + 7 \geq 127$



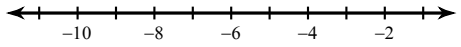
11) $-8x + 2x - 16 < -5x + 7x$



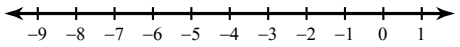
12) $-1 - 6x - 6 > -11 - 7x$



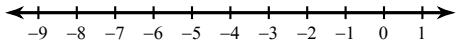
13) $a - 6 \le 15 + 8a$



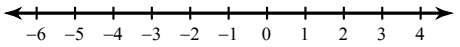
14) $13 + 2v - 8 + 6 > -7 - v$



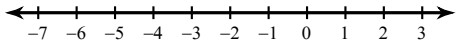
15) $-5n - 6n \le 8 - 8n - n$



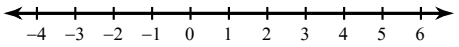
16) $-x < -x + 7(x - 2)$



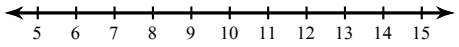
17) $-5n + 6 \ge -7(5n - 6) - 6n$



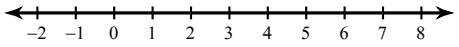
18) $3(p - 3) - 5p > -3p - 6$



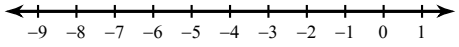
19) $28 - k \ge 7(k - 4)$



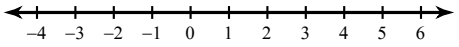
20) $28 - 7x \le -4(-7x - 7)$



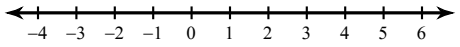
21) $-6(1 + 7k) + 7(1 + 6k) \le -2$



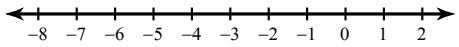
22) $-2(2 - 2x) - 4(x + 5) \le -24$



23) $3(1 - 2x) > 3 - 6x$



24) $-2(5 + 6n) < 6(8 - 2n)$



Day/Día 13

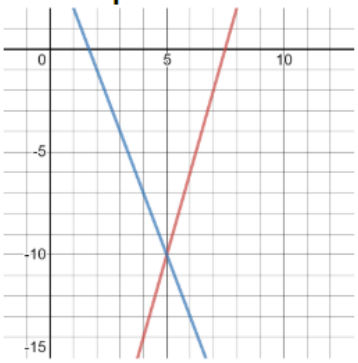
DPS Math 8
Matemáticas de 8vo Grado

Systems of Equations Sistemas de Ecuaciones	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.* https://youtu.be/Pd4hwS8qHms

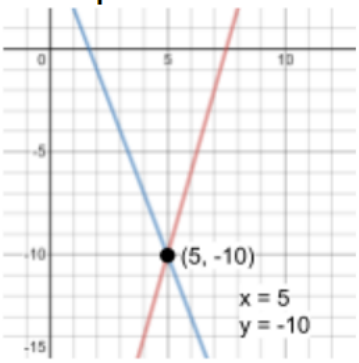
TO SOLVE A SYSTEM OF EQUATIONS:

$$\begin{cases} y = 4x - 30 \\ y = -3x + 5 \end{cases}$$

Graph both lines.



Find the point of intersection.

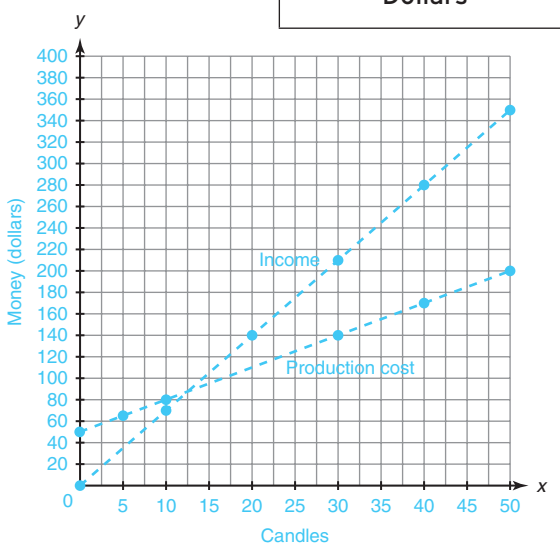


For each of the following systems of linear equations, one equation represents the **production cost** of making a movie, and the other equation represents the **income** from that movie. The solution to the system represents the "break-even" point, where the income equals the cost of the movie. Find the solution to each system by graphing. (HINT: the information in the table will help you set up your graph!)

13. Production cost: $y = 50 + 3x$

Income: $y = 7x$

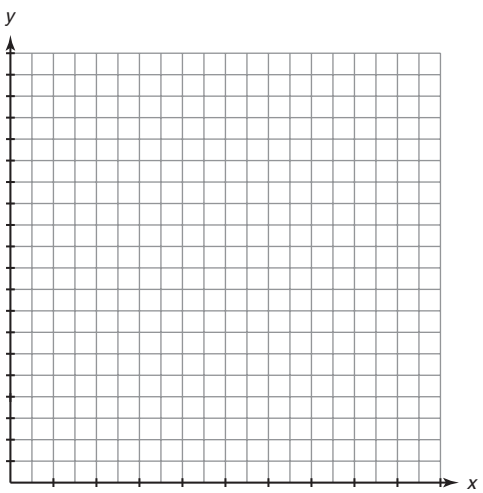
Variable Quantity	Lower Bound	Upper Bound	Interval
Candles	0	50	5
Dollars	0	400	20



14. Production cost: $y = 300 + 14x$

Income: $y = 26x$

Variable Quantity	Lower Bound	Upper Bound	Interval
Gift Baskets	0	50	5
Money	0	1000	50

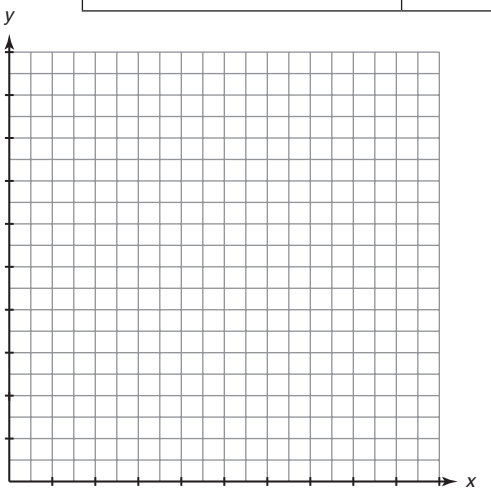


16

15. Production cost: $y = 100 + 2x$

Income: $y = 5x$

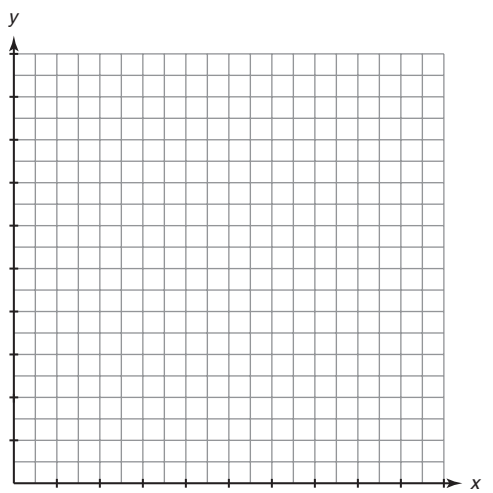
Variable Quantity	Lower Bound	Upper Bound	Interval
Souvenir Cups	0	100	10
Money	0	500	50



16. Production cost: $y = 130 + 0.5x$

Income: $y = 3x$

Variable Quantity	Lower Bound	Upper Bound	Interval
Textbook Covers	0	100	10
Money	0	300	30

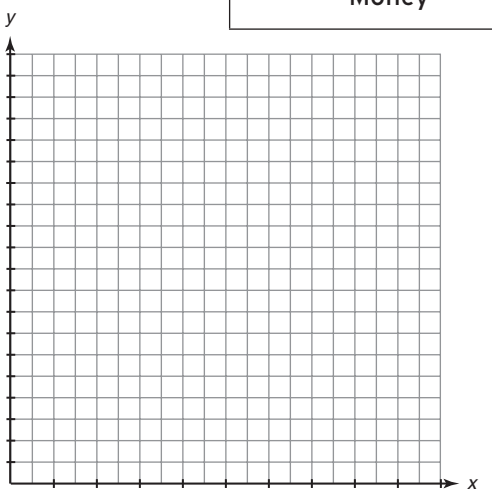


16

17. Production cost: $y = 165 + 35x$

Income: $y = 80x$

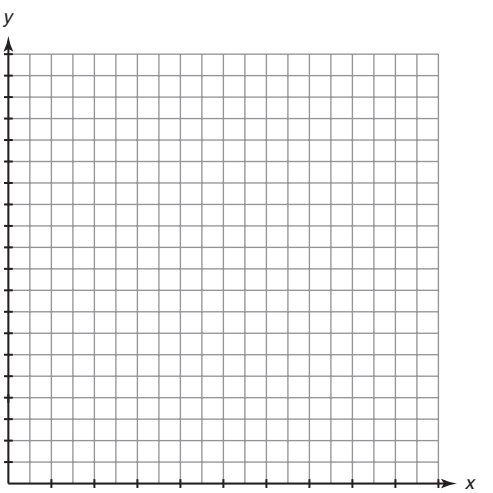
Variable Quantity	Lower Bound	Upper Bound	Interval
Memory Quilts	0	10	1
Money	0	1000	50



18. Production cost: $y = 75 + 2.5x$

Income: $y = 7.5x$

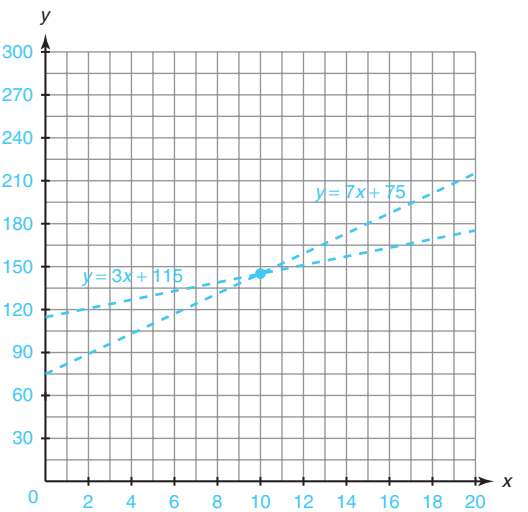
Variable Quantity	Lower Bound	Upper Bound	Interval
Custom Hats	0	50	5
Money	0	400	20



Graph each system of equations using the bounds and intervals given. Use your graph to determine the solution of the system.

7. $y = 7x + 75$ and $y = 3x + 115$

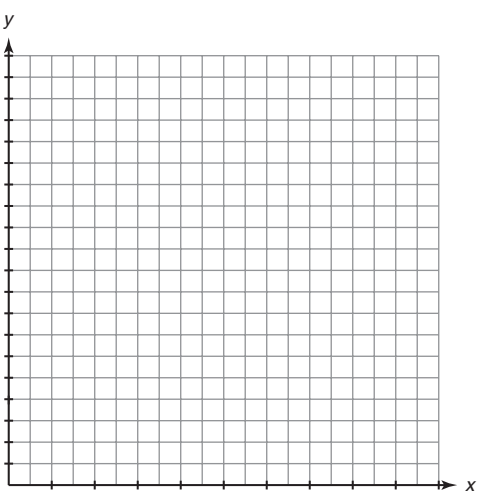
Variable Quantity	Lower Bound	Upper Bound	Interval
x	0	20	2
y	0	300	30



The solution is (10, 145).

8. $y = 58 + 2x$ and $y = 5x + 58$

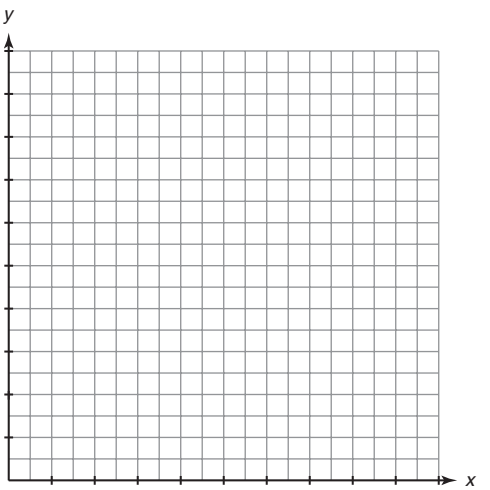
Variable Quantity	Lower Bound	Upper Bound	Interval
x	0	20	2
y	0	200	10



16

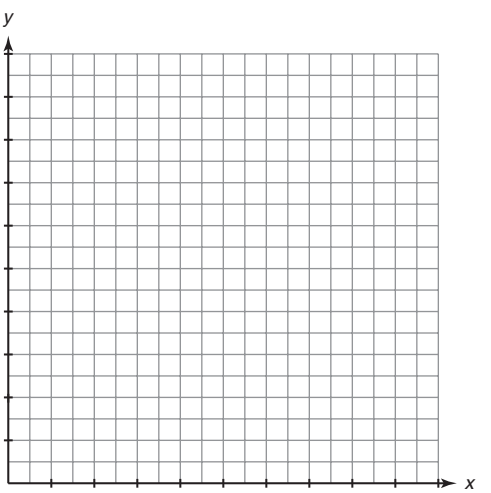
9. $y = 172 + 30x$ and $y = 99 + 30x$

Variable Quantity	Lower Bound	Upper Bound	Interval
x	0	20	2
y	0	500	50



10. $y = 34 - \frac{5}{2}x$ and $y = \frac{2}{5}x + 5$

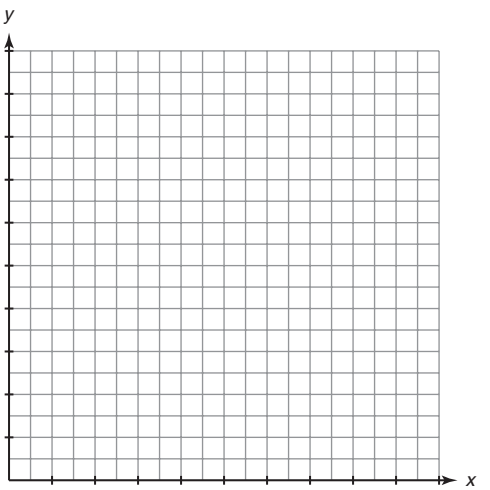
Variable Quantity	Lower Bound	Upper Bound	Interval
x	0	40	4
y	0	40	4



16

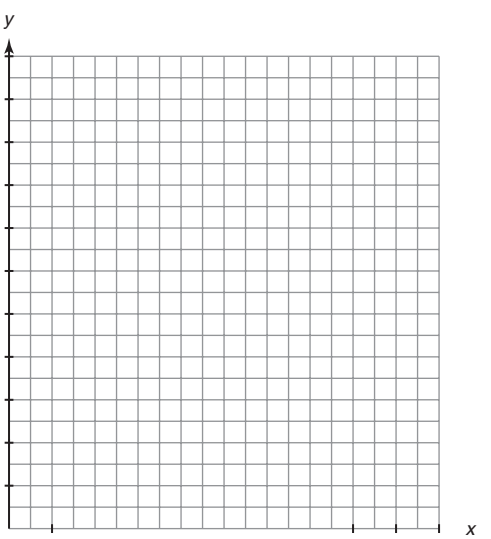
11. $y = 21x + 144$ and $y = 3(7x + 48)$

Variable Quantity	Lower Bound	Upper Bound	Interval
x	0	20	2
y	0	500	25



12. $y = 125 + 15x$ and $y = 425 - 15x$

Variable Quantity	Lower Bound	Upper Bound	Interval
x	0	20	2
y	0	550	25



Day/Día 14

DPS Math 8
Matemáticas de 8vo Grado

Problem Solving with Scientific Notation Resolviendo Problemas con Notación Científica	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/497oIjqRPco	

Multiplying in Scientific Notation	Dividing in Scientific Notation
$(5.1 \times 10^6)(2.3 \times 10^{-4})$	$\frac{3.9 \times 10^3}{2.6 \times 10^8}$
1. Multiply the coefficients. $5.1 \cdot 2.3 = 11.73$ 2. Multiply the powers of 10. $10^6 \cdot 10^{-4} = 10^2$ 3. Correct any place values to be sure it is in scientific notation. $11.73 \times 10^2 \rightarrow 1.173 \times 10^3$	1. Divide the coefficients. $3.9 \div 2.6 = 1.5$ 2. Divide the powers of 10. $10^3 \div 10^8 = 10^{-5}$ 3. Correct any place values to be sure it is in scientific notation. 1.5×10^{-5} (no correction needed)

8.2d Class Activity: Multiplying and Dividing with Scientific Notation

In a previous section you were asked how many millions are in a trillion. Scientific notation can help you answer this question with ease.

1. Begin by writing these two numbers in standard form and then changing them to scientific notation.

	Standard Form	Scientific Notation
One Million One Trillion		

2. What operation should you use if you want to compare these numbers? (Hint: Remember it is asking how many millions are in a trillion.)

3. Write this problem out with the correct operation using scientific notation.

When numbers are written in scientific notation the problem above can be solved rather quickly. The problems below will help you practice the skills you will need to do this. You will return to the problem above on the next page.

4. Discuss with a partner what properties of exponents you will use to help simplify the problems below. Use these properties to simplify each expression.

a. $10^4 \times 10^3$	b. $10^{-3} \times 10^5$	c. $\frac{10^6}{10^3}$	d. $10^4 \div 10^6$

5. Discuss the multiplication problem $(5\times3)(2\times8)$ with your class. Write your thoughts below.

6. Rewrite this problem $(5.1\times10^5)(6.8\times10^3)$ like the problem above (group the powers of 10 together). Then solve the problem (use exponent properties) and write the solution.

7. Use the same method to evaluate the problems below.

a. $(6.9\times10^2)(3.5\times10^5)$ Rewrite the problem: Problem solution:	b. Solve the problem: $(1.9\times10^3)(2.4\times10^6) =$	c. Solve the problem: $\frac{(7.2\times10^5)}{(3.6\times10^2)} =$

8. Find each product or quotient. Write your answer in scientific notation.

a. $\frac{2.3958\times10^{3}}{1.98\times10^{7}}$	b. $(7\times10^{5})(3.5\times10^{-3})$	c. $\frac{3.006\times10^{8}}{7.3\times10^{3}}$
d. What is 3 millionths multiplied by 7 ten-thousandths?	e. $\left(3.1\times10^{-3}\right)\times562.1$	f. How much is 40% of 140 million?
g. $\frac{30}{1.2\times10^{5}}$	h. $(5\times10^{5})(0.4)$	i. What percent of (1.3×10^{6}) is (6.5×10^{5})?

9. Return back to the problem at the beginning of the section. If we want to figure out how many millions are in a trillion what operation will help us achieve this?

   a. Use the method discovered above to perform this operation.

   b. Now try it to find out how many thousands are in a trillion.

Use scientific notation to answer each question

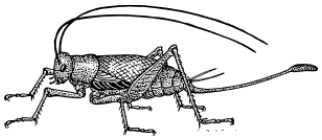
10. In the world, approximately 1,146,000,000 people speak Chinese as their first language, while, 341,000,000 people speak English as their first language. Approximately how many times more people speak Chinese than English as their first language?

11. The thickness of a dollar bill is .010922 cm. The thickness of a dime is .135 cm. How many times thicker is a dime compare to a dollar bill?

12. A millipede's leg is 4.23×10^{-3} cm long.
    a. How long is the millipede's leg in standard form?

    b. Despite its name a millipede does not really have 1000 legs. If it did, what would the length be if you could line up all the legs of a 1,000 leg millipede end to end?

13. A cricket weighs 3.88×10^{-2} ounces. How many crickets are in a pound(a pound has 16 ounces)?



14. Determine the thickness of one sheet of paper in this book. Show your work and solution using scientific notation. Express your answer in units of appropriate size.

8.2d Homework: Multiplying and Dividing with Scientific Notation

1. Write each number in scientific notation.
   a. 0.0006033×10 b. 0.000142×10^{-4} c. 322×10^{5} d. 13.5×10^{-7}

2. Find the product or quotient for the following. Negative exponents are acceptable.
   a. $10^{-4} \times 10^{2}$ b. $10^{-5} \times 10^{-2}$ c. $10^{3} \div 10^{5}$ d. $10^{4} \div 10^{-2}$

3. Find each product or quotient. Write your answer in scientific notation.

a. $\left(7.2 \times 10^{-4}\right) \times \left(2.8 \times 10^{-3}\right)$	b. $\dfrac{2.35 \times 10^{8}}{4.3 \times 10^{3}}$	c. $\left(8.4 \times 10^{6}\right) \times \left(1.3 \times 10^{6}\right)$
d. $\dfrac{3.1748 \times 10^{4}}{2.07 \times 10^{8}}$	e. $(5 \times 10^{6})(4.5 \times 10^{-4})$	f. $\dfrac{1.005 \times 10^{7}}{6.3 \times 10^{2}}$
g. What is 4 millionths multiplied by 5 ten-thousandths?	h. $\left(4.2 \times 10^{-3}\right) \times 44,462.1$	i. How much is 30% of 170 million?

j. $\frac{3.15\times10^{-8}}{6.1\times10^{2}}$	k. $\frac{1.3\times10^{-4}}{0.3\times10^{-1}}$	l. 145,000 is what percent of 4 million?

4. In a class action lawsuit, 4,000 claimants were offered an $800 million settlement. How much is that per claimant? Change the numbers into scientific notation to calculate.

5. A cable company earned $125 million in one year. The next year they earned $312.5 million dollars. Estimate how many times bigger their profit was the second year compared to the first year.

6. There are about 6.022×10^{23} atoms of hydrogen in a mole of hydrogen. How many hydrogen atoms are in 3.5×10^{3} moles of hydrogen?

7. During the year 2013 approximately 7.07×10^{9} pennies were minted (made by the U.S. Mint). In the year 2000 approximately 1.43×10^{10} were minted. Estimate how many times more pennies were minted in the year 2000 compared to the year 2013. Give a possible explanation for the decline.

Day/Día
15

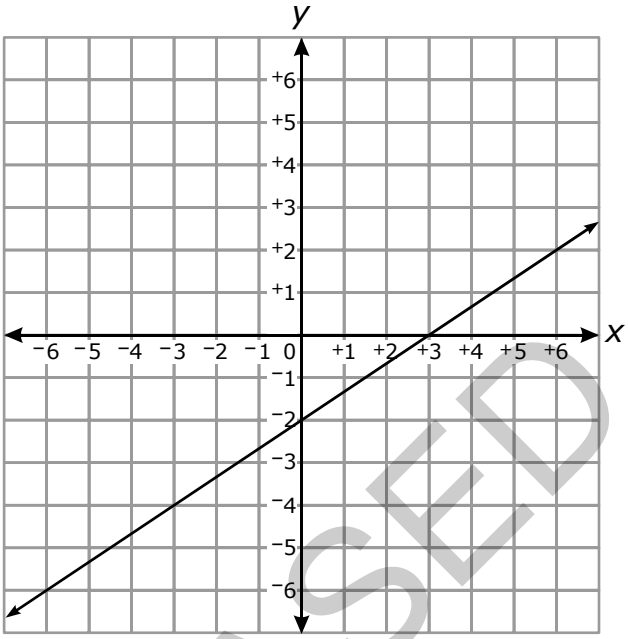
DPS Math 8
Matemáticas de 8vo Grado

EOG-Style Questions Preguntas del Estilo-Pruebas de Fin de Grado	**Video Resource** **Recurso de Vídeo** *Most smartphones can scan the QR code below with the camera; some older models might require a QR code reader app.* *La mayor parte de los teléfonos inteligentes pueden escanear el código QR abajo con la cámara; algunos de los modelos más antiguos tal vez requieren una aplicación de código QR.*	
	https://youtu.be/0aF7G0TMh7M	

Tips for Answering EOG-Style Questions:

- ❑ Read the question more than once!
  - ✓ First, read to make sense of the question.
  - ✓ Then, read to identify important information.
  - ✓ Next, read to make sure your answer makes sense and answers the question.
- ❑ Eliminate answer choices that don't make sense.
  - ✓ Estimate an answer to see which answer choices are unreasonable.
- ❑ Work backwards by starting with the answer choices.

1 What is the equation of the line graphed below?



A $y = \frac{2}{3}x - 2$

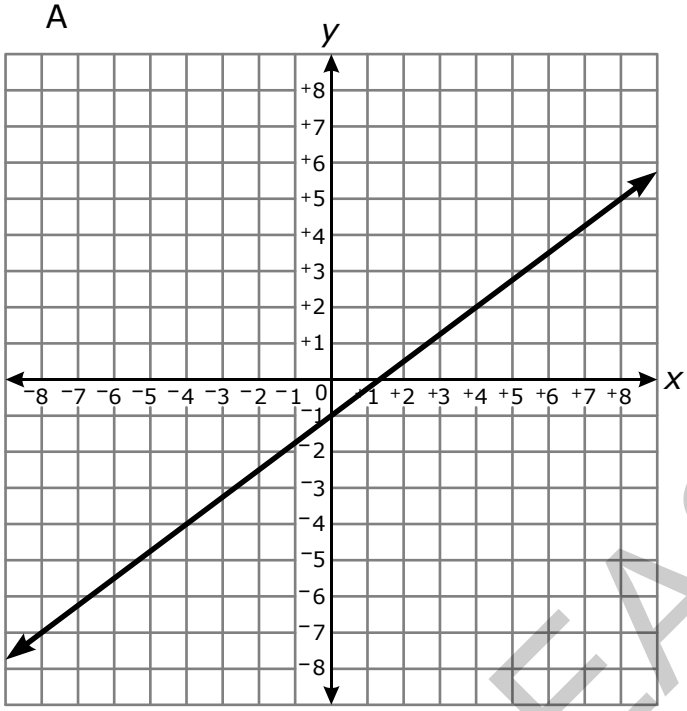
B $y = \frac{2}{3}x + 3$

C $y = \frac{3}{2}x - 2$

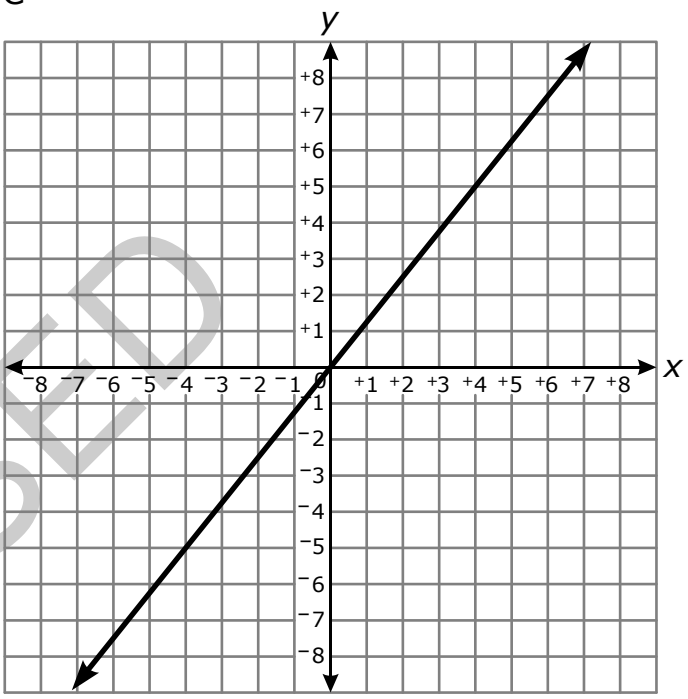
D $y = \frac{3}{2}x + 3$

2 Which graph has a slope that is $\frac{1}{4}$ unit greater than the slope of the graph of $y = x - 2$?

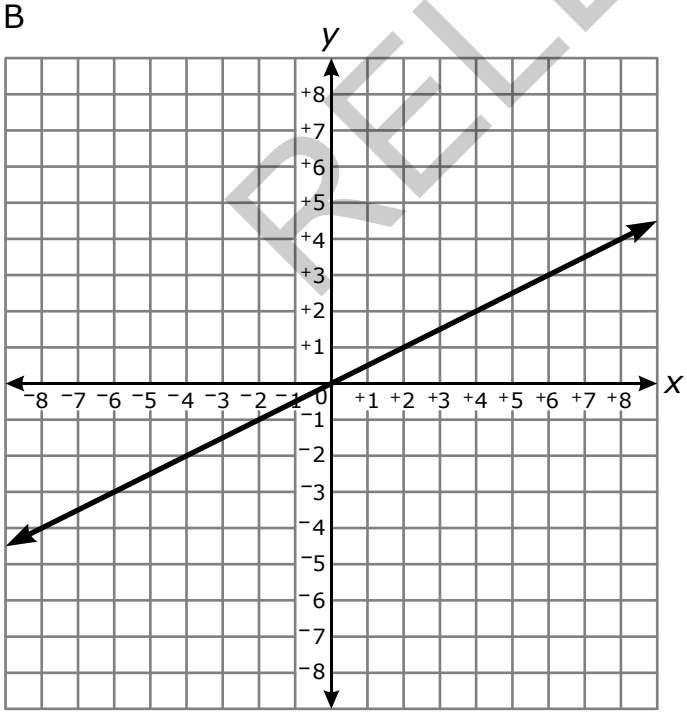
A



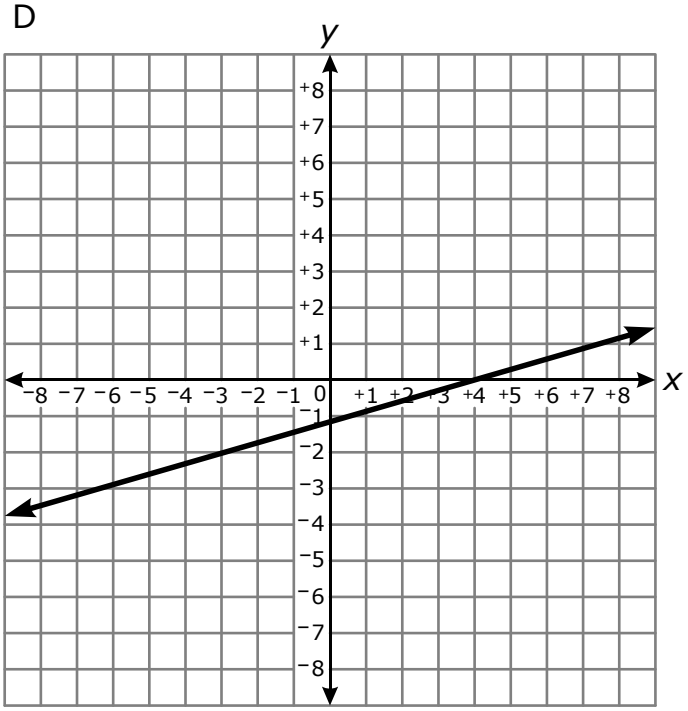
C

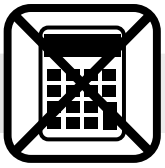


B



D





3 Susan recorded the time she ate dinner and the number of calories she consumed during dinner for six consecutive days. The results are shown in the table.

Time	Calories
4:00 p.m.	600
5:30 p.m.	750
6:30 p.m.	700
5:30 p.m.	900
7:30 p.m.	400
8:30 p.m.	800

Which ***best*** describes the association between the time Susan ate dinner and the number of calories she consumed?

A positive

B negative

C irrational

D almost none

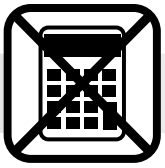
4 Which choice is an irrational number?

A $\frac{4\pi}{\pi}$

B $\sqrt{6^2}$

C $\sqrt{18}$

D 21.989



5 In which choice is y a nonlinear function of x?

A $y = \frac{x}{4} + 5$

B $y = 10 + x$

C $y = \frac{x + 3}{4} - 2x$

D $y = \frac{2}{x + 3} - 5$

6 Mr. Jones determined that the equation $y = 98 - \frac{16}{5}x$ could be used to predict his students' unit test scores, based on the number of days, x, a student was absent during the unit. What is the meaning of the y-intercept of the function?

A A student who was not absent during the unit should score about 98.

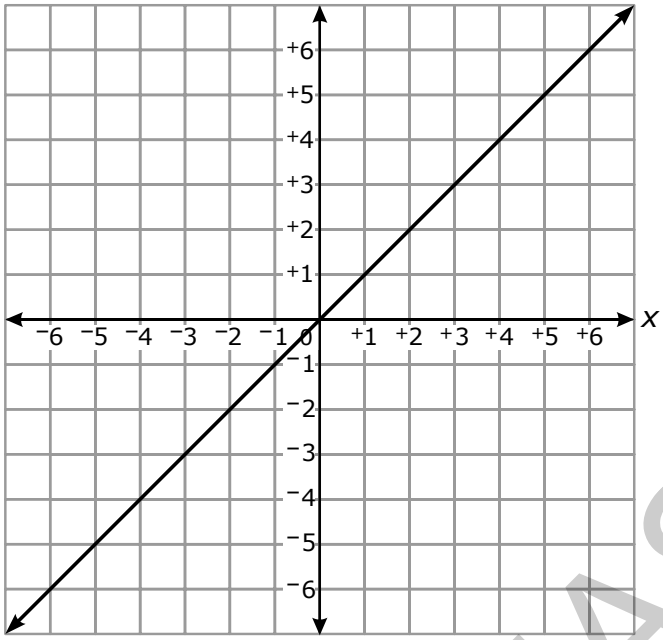
B A student who was not absent during the unit should score about 94.5.

C A student's test score should increase by about 3.2 points for each day the student is absent.

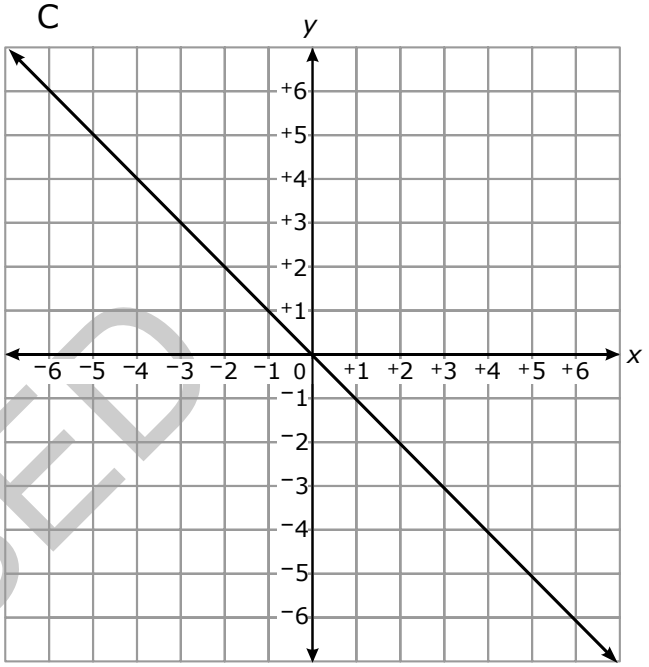
D A student's test score should decrease by about 3.2 points for each day the student is absent.

7 Which is the graph of the linear equation $y = -x$?

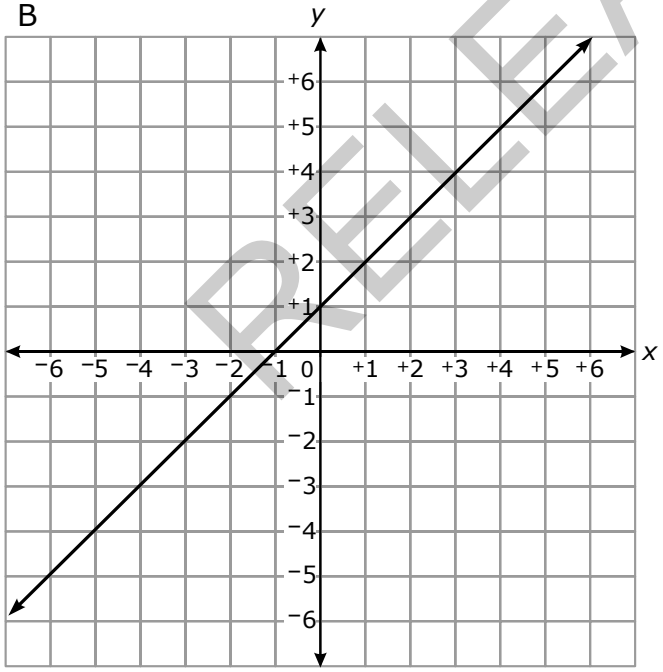
A



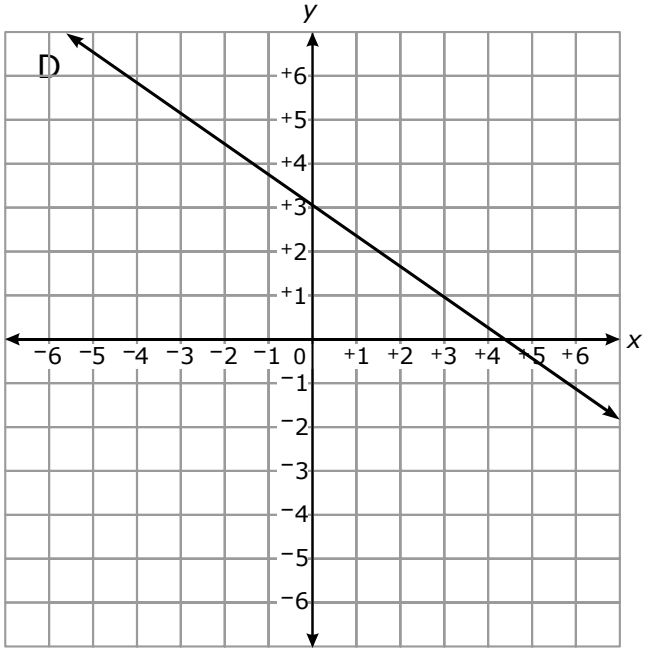
C



B



D



8 In which choice is y a nonlinear function of x?

A

x	0	2	4	6	8
y	24	18	12	6	0

B

x	0	2	4	6	8
y	24	18	13	9	6

C

x	0	2	4	6	8
y	24	21	18	15	12

D

x	0	2	4	6	8
y	24	22	20	18	16

9 Which choice is both the square of an integer and the cube of an integer?

A 121

B 100

C 64

D 16

10 In which choice do all three points lie on the same straight line?

A $(0, 1), (^{-}1, 3), (1, 3)$

B $(4, 2), (2, 1), (4, ^{-}2)$

C $(0, 0), (8, 0), (0, 8)$

D $(1, 2), (2, 4), (4, 8)$

Questions 11 through 15 require you to write your answers in the boxes provided on your answer sheet. A sample grid is shown below each question, but your answer must be properly entered on the answer sheet to be scored. Write only one number or symbol in each box and fill in the circle in each column that matches what you have printed. Fill in only one circle in each column.

11 The area of a square is 49 cm^2. What is the perimeter, in cm, of the square?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

12 What is the slope of the line that passes through the points (2, 3) and (8, 6)?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

13 The table shows four quantities. Each quantity is assigned a numeric label.

Quantity	Numeric Label
$\frac{\pi^2}{4}$	1
$\frac{\pi^2}{8}$	2
$\sqrt{2}$	3
$\sqrt{3}$	4

- Order the quantities from least to greatest.
- Next, write the sequence of numeric labels in the same order as their corresponding quantities.
- This sequence of numeric labels is your answer.
- Enter your answer into the grid. (For example, if the order of the numeric labels were "1, 2, 3, 4," enter the answer as "1234".)

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

14 What is the value of x in the equation shown below?

$$x^3 + 1 = 9$$

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

15 What positive integer is closest to the value of $\sqrt{230}$?

Only 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, . , -, and / are allowed in your answer. Answers that are mixed numbers must be entered as an improper fraction or decimal.

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Day/Días 1 – Read/Lea p. 247-251. Complete/Completa p. 246 Day/ Días 2 – Complete Questions/Complete las Preguntas p. 247-249
Day/Días 3 – Complete Questions /Complete las Preguntas p. 250-251
Day/Días 4 – Complete/Completa p. 252-253
Day/Día 5– Complete/Completa p. 254

Day/Días 6 – Read/Lea p. 255-260.
Day/Días 7 – Complete Questions/Complete las Preguntas p. 255-257
Day/Días 8 – Complete Questions/Complete las Preguntas p. 258-260
Day/Días 9 – Complete/Completa p. 261-262
Day/Día 10– Complete/Completa p. 263

Day/Días 11 – Read/Lea p. 265-270. Complete/Completa p. 264 Day/ Días 12 – Complete Questions/Complete las Preguntas p. 265-267
Day/Días 13 – Complete Questions/Complete las Preguntas p. 268-270
Day/Días 14 – Complete/Completa p. 271-272
Day/Día 15– Complete/Completa p. 273

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Day/Días 1 – Read/Lea p. 247-251. Complete/Completa p. 246 Day/ Días 2 – Complete Questions/Complete las Preguntas p. 247-249
Day/Días 3 – Complete Questions/Complete las Preguntas p. 250-251

Lesson 1 Fossils

Scan *Lesson 1. Write three questions that you have about fossils in your Science Journal. Try to answer your questions as you read.*

Main Idea

Evidence of the Distant Past

I found this on page _____.

I found this on page _____.

Formation of Fossils

I found this on page _____.

I found this on page _____.

Details

Define fossil. *Include two types of preserved clues in your definition.*

_____

_____

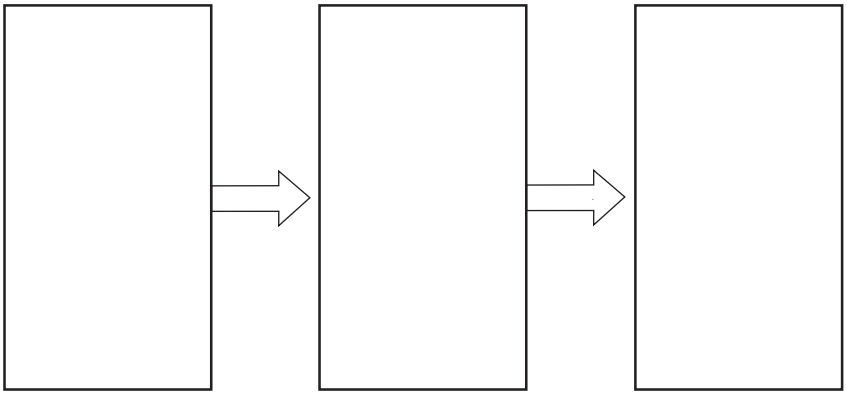
Summarize *the principles of* catastrophism *and* uniformitarianism.

Catastrophism	Uniformitarianism

Identify *factors that promote fossilization. Cross out terms that do not support the likelihood of* fossil *formation.*

buried quickly	soft tissue	microscopic
decay easily	hard parts	very large
exposed	rotting	eaten

Sequence *three probable steps of* fossil *fish formation.*



Clues to Earth's Past

Fossils

Before You Read

What do you think? Read the two statements below and decide whether you agree or disagree with them. Place an A in the Before column if you agree with the statement or a D if you disagree. After you've read this lesson, reread the statements to see if you have changed your mind.

Before	Statement	After
	1. Fossils are pieces of dead organisms.	
	2. Only bones can become fossils.	

Read to Learn

Evidence of the Distant Past

Old family photos provide clues to a family's history. Each photo reveals something of the family's past. You can often guess the age of the photos based on the clothes people are wearing or the vehicles they are driving. The material the photographs are printed on also provides a clue about when the photograph was taken.

Just as old photos can provide clues about a family's past, rocks can provide clues about Earth's past. Some of the most obvious clues found in rocks are the remains or traces of ancient living things. **Fossils** *are the preserved remains or evidence of ancient living things*.

Catastrophism

Many fossils represent plants and animals that no longer live on Earth. Ideas about how these fossils formed have changed over time. Some early scientists hypothesized that great, sudden disasters killed the organisms that became fossils. These scientists explained Earth's history as a series of disastrous events that occurred over short periods of time. **Catastrophism** (kuh TAS truh fih zum) *is the idea that conditions and organisms on Earth change in quick, violent events.* The events described in catastrophism include volcanic eruptions and widespread flooding. Scientists eventually disagreed with catastrophism because Earth's history is full of violent events.

Key Concepts

- What are fossils and how do they form?
- What can fossils reveal about Earth's past?

Mark the Text

Identify Main Ideas
Highlight each head and the details that support it. Use the highlighted information to review the lesson.

Reading Check

1. Define What is catastrophism?

Think it Over

2. Explain Why did James Hutton think that Earth was more than a few thousand years old?

ACADEMIC VOCABULARY

uniform
(adjective) having always the same form, manner, or degree; not varying or variable

Reading Check

3. Define What is uniformitarianism?

Key Concept Check

4. Describe What conditions increase the chances of fossil formation?

Uniformitarianism

Most people who supported catastrophism thought that Earth was only a few thousand years old. In the 1700s, James Hutton rejected this idea. Hutton was a naturalist and farmer in Scotland. He noticed that the landscape on his farm changed over the years. Hutton thought that the processes responsible for changing the landscape on his farm could also change Earth's surface. For example, Hutton thought that erosion caused by streams could also wear down mountains. He realized that these processes would take a long time to change Earth's surface. Hutton proposed that Earth was much older than a few thousand years.

Hutton's ideas became part of the principle of uniformitarianism (yew nuh for muh TER ee uh nih zum). *The principle of* **uniformitarianism** *states that geologic processes that occur today are similar to those that have occurred in the past*. According to this view, Earth's surface is constantly being reshaped in a steady, uniform manner.

Today, uniformitarianism is the basis for understanding Earth's past. But scientists also know that catastrophic events do occur. Volcanic eruptions and meteorite impacts can change Earth's surface quickly. These catastrophic events can be explained by natural processes.

Formation of Fossils

You learned that fossils are the remains or traces of ancient living organisms. Not all dead organisms become fossils. How are these remains preserved? Fossils form only under certain conditions.

Conditions for Fossil Formation

Most plants and animals are eaten or decay when they die. They leave no evidence that they ever lived. Think about the chances of an apple becoming a fossil. If the apple is on the ground for many months, it will decay into a soft, rotting lump. Eventually, insects and bacteria will eat it.

Some conditions increase the chances of fossil formation. An organism is more likely to become a fossil if it has hard parts, such as shells, teeth, or bones. The hard parts of organisms do not decay easily. An organism is also more likely to form a fossil if it is buried quickly after it dies. If layers of sand or mud bury an organism quickly, decay is slowed or stopped. The figure on the next page shows how a fish might become a fossil.

1 2 3

Fossils Come in All Sizes

When many people think of fossils, they think of dinosaur fossils. Many dinosaurs were large animals. Their large bones remained after they died. Not all fossils are large enough for you to see. Some fossils can be seen only by using a microscope. These tiny fossils are called microfossils. Some microfossils are about the size of a speck of dust.

Types of Preservation

Fossils are preserved in different ways. Some are trapped in ice or embedded in rock. Others actually become rock. Some fossils are not body parts, but only evidence of once-living things.

Preserved Remains

Sometimes the actual remains of organisms are preserved as fossils. For this to happen, an organism must be completely enclosed in some material for a long period of time. Materials such as amber, tar, or ice trap the remains and prevent air or bacteria from causing decay. Usually, preserved remains are 10,000 or fewer years in age. However, insects preserved in amber can be millions of years old.

Carbon Films

Sometimes pressure on a buried organism is so great that all gases and liquids are released from the organism's tissues. The only thing left behind is the carbon. *A* **carbon film** *is the fossilized carbon outline of an organism or part of an organism.*

Carbon films are usually shiny black or dark brown. Fish, insects, and plant leaves are often preserved as carbon films.

Mineral Replacement

Copies of organisms can form from minerals in groundwater. Rock-forming minerals dissolved in groundwater enter the pore spaces or replace the tissues of dead organisms. Petrified wood is a mineral-replacement fossil. The mineral silica (SiO_2) filled in the spaces between the cell walls in a dead tree. The wood petrified when the SiO_2 hardened.

Visual Check

5. Identify What parts of an organism become a fossil?

_____

_____

Reading Check

6. Identify Which is a microfossil? (Circle the correct answer.)

a. a dinosaur leg bone

b. an ancient fish bone

c. a fossil about the size of a speck of dust

Reading Check

7. Explain How does a carbon film form?

_____

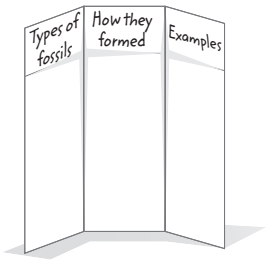
_____

_____

_____

FOLDABLES®

Make a tri-fold book to organize your notes about different types of fossils.

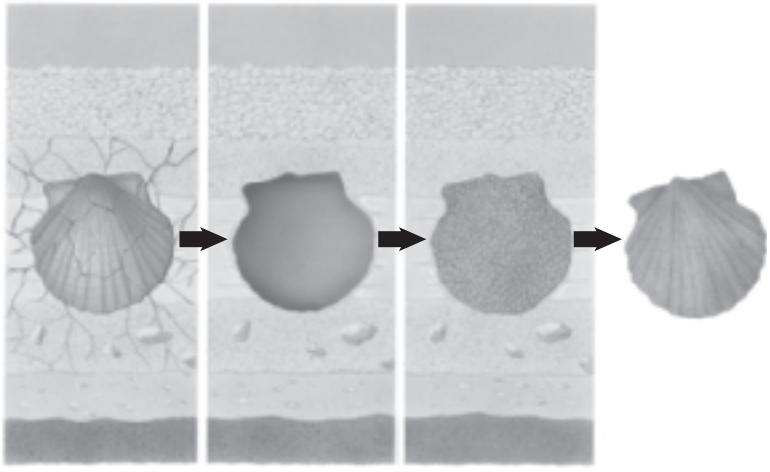


Molds

Sometimes a fossilized imprint, or impression, is all that is left of an organism. This type of fossil is called a mold. *A* **mold** *is the impression in a rock left by an ancient organism*. A mold can form when sediment hardens around a buried organism. As the organism decays over time, an impression of its shape remains in the sediment. The sediment eventually turns to rock.

Casts

Sometimes, after a mold forms, sediment fills the mold. This type of fossil is called a cast. *A* **cast** *is a fossil copy of an organism made when a mold of the organism is filled with sediment or mineral deposits*. The figure below shows how a fossil mold and cast form.



Visual Check

8. Sequence How is a cast made? (Circle the correct answer.)

a. A carbon print is filled with sediment.

b. A fossil impression is filled with sediment.

c. A fossil copy is filled with sediment.

Trace Fossils

Some animals leave fossilized traces of their activities. *A* **trace fossil** *is the preserved evidence of the activity of an organism*. Trace fossils include tracks, footprints, and nests. Scientists use trace fossils to learn about animal characteristics. For example, dinosaur tracks give clues about the dinosaur's size, speed, and whether it was traveling alone or in a group.

Reading Check

9. State What are some examples of trace fossils?

_____

_____

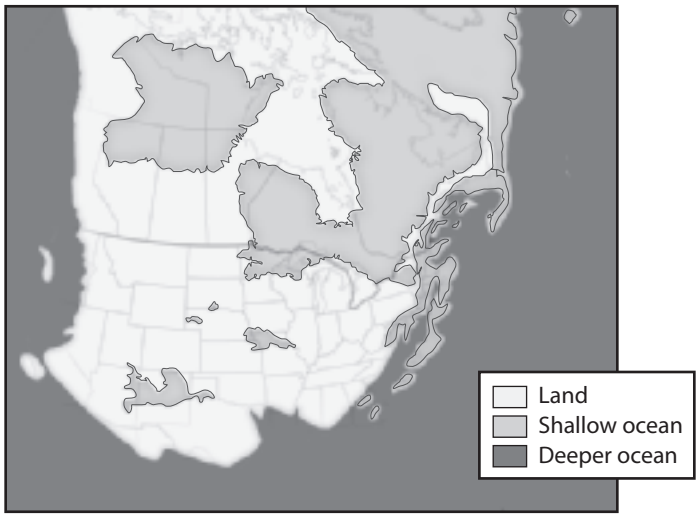
_____

Ancient Environments

Paleontologists (pay lee ahn TAH luh justs) *are scientists who study fossils*. Paleontologists use the principle of uniformitarianism to learn about ancient organisms and the environments in which they lived. They compare fossils of ancient organisms with organisms living today. A trilobite fossil and a horseshoe crab look alike. Horseshoe crabs today live in shallow water on the ocean floor. Partly because trilobite fossils look like horseshoe crabs, paleontologists infer that trilobites also lived in shallow ocean water.

Shallow Seas

Today, Earth's continents are mostly above sea level. Many times in the past, the sea level rose and flooded Earth's continents. For example, the figure below shows a shallow ocean that covered much of North America about 450 million years ago. Fossils of organisms that lived in that shallow ocean help scientists reconstruct what the seafloor looked like in the past.



Key Concept Check

10. Describe What can fossils tell us about ancient environments?

Visual Check

11. Illustrate Mark an *X* over each area on the map where there might have been ancient, shallow oceans.

Past Climates

You might have heard people talking about global climate change. There is evidence that Earth's present-day climate is warming. Fossils show that Earth's climate has warmed and cooled many times in the past.

Plant fossils are good indicators of climate change. Fossils of ferns and other tropical plants indicate that much of Earth was very warm 100 million years ago. Tropical swamps and forests covered much of the land. Dinosaurs lived on Earth during this period.

Millions of years later, the swamps and forests were gone. In some of these areas, coarse grasses grew. Huge sheets of ice called glaciers formed as the climate cooled. This ice spread over parts of North America, Europe, and Asia. Organisms that adapted to the cold climate survived. Fossils of organisms, such as the woolly mammoth, help scientists learn about this cold time in Earth's history.

Fossils of organisms, such as ferns and mammoths, help scientists learn about ancient organisms and past environments. In the following lessons, you will read how scientists use fossils and other clues, such as rock layers and radioactivity, to learn about the ages of Earth's rocks.

Key Concept Check

12. Describe What was Earth's climate like when dinosaurs lived?

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Day/Días 4 – Complete/Completa p. 252-253

Mini Glossary

carbon film: the fossilized carbon outline of an organism or part of an organism

cast: a fossil copy of an organism made when a mold of the organism is filled with sediment or mineral deposits

catastrophism (kuh TAS truh fih zum): the idea that conditions and creatures on Earth change in quick, violent events

fossil: the preserved remains or evidence of an ancient living thing

mold: the impression in a rock left by an ancient organism

paleontologist (pay lee ahn TAH luh jihst): a scientist who studies fossils

trace fossil: the preserved evidence of the activity of an organism

uniformitarianism (yew nuh for muh TER ee uh nih zum): the principle that states that geologic processes that occur today are similar to those that have occurred in the past

1. Review the terms and their definitions in the Mini Glossary. Explain the principle of uniformitarianism in your own words.

2. Use what you have learned about fossils to complete the table.

Fossil Type	What They Are/How They Form
Preserved remains	Actual remains that become preserved in ice, tar, or amber
Carbon films	
Mineral-replacement fossils	Form when minerals replace organic remains
Molds and casts	
Trace fossils	

What do you think NOW?

Reread the statements at the beginning of the lesson. Fill in the After column with an A if you agree with the statement or a D if you disagree. Did you change your mind?

ConnectED

Log on to ConnectED.mcgraw-hill.com and access your textbook to find this lesson's resources.

END OF LESSON

Main Idea

Types of Preservation

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

Ancient Environments

I found this on page _____.

I found this on page _____.

Details

Summarize *the processes of* fossil *formation. Name and describe each process.*

Fossil Preservation	
Process	**Description**
	Actual remains of an organism are preserved in a substance that keeps it from being exposed to air or bacteria.
Carbon films	
Trace fossils	

Complete *the concept below.*

If a fossil of an organism resembles a modern organism,

_____

_____

Classify *evidence of past climates.*

Climate	Evidence
Warm	
Cool	

Connect It Fossils provide clues to what happened in the ancient past. Identify a clue about what might have happened in the recent past in your current environment, and tell how long that clue is likely to last.

_____

_____

_____

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Day/Día 5– Complete/Completa p. 254

Lesson 2 Relative-Age Dating

Predict *three facts that will be discussed in Lesson 2 after reading the headings. Write your predictions in your Science Journal.*

Main Idea

Relative Ages of Rocks

I found this on page _____.

I found this on page _____.

I found this on page _____.

I found this on page _____.

Details

Explain *why a single rock cannot be described in terms of* relative age.

Model *the principles of* relative age *dating below in drawings and descriptions.*

Concept	Drawing	Description
Superposition		
Original horizontality		
Lateral continuity		
Inclusion		

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Day/Días 6 – Read/Lea p. 255-260.
Day/Días 7 – Complete Question/Complete las Preguntas p. 255-257
Day/Días 8 – Complete Questions/Complete las Preguntas p. 258-260

Clues to Earth's Past

Relative-Age Dating

Before You Read

What do you think? Read the two statements below and decide whether you agree or disagree with them. Place an A in the Before column if you agree with the statement or a D if you disagree. After you've read this lesson, reread the statements to see if you have changed your mind.

Before	Statement	After
	3. Older rocks are always located below younger rocks.	
	4. Relative age means that scientists are relatively sure of the age.	

Read to Learn

Relative Ages of Rocks

You just remembered where you left the money that you have been looking for. It is in the pocket of the pants you wore to the movies last Saturday. Now imagine that the pants are in your pile of dirty laundry. How can you tell where your money is? There really is some order to your pile of clothes. Every time you add clothes to the pile, you place them on top. The clothes from last Saturday are on the bottom. That is where your money is!

There is order in a rock formation just as there is order in a pile of clothes. In many rock formations, the oldest rocks are in the bottom layer and the youngest rocks are in the top layer.

If you have brothers and sisters, you might describe your age by saying, "I'm older than my sister and younger than my brother." This tells how your age relates to others in your family. It is your relative age. Geologists are scientists who study Earth and rocks. They have developed a set of principles to compare the ages of rock layers. These principles help them organize rocks according to their relative ages. **Relative age** *is the age of rocks and geologic features compared with other rocks and features nearby.*

Key Concepts

- What does relative age mean?
- How can the positions of rock layers be used to determine the relative ages of rocks?

Study Coach

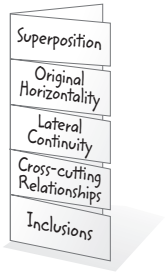
Ask Questions As you read, write a question about any topic you don't understand. When you finish reading the lesson, discuss your question with your teacher or another student.

Key Concept Check

1. Define How might you define your relative age?

FOLDABLES®

Make a five-tab book and use it to organize information about the principles of relative-age dating.



Superposition

Your pile of dirty clothes demonstrates the first principle of relative-age dating—superposition. **Superposition** *is the principle that in undisturbed rock layers, the oldest rocks are on the bottom*.

Forces do sometimes disturb rock layers after they are deposited. But if no disturbance takes place, each layer of rocks is younger than the layer below it. The principle of superposition is shown in the top part of the figure below. Layer 1 in the figure is the oldest rock layer, while layer 4 is the youngest.

Original Horizontality

The second principle of relative-age dating is called original horizontality. It is shown in the middle part of the figure below. Again, layer 1 is the oldest rock layer and layer 4 is the youngest.

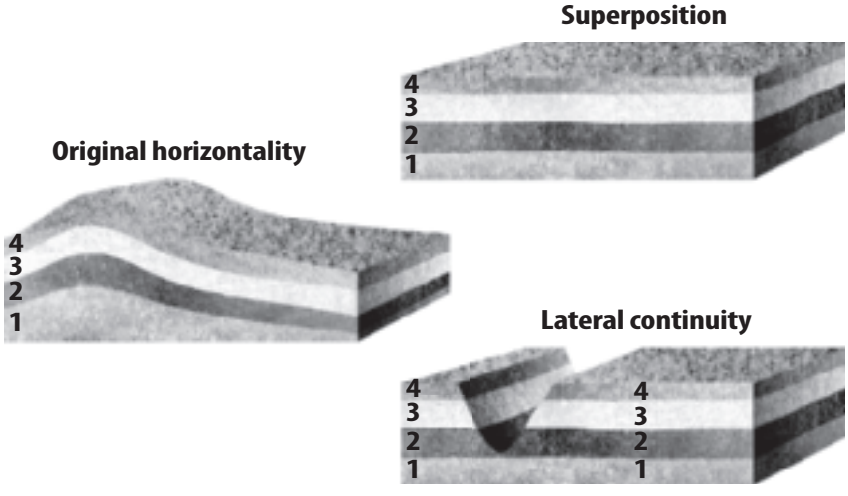
According to the principle of original horizontality, most rock-forming materials are deposited in horizontal layers. Sometimes rock layers are deformed or disturbed after they form. For example, the layers might be tilted or folded. When you see rocks that are tilted, remember that all layers were originally deposited horizontally.

Reading Check

2. Explain How might rock layers be disturbed?

Lateral Continuity

Another principle of relative-age dating is that sediments are deposited in large, flat sheets. The sheets, or layers, continue in all lateral directions until they thin out or until they meet a barrier. This principle, shown in the bottom part of the figure below, is called the principle of lateral continuity. For example, a river might erode the layers, but the order of the layers does not change.



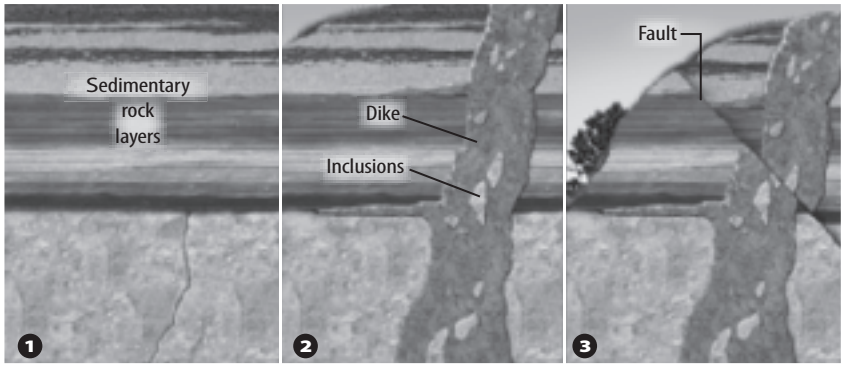
Visual Check

3. Sequence Which rock layer is the oldest?

Inclusions

Sometimes, when rocks form, they contain pieces of other rocks. This can happen when part of an existing rock breaks off and falls into soft sediment or flowing magma. When the sediment or the magma becomes rock, the broken piece of rock becomes a part of it. *A piece of an older rock that becomes part of a new rock is called an* **inclusion.**

According to the principle of inclusions, if one rock contains pieces of another rock, the rock containing the pieces is younger than the pieces. The first part of the figure below shows sediments deposited in layers that have become rock. The vertical intrusion shown in the middle part of the figure below is called a dike. The dike formed when magma flowed into the rock layers. The dike is younger than the pieces of rock, or inclusions, inside it.



Cross-Cutting Relationships

Sometimes forces within Earth cause rock formations to break, or fracture. When rocks move along a fracture line, the fracture is called a fault.

According to the principle of cross-cutting relationships, if one geologic feature cuts across another feature, the feature that it cuts across is older. Notice in the figure above that both faults and dikes cut across existing rock. In the figure on the right, the fault cuts across rock layers and the dike. Scientists conclude that the dike is older than the fault because the fault is cutting across the dike. Both the fault and the dike are younger than the rock layers.

Reading Check

4. Define What are inclusions?

Visual Check

5. Sequence Is the dike older or younger than the fault? Explain your answer.

Key Concept Check

6. Name What geologic principles are used in relative-age dating?

Unconformities

After rocks form, they are sometimes uplifted and exposed at Earth's surface. As soon as rocks are exposed, wind and rain start to weather and erode them. These eroded areas represent a gap in the rock record.

A Gap in Time Often, new rock layers are deposited on top of old, eroded rock layers. When this happens, an unconformity (un kun FOR muh tee) occurs. *An* **unconformity** *is a surface where rock has eroded away, producing a break, or gap, in the rock record.*

An unconformity is not a hole or a space in the rock. It is a surface on a layer of eroded rocks with younger rocks on top. An unconformity does represent a gap in time. It could represent a few hundred years, a million years, or even billions of years.

Key Concept Check

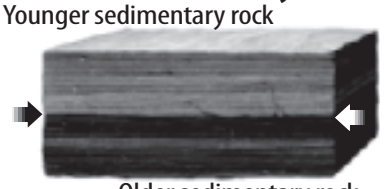
7. Explain How does an unconformity represent a gap in time?

Types of Unconformities There are three major types of unconformities, as shown in the figure below. In a disconformity, younger sedimentary layers are deposited on top of older, horizontal sedimentary layers that have been eroded. In an angular unconformity, sedimentary layers are deposited on top of tilted or folded sedimentary layers that have been eroded. In a nonconformity, younger sedimentary layers are deposited on older igneous or metamorphic rock layers that have been eroded.

Visual Check

8. Explain What is the difference between a disconformity and a nonconformity?

Types of Unconformities

Disconformity	→	**Disconformity** Younger sedimentary rock  Older sedimentary rock
Angular Unconformity	→	**Unconformity** Younger sedimentary rock  Older sedimentary rock
Nonconformity	→	**Nonconformity** Younger sedimentary rock  Older sedimentary rock

Correlation

Rock layers contain clues about Earth. Geologists use these clues to build a record of Earth's geologic history. Many times the rock record is incomplete. For example, unconformities create gaps in the geologic record. Geologists fill in the gaps in the rock record by matching rock layers and fossils from separate locations. *Matching rocks and fossils from separate locations is called* **correlation** (kor uh LAY shun).

Matching Rock Layers

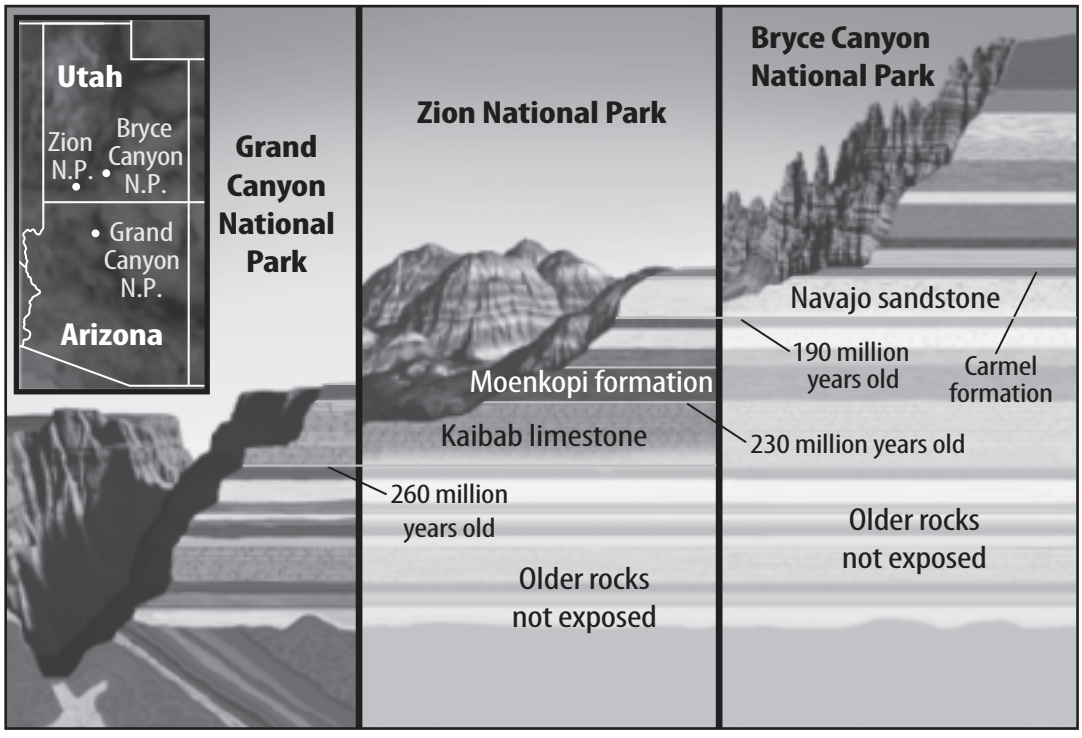
Another word for correlation is *connection.* Sometimes, geologists can connect rock layers simply by walking along rock formations and looking for similarities. Other times, soil might cover the rocks, or rocks might be eroded. When this happens, geologists correlate rocks by matching exposed rock layers in different locations. As shown in the figure below, geologists have used correlation to develop a historical record for part of the southwestern United States.

Visual Check

9. Identify Which geologic principles must be assumed in order to correlate these layers?

Think it Over

10. Apply Look at the figure. Which is older, the Moenkopi formation or the Navajo sandstone?



Think it Over

11. Explain How do scientists correlate rocks on different continents?

Index Fossils

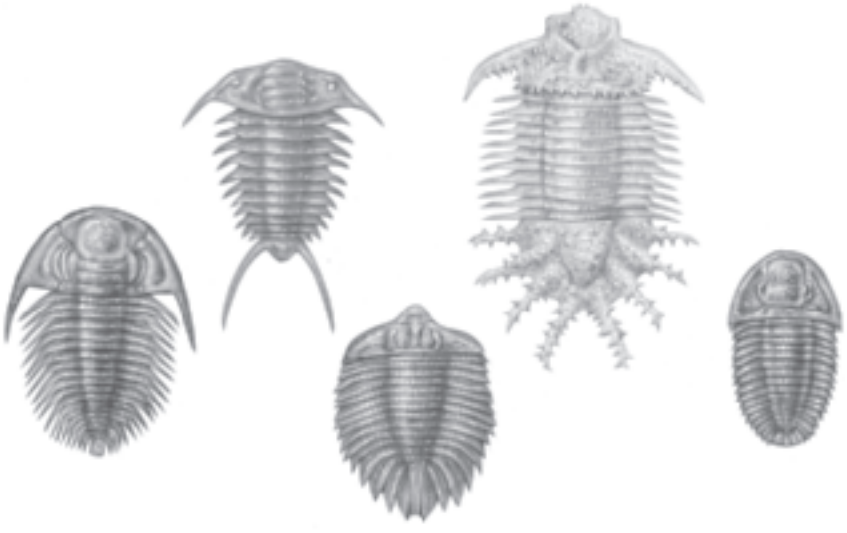
Some correlated rock formations are within a few hundred kilometers of one another, such as those in some national parks. They are correlated based on similarities in rock type, structure, and fossil evidence. If scientists want to learn the relative ages of rock formations that are very far apart or on different continents, they often use fossils. If two or more rock formations contain fossils of about the same age, scientists can infer that the formations are also about the same age.

Not all fossils are useful in determining the relative ages of rock formations. Fossils of species that lived on Earth for hundreds of millions of years are not helpful. They represent time spans that are too long.

The most useful fossils represent species such as certain trilobites. These trilobites existed for only a short time in many different areas on Earth. The fossils of these trilobites are index fossils. **Index fossils** *represent species that existed on Earth for a short length of time, were abundant, and inhabited many locations*. When an index fossil is found in rock layers at different locations, geologists can infer that the layers are of similar age. Trilobites, shown in the figure below, are examples of index fossils.

Key Concept Check

12. Explain How are index fossils useful in relative dating?



Visual Check

13. Identify Circle the tail on each trilobite species to show how trilobites changed over time.

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8th Grade Science – Earth History/Ciencia
Octavo Grado - Historia de la Tierra

Day/Días 9 – Complete/Completa p. 261-262

Mini Glossary

correlation (kor uh LAY shun): matching rocks and fossils from separate locations

inclusion: a piece of an older rock that becomes part of a new rock

index fossil: a fossil that represents a species that existed on Earth for a short length of time, was abundant, and inhabited many locations

relative age: the age of rocks and geologic features compared with other rocks and features nearby

superposition: the principle that in undisturbed rock layers, the oldest rocks are on the bottom

unconformity (un kun FOR muh tee): a surface where rock has eroded away, producing a break, or gap, in the rock record

1. Review the terms and their definitions in the Mini Glossary. Explain the principle of superposition in your own words.

2. Use what you have learned about relative dating methods to complete the table.

Relative Dating Principles			
Superposition	**Lateral Continuity**		**Cross-Cutting Relationships**
	Sediment is deposited in large, continuous sheets.	Most rock-forming material was originally deposited in horizontal layers.	

3. Use the principle of inclusion to explain whether a rock that contains pieces of another rock is older or younger than the pieces.

What do you think NOW?

Reread the statements at the beginning of the lesson. Fill in the After column with an A if you agree with the statement or a D if you disagree. Did you change your mind?

Connect ED

Log on to ConnectED.mcgraw-hill.com and access your textbook to find this lesson's resources.

END OF LESSON

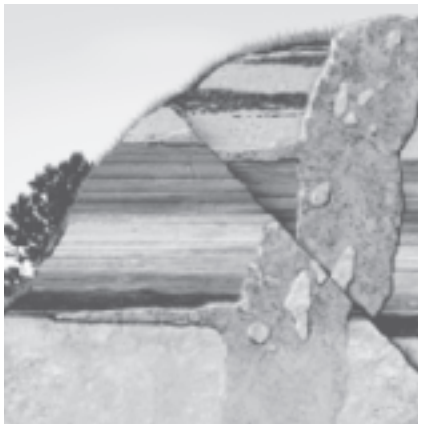
Main Idea

I found this on page _____.

Details

Order *the features in the illustration from youngest to oldest.*

dike fault inclusion sedimentary layers



youngest

_____

_____

_____

_____

oldest

Unconformities

I found this on page _____.

Define unconformity, *and identify and describe 3 types.*

Unconformity:

Type:	Type: _____	Type:
_____	_____	_____
Description:	Description:	Description:

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8th Grade Science – Earth History/Ciencia
Octavo Grado - Historia de la Tierra

Day/Día 10– Complete/Completa p. 263

Main Idea

Correlation

I found this on page _____.

I found this on page _____.

I found this on page _____.

Details

Complete *the rock-dating concept in the diagram below.*

matching _____

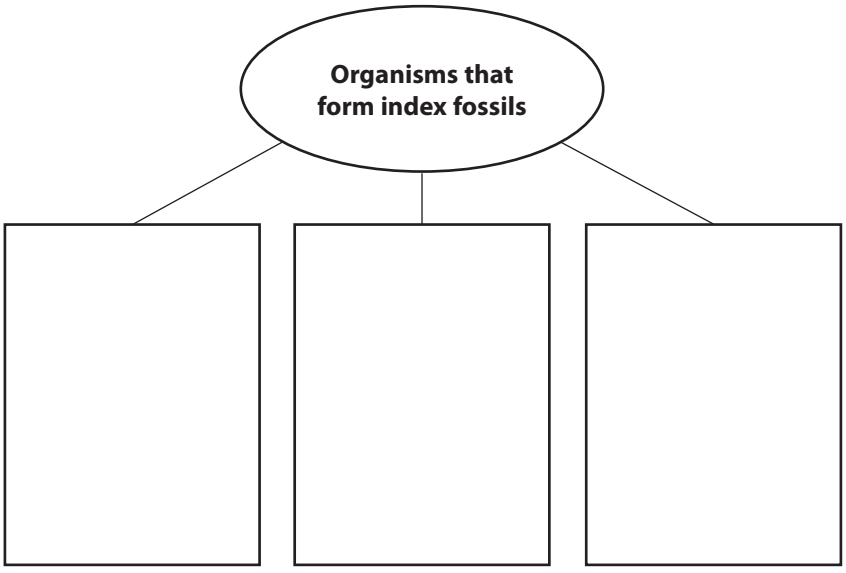
+

separate _____

=

_____

Characterize *organisms that form* index fossils.



Analyze *the usefulness of* index fossils. *Write the correct terms.*

Index fossils allow scientists to learn _____ of _____ that are very _____ or on different _____. Scientists _____ that layers with _____ found in _____ are of similar _____.

Synthesize It Museums all over the world collect samples of rocks and fossils. What is the benefit to scientists of these collections?

_____

_____

_____

_____

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8th Grade Science – Earth History/Ciencia
Octavo Grado - Historia de la Tierra

Day/Días 11 – Read/Lea p. 265-270. Complete/Completa p. 264 Day/Días 12 – Complete Questions/Complete las Preguntas p. 265-267

Day/Días 13 – Complete Questions/Complete las Preguntas p.268-270

Lesson 3 Absolute-Age Dating

Scan *Lesson 3. Read the lesson titles and bold words. Look at the pictures. Identify three facts that you discover about absolute-age dating. Write these facts in your Science Journal.*

Main Idea	Details
Absolute Ages of Rocks *I found this on page* _____.	**Define** absolute age. Absolute age: _____
I found this on page _____.	**Summarize** absolute age *and relative age.* **Ways to describe the ages of objects** Absolute Age Relative Age
Atoms *I found this on page* _____.	**Describe** *the makeup of an atom.* An atom is the _____ part of an element that has all the properties of the element. Each atom contains smaller particles called _____, _____, and _____. _____ and _____ are located in an atom's _____. _____ surround the nucleus.
I found this on page _____.	**Define** isotopes. Isotopes: _____
I found this on page _____.	**Explain** *how* radioactive decay *releases energy from unstable atoms.* _____ isotopes decay, releasing _____ and forming _____. The element that decays is called the _____ isotope. The new element that forms is called the _____ isotope.

Clues to Earth's Past

Absolute-Age Dating

Before You Read

What do you think? Read the two statements below and decide whether you agree or disagree with them. Place an A in the Before column if you agree with the statement or a D if you disagree. After you've read this lesson, reread the statements to see if you have changed your mind.

Before	Statement	After
	5. Absolute age means that scientists are sure of the age.	
	6. Scientists use radioactive decay to determine the ages of some rocks.	

Read to Learn

Absolute Ages of Rocks

Remember that you read in Lesson 2 that you have a relative age. You might be older than your sister and younger than your brother. Or, you might be the youngest in your family.

You also can describe your age in years. For example, you might be 13 years old. This is not your relative age. It is your age in numbers, or your numerical age.

Relative age helps scientists compare the ages of rock layers. But scientists also look for more specific information. Scientists can describe the ages of some kinds of rocks using numbers. Scientists use the term **absolute age** *to mean the numerical age, in years, of a rock or an object.*

Scientists have only been able to determine absolute ages of rocks and other objects for about 100 years. Early in the twentieth century, radioactivity was discovered. Radioactivity is the release of energy from unstable atoms. The release of radioactive energy can be used to make images called X-rays. How can radioactivity be used to determine the absolute age of rocks? To answer this question, you need to know about the internal structure of the atoms that make up elements.

Key Concepts

- What does absolute age mean?
- How can radioactive decay be used to date rocks?

Study Coach

Build Vocabulary Make flash cards to help you learn the important terms in this lesson. Write each bolded word on one side of a card and the definition on the other side. Use your flash cards to review this lesson.

Key Concept Check

1. Contrast How is absolute age different from relative age?

Atoms

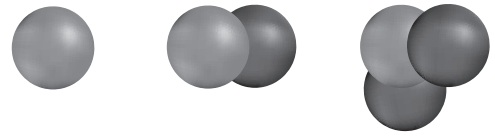
You are probably familiar with the periodic table of the elements. Each element is made up of atoms. An atom is the smallest part of an element that has all the properties of the element. Each atom contains smaller particles. They are protons, neutrons, and electrons. Protons and neutrons are in an atom's nucleus. Electrons surround the nucleus.

Isotopes

All atoms of a given element have the same number of protons. For example, all hydrogen atoms have one proton. But an element's atoms can have different numbers of neutrons. The three atoms in the figure below are all hydrogen atoms. Notice that each hydrogen atom has only one proton. But one has no neutrons, one has one neutron, and the other has two neutrons. The three different forms of hydrogen atoms are called isotopes (I suh tohps). **Isotopes** *are atoms of the same element that have different numbers of neutrons*.

Reading Check

2. Explain How do an element's isotopes differ?



Hydrogen nucleus | Hydrogen-2 nucleus | Hydrogen-3 nucleus

Visual Check

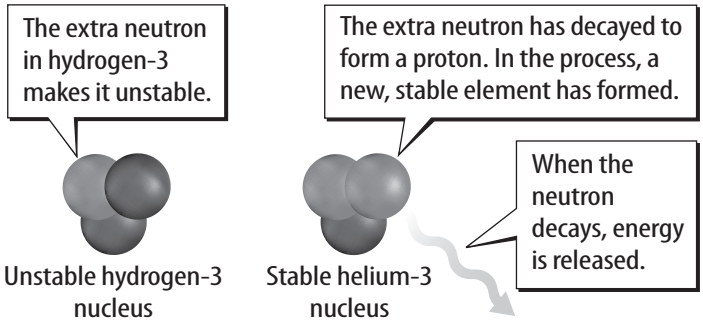
3. Describe How do the hydrogen atoms in the figure differ?

Radioactive Decay

Most isotopes are stable. Stable isotopes do not change under normal conditions. Some isotopes are unstable. Unstable isotopes are called radioactive isotopes. Radioactive isotopes decay, or change, over time. As they decay, they release energy and form new, stable atoms. **Radioactive decay** *is the process by which an unstable element naturally changes into another element that is stable*. The unstable isotope that decays is called the parent isotope. The new element that forms is called the daughter isotope. As shown below, the atoms of an unstable isotope of hydrogen (parent) decay into atoms of a stable isotope of helium (daughter).

Visual Check

4. Identify Which isotope in the figure is the parent? Which is the daughter?



Half-Life

The radioactive isotopes of different elements decay to form daughter isotopes at different rates. But the rate of decay is constant for a given isotope. This rate of decay is measured in time units called half-lives. *An isotope's* **half-life** *is the time required for half of the parent isotopes to decay into daughter isotopes*. Half-lives of radioactive isotopes can be as short as a few microseconds or as long as billions of years.

The graph below shows how half-life is measured. As time passes, parent isotopes decay and form daughter isotopes. That means the ratio between the number of parent and daughter isotopes is always changing.

When half of the parent isotopes have decayed into daughter isotopes, the isotope has reached one half-life. At this point, there are equal numbers of parent and daughter isotopes.

After two half-lives, one-half of the remaining parent isotopes have decayed. At this point, only one-quarter of the original parent isotopes remain. So, 25 percent of the isotopes are parent and 75 percent are daughter.

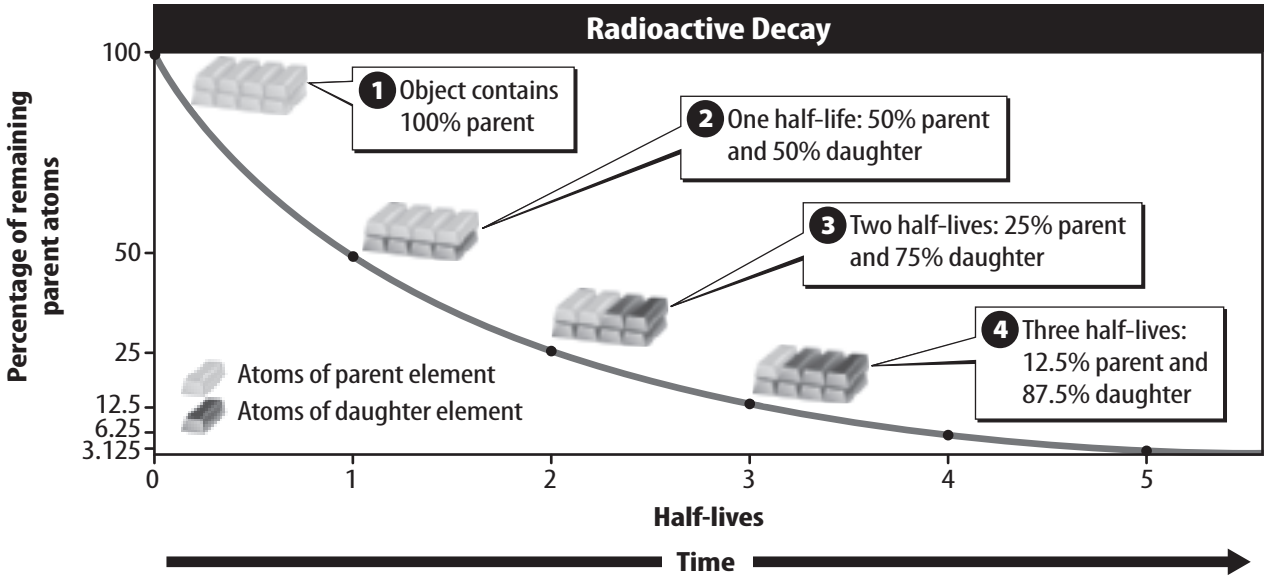
After three half-lives, another half of the remaining parent isotopes have decayed into daughter isotopes. Radioactive decay continues until nearly all the parent isotopes have decayed into stable daughter isotopes.

Reading Check

5. Define What is half-life?

Visual Check

6. State What percentages of parent isotopes and daughter isotopes will there be after four half-lives?



Reading Check

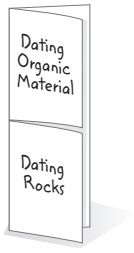
7. Explain What is measured in radiometric dating?

Think it Over

8. Contrast What happens to the C-14 in a living organism? What happens to the C-14 in a dead organism?

FOLDABLES®

Make a two-tab book to compare how absolute ages of organic materials and rocks are determined.



Radiometric Ages

Radioactive isotopes decay at a constant rate. Scientists use them like clocks to measure the age of the material that contains them. The process scientists use is called radiometric dating. In radiometric dating, scientists select a sample of the material they want to date. They then measure the ratio of the amount of parent isotope to the amount of daughter product in the sample. From this ratio, scientists can determine the material's age. They make these precise measurements in laboratories.

Radiocarbon Dating

One important radioactive isotope used for dating is an isotope of carbon called radiocarbon. Radiocarbon is also known as carbon-14, or C-14, because there are 14 particles in its nucleus—six protons and eight neutrons.

Radiocarbon forms in Earth's upper atmosphere. There, it mixes with a stable isotope of carbon called carbon-12, or C-12. The ratio of C-14 to C-12 in the atmosphere is constant.

All living organisms use carbon as they build and repair tissues. As long as an organism is alive, the ratio of C-14 to C-12 in its tissues is identical to the ratio in the atmosphere. However, when an organism dies, it stops taking in C-14.

The C-14 already present in the organism starts to decay into nitrogen-14. As the dead organism's C-14 decays, the ratio of C-14 to C-12 changes. Scientists measure the ratio of C-14 to C-12 in the remains of the dead organism to determine how much time has passed since the organism died.

Carbon-14 has a half-life of 5,730 years. That means radiocarbon dating is useful for measuring the age of the remains of organisms that died up to about 50,000 years ago. In older remains, too much of the carbon-14 has decayed to be measured accurately.

Dating Rocks

Radiocarbon dating is useful only for dating organic material. Organic material is material from once-living organisms. Organic material includes bones, wood, parchment, and charcoal.

Most rocks do not contain organic material. Even most fossils are no longer organic. In fossils, living tissue has been replaced by rock-forming minerals. For dating rocks, geologists use different kinds of radioactive isotopes.

Dating Igneous Rock Another common isotope used in radiometric dating is uranium-235 (U-235). Radioactive isotopes can be trapped in the minerals of igneous rocks that crystallize from hot, molten magma. U-235 trapped in the minerals immediately begins to decay to lead-207 (Pb-207).

Scientists measure the ratio of U-235 to Pb-207 in a mineral to determine how much time has passed since the mineral formed. This provides the age of the rock that contains the mineral.

Dating Sedimentary Rock To be dated by radiometric means, a rock must have U-235 or other radioactive isotopes trapped inside it. Radiometric dating is not as useful for dating sedimentary rocks. The grains in sedimentary rocks come from a variety of weathered rocks in different locations. The radioactive isotopes in the grains record the age of the grains that make up the sedimentary rock. This does not help scientists learn when the sediment was deposited. For this reason, sedimentary rock cannot be as easily dated using radiometric dating as igneous rock.

Different Types of Isotopes Isotopes with short half-lives are useful for dating relatively young rocks. Isotopes with longer half-lives are useful for dating much older rocks. The half-life of uranium-235 is 704 million years old. This makes it useful for dating rocks that are very old.

Often, geologists use combinations of several isotopes to measure the age of a rock. Using combinations helps make the measurements more accurate. The table below shows some of the most useful radioactive isotopes used for dating rocks. Notice that all are isotopes with long half-lives.

Radioactive Isotopes Used for Dating Rocks

Parent Isotope	Half-Life	Daughter Product
Uranium-235	704 million years	lead-207
Potassium-40	1.25 billion years	argon-40
Uranium-238	4.5 billion years	lead-206
Thorium-232	14.0 billion years	lead-208
Rubidium-87	48.8 billion years	strontium-87

Key Concept Check

9. Identify Why are radioactive isotopes not useful for dating sedimentary rock?

Key Concept Check

10. Infer Why is a radioactive isotope with a long half-life useful in dating very old rocks?

Visual Check

11. Identify Which isotope in the table has the longest half-life?

The Age of Earth

Since the discovery of radiometric dating, geologists have tried to find Earth's oldest rocks. The oldest rock formation dated by geologists using radiometric means is in Canada. It is estimated to be between 4.03 billion and 4.28 billion years old. However, individual crystals of the mineral zircon have been found in rocks in Australia. These zircon crystals have been dated at 4.4 billion years old.

For a long time, people have searched for ways to determine the age of Earth. With rocks and minerals more than 4 billion years old, scientists know that Earth must be at least that old. Radiometric dating of rocks from the Moon and meteorites indicates that Earth is 4.54 billion years old. Scientists accept this age because evidence suggests that Earth, the Moon, and meteorites all formed at about the same time.

Radiometric dating, the relative order of rock layers, and fossils all help scientists understand Earth's long history. Understanding Earth's history can help scientists understand changes taking place on Earth today. Scientists can also use what they have learned to predict changes that are likely to take place in the future.

Reading Check

12. Identify How old is the oldest rock formation geologists have dated?

_____

_____

_____

Math Skills

The answer to a problem involving measurement cannot be more precise than the measurement with the fewest number of significant digits. For example if you begin with 36 grams (2 significant digits) of U-235, how much U-235 will remain after 2 half-lives?

a. After the first half-life, $\frac{36\text{ g}}{2} = 18\text{ g}$ of U-235 remain.

b. After the second half-life, $\frac{18\text{ g}}{2} = 9.0\text{ g}$ of U-235 remain. Add the zero to retain two significant digits.

13. Use Significant Digits The half-life of rubidium-87 (Rb-87) is 48.8 billion years. What is the length of three half-lives of Rb-87?

_____

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8th Grade Science – Earth History/Ciencia
Octavo Grado - Historia de la Tierra

Day/Días 14 – Complete/Completa p. 271-272

Mini Glossary

absolute age: the numerical age, in years, of a rock or object

half-life: the time required for half of the parent isotopes to decay into daughter isotopes

isotope (I suh tohp): an atom of the same element that has different numbers of neutrons

radioactive decay: the process by which an unstable element naturally changes into another element that is stable

1. Review the terms and their definitions in the Mini Glossary. Write a sentence explaining what isotopes are and another sentence that names three radioactive isotopes.

2. Use what you have learned about carbon-14 to complete the events chain map.

An animal is alive. → The ratio of C-14 to C-12 is _____.

The animal dies. → Carbon-14 _____

while carbon-12 _____. → Time of death is determined

by measuring the ratio of _____ to _____.

3. In this lesson, you made vocabulary cards as you read. How did this strategy help you remember the meanings of the important words?

What do you think NOW?

Reread the statements at the beginning of the lesson. Fill in the After column with an A if you agree with the statement or a D if you disagree. Did you change your mind?

Connect ED

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END OF LESSON

Main Idea

Details

I found this on page _____.

Calculate *the change in* isotopes *during* radioactive decay.

	Percent Parent	Percent Daughter
Original materials		
One half-life		
Two half-lives		
Three half-lives		
After many more half-lives	close to	close to

Radiometric Ages

I found this on page _____.

Describe *why radiometric dating can be used to determine an object's age.*

Radiometric Dating

↓

Radioactive isotopes decay at a _____,

so they can be used to measure _____.

↓

The ratio of _____ isotope to _____ product is used as a measure.

I found this on page _____.

Explain *how radiocarbon dating uses decay to help determine age.*

Organism	Description
Alive	• The organism takes in _____. • The ratio of radioactive carbon, or _____ to _____, remains constant.
_____	• _____ begins to decay. • The ratio of _____ to _____ changes.

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8th Grade Science – Earth History/Ciencia
Octavo Grado - Historia de la Tierra

Day/Día 15– Complete/Completa p. 273

Main Idea

Details

I found this on page _____.

Identify *two reasons that radiocarbon dating can be used to measure the ages of once-living things accurately.*

1. _____

_____

2. _____

_____

I found this on page _____.

Explain *why radiometric dating is not useful for determining the age of sedimentary rock.*

_____

_____

_____

I found this on page _____.

Identify *five radioactive* isotopes *that can be used for dating rocks. Circle the two* isotopes *with the longest* half-lives.

1. _____ **4.** _____

2. _____ **5.** _____

3. _____

I found this on page _____.

Summarize *the conclusions that scientists have made about Earth's age.*

Earth, the Moon, and meteorites formed at _____.	→ Radiometric dating of Moon rocks indicates that Earth is _____ years old.

Connect It You find a piece of petrified wood. Explain whether radiocarbon dating could be used to date your find. If not, what could be used?

_____

_____

_____

_____

_____

Eighth Grade Social Studies Parent Support Materials
TOPIC: The American Colonies

Day 1 -15

Lesson Tasks:

- As student reads the various texts, they should practice their highlighting and annotation skills, circle vocab that is unfamiliar to them and when finished with the text write a brief summary either on the selection (if there is room) or on another sheet of paper.
- Within each text set are one or more of the following brief assessments (tests) for students to complete that coincide with the text:
    - multiple choice questions
    - Short answer discussion questions

TOPIC: The American Colonies

What was life like for European settlers in the New World? How did American colonies function before the Revolutionary War? Explore life in the pre-Revolutionary era of North America.

Texts (with multiple choice and constructed response questions)	**Online Videos to extend learning**
• **PURITAN LAWS AND CHARACTER** by Henry William Elson • **WITCHCRAFT IN SALEM** by USHistory.org • **THE SALEM (AND OTHER) WITCH HUNTS** by Mike Kubic • **SETTLING A NEW WORLD: THE LOST COLONY OF ROANOKE ISLAND** by National Park Service	• The pilgrims and the puritans https://youtu.be/k0ijplm1nve • Six surprising facts about the salem witch trials https://youtu.be/enaxy99aaza • Paul Bloom: can prejudice ever be a good thing https://youtu.be/kdbcorlkut8 • Top 5 roanoke 'lost colony' disappearance theories https://youtu.be/u8sjfgp6120

Each text in this topic is available online at commonlit.org which has many reading and learning supports to guide students through the steps in the **DPS Reading Routine** as they read the specific texts in this packet. Commonlit.org offers audio read aloud, translation for many texts (over 20 languages), ability to highlight and annotate readings, and multi-media enrichment links for many texts.

Students and parents can go to commonlit.org and get a free account.

- Click on the green SIGN UP button at the top right corner of the home page
- Follow directions to create an account.
- Student can access the DPS 8th Grade Social Studies with the class code 5Y7YDJ

Materiales de Apoyo para padres de estudiantes en 8vo grado en Estudios Sociales

TEMA: Las Colonias Americanas

Día 1 -15
Tareas de la lección:

- A medida que el estudiante lee los diversos textos, debe practicar sus habilidades de resaltar (highlighting) y anotar, encerrar en un círculo el vocabulario que no le sea familiar y cuando termine con el texto, escribir un breve resumen en la parte de la selección (si hay espacio) o en otra hoja de papel.
- Dentro de cada conjunto de texto, hay una o más de las siguientes evaluaciones breves (pruebas) que deben completar los estudiantes que coinciden con el texto.
  - Preguntas de opción múltiple
  - Preguntas de discusión de respuesta corta

TEMA: Las Colonias Americanas

¿Cómo era la vida de los colonos europeos en el nuevo mundo? ¿Cómo funcionaban las colonias americanas antes de la Guerra Revolucionaria? Explore la vida en la era pre revolucionaria de América del Norte.

Textos (con opciones múltiples y preguntas de respuestas con evidencias)	**Videos en línea para ampliar el aprendizaje**
● **LEYES Y CARÁCTER PURITANOS por Henry William Elson** ● **BRUJERÍA EN SALEM por USHistory.org** ● **SALEM (Y OTROS) CAZADORES DE BRUJAS por Mike Kubic** ● **ESTABLECIENDO UN NUEVO MUNDO: LA COLONIA PERDIDA DE LA ISLA DE ROANOKE por National Park Service**	● Los peregrinos y los puritanos https://youtu.be/k0ijplm1nve ● **Seis hechos sorprendentes sobre los juicios de brujas en Salem https://youtu.be/enaxy99aaza** ● **Paul Bloom: pueden alguna vez ser buenos los prejuicios https://youtu.be/kdbcorlkut8** ● **Las 5 teorías principales de la desaparición de la "colonia perdida" de Roanoke https://youtu.be/u8sjfgp6120**

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COMMONLIT

Name: _____ Class: _____

Puritan Laws and Character

By Henry William Elson
1904

Henry William Elson (1857-1935) was a historian best known for his comprehensive work on the complete History of the United States of America*, from which this excerpt is taken. In this passage, Elson discusses the Puritans: a group of English Reformed Protestants who notably founded Massachusetts Bay Colony and other New England settlements in the 1600s and who were known for their religious and legal severity. As you read, take notes on how the Puritans influenced colonialist America.*

[1] During the seventeenth century the combined New England colonies formed practically, if we except Rhode Island, one great Puritan commonwealth. They were under separate governments; but their aims and hopes, their laws, for the most part, and their past history were the same.

"Hey Pilgrim" by Thomas Hawk is licensed under CC BY-NC 2.0.

The people as a whole were liberty-loving in the extreme, but the individual was restrained at every step by laws that no free people of today would tolerate for an hour. Paternalism[1] in government was the rule in the other colonies and in Europe, but nowhere was it carried to such an extreme as in New England.

Here the civil law laid its hand upon the citizen in his business and social relations; it regulated his religious affairs, it dictated his dress, and even invaded the home circle and directed his family relations. One law forbade the wearing of lace, another of "slashed cloaths other than one slash in each sleeve and another in the back." The length and width of a lady's sleeve was solemnly[2] decided by law. It was a penal offense[3] for a man to wear long hair, or to smoke in the street, or for a youth to court a maid without the consent of her parents. A man was not permitted to kiss his wife in public. Captain Kimble, returning from a three-years' ocean voyage, kissed his wife on his own doorstep and spent two hours in the stocks[4] for his "lewed and unseemly behavior."

In the matter of education the Puritans stood in the forefront. Many of the clergy were men of classical education, and through their efforts Harvard College was founded but six years after the great exodus[5] began. Before the middle of the century Massachusetts required every township of fifty families to employ a teacher to educate the young in reading and writing, while every township of one hundred families must maintain a grammar school. The other colonies soon followed with similar requirements.

1. a system of governing in which the governing authority restricts the freedoms and responsibilities of those subordinate to them in the subordinates' supposed best interest, as a parent (specifically, a father) might treat a child
2. **Solemn** ***(adjective):*** very serious or formal in manner, behavior, or expression
3. a crime or offense that can be legally punished
4. "Stocks" refers to a device used in colonial America in which a person's legs, arms, and/or head would be
5. **Exodus** ***(noun):*** a mass departure of people

[5] But the most striking feature in the life of New England is found in its religion. The State was founded on religion, and religion was its life. The entire political, social, and industrial fabric was built on religion. Puritanism was painfully stern and somber; it was founded on the strictest, unmollified Calvinism;[6] it breathed the air of legalism rather than of free grace, and received its inspiration from the Old Testament rather than the New.

There was a gleam of truth in the charge of Mrs. Hutchinson[7] that the Puritans lived under a covenant of works.[8] This was because they had not yet fully grasped the whole truth of divine revelation. No further proof of the legalistic tendencies of Puritan worship is needed than a glance at their own laws. A man, for example, was fined, imprisoned, or whipped for non-attendance at church services. He was dealt with still more harshly if he spoke against religion or denied the divine origin of any book of the Bible. Laws were made that tended to force the conscience, to curb the freedom of the will, and to suppress the natural exuberance[9] of youth — laws that could not have been enacted and enforced by a people who comprehended the full meaning of Gospel liberty, or had caught that keynote of religious freedom sounded by the ancient prophet and resounded by St. Paul and Luther, "The just shall live by faith."

Nevertheless there is no more admirable character in history than the New England Puritan of the seventeenth century. His unswerving devotion to duty, his unlimited courage based on the fear of God, his love of liberty and hatred of tyranny[10] — these are the qualities that have enthroned him in the memory of the American people. We deplore the narrowness and intolerance of the Puritans; but they were less narrow and intolerant than the English and most of the Europeans of that day. They committed errors, but they were willing to confess them when they saw them. They banished Roger Williams[11] as a disturber of the peace, not for his opinions; but they bore witness to his spotless character. They executed a few Quakers,[12] but confessed their error by repealing their own law. They fell into the witchcraft delusion, which was prevalent throughout Christendom at the time; but they were first to see the dreadful blunder they had made and they were not too proud to publicly confess it. Judge Sewall[13] made, before a large congregation, a confession of his error as only a hero could have done; and he begged the people to pray "that God might not visit his sin upon him, his family, or upon the land." Such was a trait of the Puritan character that leads us to forget his faults and to admire rather than censure[14] him.

6. the Protestant religion of John Calvin and his followers, which develops Martin Luther's doctrine of justification by "faith alone" and emphasizes the doctrine of predestination – that is, God predestines the salvation of some and not others, which cannot be changed by human will or action
7. Anne Hutchinson (1591–1643) was a Puritan spiritual adviser whose strong religious convictions put her at odds with the Puritan clergy. In 1637 she was involved in a religious-political conflict that led to her banishment from Massachusetts.
8. "Covenant of works" is the Calvinist idea which refers to the covenant made between God and Adam in the book of Genesis, before humanity's fall and the establishment of original sin. Before Adam broke it, the covenant supposedly promised blessings for perfect obedience and judgement/punishment for disobedience.
9. **Exuberance** ***(noun):*** the quality of being full of energy, excitement, and life
10. **Tyranny** ***(noun):*** cruel and unfair treatment by a powerful person, group, or government
11. Roger Williams (c. 1603-1683) was an English Protestant who supported religious freedom and the separation of church and state, but disapproved of the confiscation of land from Native Americans; all of which earned him the ire of the colony officials. In 1635 he was banished from the Massachusetts Bay Colony and helped settled Providence, Rhode Island.
12. "Quakers" refers to a Christian sect known for both their conservative and liberal ideals, as well as their personal study of religion and lack of hierarchal structures within their church.
13. Samuel Sawell (1652-1730) was a judge and businessman of Massachusetts Bay, best known for his involvement in the Salem witch trials, for which he later apologized, as Elson points out.
14. **Censure** ***(verb):*** to officially criticize strongly and publicly

New England developed steadily throughout the colonial era. The people were chiefly of the stanch yeomanry, the great middle class, of England. Many of them were men of fortune and standing in their native land. The people of Massachusetts were slow in reaching out from the seaboard; not till about 1725 did they begin to colonize the Berkshire Hills. The Connecticut Valley was more productive than other parts of New England, and the people of Connecticut were more purely agricultural in their pursuits than were those of any other portion, except New Hampshire. The chief industry of Rhode Island was trade, while Massachusetts was divided, agriculture and commerce holding about equal sway. Six hundred vessels plied between Boston and foreign ports, while the number of coasting vessels was still greater.

Manufacturing was carried on, but not on any great scale. Sawmills and gristmills were numerous along the rivers, and they did a large business in preparing timber and grain for transportation. Hats and paper and other commodities were made on a small scale; but the most extensive manufacturing was carried on by the farmers and their families, who made many of the utensils for their own home use, as will be noticed in a subsequent chapter.

[10] The stern Puritan customs were gradually softened, more rapidly in Massachusetts than in Connecticut, owing to the many Crown officers residing in Boston. The first attempts to introduce the Episcopal form of religion were sternly resisted, but at length it found a footing, though not in Connecticut till well into the eighteenth century. About 1734 a religious revival, started by Jonathan Edwards[15] and carried on by George Whitefield,[16] the evangelist, spread over parts of New England, and to some extent revived the waning Puritan religious fervor.[17]

The population at the opening of the Revolution reached nearly 700,000, about 300,000 of which was in Massachusetts, including Maine. Connecticut contained about 200,000 people, New Hampshire some 75,000 and Rhode Island some 50,000.

All colonies had negro slaves, but very few in comparison with the southern colonies. Probably there were not more than 15,000 slaves in all New England, of whom Massachusetts and Connecticut had the majority. Indentured servants were slow in coming to New England, and when they came, their rights were guarded by salutary laws.

15. Jonathon Edwards (1703-1758) was a Protestant theologian and a revivalist preacher in the Great Awakening, which was an evangelical movement that swept Protestant Europe and the American colonies from the 1730s-1740s.
16. George Whitefield (1714-1770) was an English Anglican cleric who helped spread the Great Awakening in Britain and in the American colonies.
17. **Fervor** ***(noun):*** an intense enthusiasm or passion

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. What is the author's main purpose in the passage?
    A. to expand upon Puritan religion, culture, law, and its historical impact on the American colonies
    B. to compare the restrictions of colonial Puritan society to the freedoms of modern American society
    C. to better understand how the character and laws of colonial Puritans led to the Salem Witch Trials
    D. to provide the reader with an in-depth analysis of the structure of Puritan government in New England

2. PART A: Which of the following statements best summarizes the relationship between religion and law in Puritan New England?
    A. The law restricted religion and religious freedoms, dictating when and how Puritans should worship.
    B. Law and religion were closely tied, as religious law heavily influenced legal practices and governing.
    C. Law and religion were separate, later inspiring the First Amendment of the United States Constitution.
    D. Puritan religious officials often administered and oversaw local government, bringing their own personal views into the law.

3. PART B: Which TWO of the following quotes best support the answer to Part A?
    A. "During the seventeenth century the combined New England colonies formed practically… one great Puritan commonwealth." (Paragraph 1)
    B. "the individual was restrained at every step by laws that no free people of today would tolerate for an hour" (Paragraph 2)
    C. "The length and width of a lady's sleeve was solemnly decided by law. It was a penal offense for a man to wear long hair, or to smoke in the street" (Paragraph 3)
    D. "The State was founded on religion, and religion was its life. The entire political, social, and industrial fabric was built on religion." (Paragraph 5)
    E. "Puritanism was painfully stern and somber… and received its inspiration from the Old Testament rather than the New." (Paragraph 5)
    F. "No further proof of the legalistic tendencies of Puritan worship is needed than a glance at their own laws." (Paragraph 6)

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. Consider everything you have learned about the Puritans from school, book, movies, etc. What is your overall view or opinion of this historical group? How does this compare to our generalizations or stereotypes about the Puritans?

2. What values does modern America share with the Puritans? How do these leftover Puritan values make America unique? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

3. Consider how different the modern U.S. is compared to the Puritan settlements of the 1600s. How do you think a Puritan from colonialist America would respond to life in the U.S. today? How has America changed over time? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

COMMONLIT

Name: _____ Class: _____

Settling a New World: The Lost Colony of Roanoke Island

By National Park Service
2016

The Fort Raleigh National Historic Site is dedicated to the preservation of England's first New World settlements, as well as the cultural legacy of Native Americans, European Americans, and African Americans who lived on Roanoke Island. In 1585 and 1587, England tried its hand at establishing a colonial presence in North America under the leadership of Sir Walter Raleigh. The attempts were failures on both accounts but they would come to form one of the most puzzling mysteries in early American history: the disappearance of the Roanoke colony. As you read, take notes on what circumstances or mistakes might have put the English settlers at a disadvantage in creating a lasting colony.

[1] *"About the place many of my things spoiled and broken, and my books torn from the covers, the frames of some of my pictures and maps rotted and spoiled with rain, and my armor almost eaten through with rust."* - John White[1] on the lost colony of Roanoke Island

"John White discovers the word "CROATOAN" carved at Roanoke's fort palisade" by Unknown is in the public domain.

1584 Voyage

In the late sixteenth-century, England's primary goal in North America was to disrupt Spanish shipping. Catholic Spain, under the rule of Philip II,[2] had dominated the coast of Central and South America, the Caribbean, and Florida for the latter part of the 1500s. Protestant England, under the rule of Elizabeth I,[3] sought to circumvent[4] Spanish dominance in the region by establishing colonies in the New World.

England's attempt at colonization would serve two purposes. First, a colony would act as a buffer against Spanish control of the North and South American coasts.

1. John White (c. 1540-1593) was an English artist and an early English settler in North America. In 1587, he became the governor of Roanoke Colony. White sailed to England in 1587, looking to take supplies back to the new colony, but once in England he could find no support for his cause. It took him three years before he could return to Roanoke Island, but once he did the settlement was deserted.
2. Phillip II (1527-1598) was King of Spain (1556–98), of Portugal (1581–98, as Philip I), of Naples and Sicily (both from 1554), and during his marriage to Queen Mary I (1554–58) King of England and Ireland by right of his wife. He was a dedicated Catholic and so was his wife Queen Mary I. After her death, Protestant Queen Elizabeth I succeeded the throne and reversed her half-sister's re-establishment of Catholicism, which heightened tensions between Spain and England.
3. Elizabeth I (1533-1603) was Queen of England and Ireland from 1558 until her death. Her 45-year reign brought on a period of stability and cultural revival, especially concerning English drama, known as the Elizabethan era.
4. **Circumvent** ***(verb):*** to find a way around (an obstacle)

Second, a colony would act as a base for privateering,[5] allowing English ships to attack Spanish vessels and gain control of Spanish treasure and trade routes in the region. Sir Walter Raleigh,[6] with the blessing of Queen Elizabeth, sent a reconnaissance[7] expedition[8] to the New World in April, 1584.

[5] The expedition, two ships under the command of Philip Amadas[9] and Arthur Barlowe,[10] arrived on the Outer Banks of present-day North Carolina in July, 1584. The goal of England's 1584 expedition was not to establish a colony but to scout potential locations along the eastern seaboard for future settlement. The sailors found a potential site at Roanoke Island, a small land mass resting between the mainland and the Outer Banks. Barlowe, in his account of the voyage, attested[11] that "the soil is the most plentiful, sweet, fruitful, and wholesome of all the world."

In addition to praising the natural resources of Roanoke Island, the 1584 expedition also made contact with the Carolina Algonquian.[12] Perhaps the most important outcome of the 1584 expedition was the return to England with two Algonquian on board, Manteo[13] of the Croatoan tribe[14] and Wanchese[15] of the Roanoacs.[16] The two Algonquian were the subject of much fascination upon their arrival in England and likely boosted Raleigh's efforts to enlist more investors in the potential colony. In addition, Manteo and Wanchese provided the English with detailed descriptions of Algonquian culture and social structure.

On April 9, 1585, almost one year to the day of the first expedition's departure, 600 English soldiers and sailors in seven ships (with Manteo and Wanchese on board) sailed from Plymouth, England in an attempt to establish the first English colony in North America.

5. Privateering was essentially like government-approved pirating. An armed ship owned by private individuals was commissioned by the government and was authorized for use in war, especially in capturing enemy merchant shipping.
6. Sir Walter Raleigh (c. 1554-1618) was an English landed gentleman, writer, soldier, politician, courtier, spy, and explorer. He is famous for having risen rapidly in Queen Elizabeth I's favor (and then falling rapidly out of it when he married a lady-in-waiting without her permission). He is also well known for popularizing tobacco in England.
7. Reconnaissance refers to the survey of a region to locate an enemy or gather any strategic information about said enemy.
8. **Expedition** ***(noun):*** a journey or voyage undertaken by a group of people with a particular purpose, especially that of exploration, scientific research, or war
9. Philip Amadas (b. 1565) was a naval commander and explorer in Elizabethan England.
10. Arthur Barlowe (1550-1620) was one of the two captains who, under Sir Walter Raleigh, sailed to North America in 1584. His account is one of the earliest English commercial reports directly about North America.
11. **Attest** ***(verb):*** to declare; to be a witness to
12. The Algonquian people consists of the peoples who speak Algonquian languages, making them one of the most populous and widespread North American native language groups. Today, thousands of people identify with various Algonquian peoples. Historically, they were established along the Atlantic Coast, along the St. Lawrence River, and around the Great Lakes.
13. Manteo was a Croatoan chief of a local tribe who befriended the English explorers that settled at Roanoke Island. He traveled to England twice and returned with Governor John White to the island, where he became the first Native American to be baptized into the Church of England.
14. The Croatoan, or Croatan, people consisted of a Native American group living in the coastal region of modern-day North Carolina. They may have been part of the larger Roanoke people or an ally of them.
15. Wanchese was the last known ruler of the Roanoac tribe encountered by English colonists in the late sixteenth century. He traveled alongside Manteo to England, but did not share the same friendly relations with the Europeans as did Manteo.
16. The Roanoac, or Roanoke, people were a Carolina Algonquian-speaking people. Their territory was composed of present-day Dare County, Roanoke Island, and parts of the mainland (at the time of early English colonization).

1585 Voyage

Having determined Roanoke Island to be a favorable location for the first English colony in North America, seven English vessels with 600 soldiers and sailors began their voyage from England to the Outer Banks in April, 1585.

Under the command of Sir Richard Grenville,[17] the fleet encountered a storm in the Atlantic, damaging ships and destroying one, forcing a stop in Puerto Rico for repairs. The delayed and hobbled vessels arrived at Roanoke Island on June 26th.

[10] The stop in Puerto Rico had caused conflict between Grenville and Ralph Lane,[18] an Irishman appointed governor of the new colony. Lane believed that Grenville's delay in Puerto Rico, which involved privateering and trading as well as repairs to the damaged fleet, had cost valuable time for the colonists to prepare for winter. In addition to the hostilities[19] between Grenville and Lane, one of the largest ships in the fleet, the *Tiger*, was too large to enter the sounds surrounding Roanoke Island. It, along with other larger English ships, were forced to anchor off the Atlantic coast, exposing themselves to more volatile weather and seas.

Almost immediately, the *Tiger* was heavily damaged and the majority of the colonists' food supplies were destroyed. The initial plan of making Roanoke Island a permanent colony and privateering base had been destroyed along with the *Tiger*'s cargo.

With the loss of valuable supplies, Lane was left with only 100 men on the island to construct temporary shelter from which to scout for a more permanent location; Grenville, after briefly scouting the region for a more suitable location as well, would sail back to England with the rest of the men and return next year with more colonists and supplies.

Lane and his men quickly constructed a small fortification with homes surrounding it. In addition to the homes constructed along the perimeter of the earthwork, the metal-working shop of Thomas Hariot[20] and Joachim Gans[21] was located nearby.

Although it was initially believed the colonists could subsist on agricultural ingenuity,[22] it soon became clear that in order to survive they would have to consistently rely on the Carolina Algonquian for assistance. This reliance may have led to an increasing paranoia in Ralph Lane; he began to exert strict control over the colonists, going so far as to construct a jail to maintain order and discipline.

17. Sir Richard Grenville (1542-1591) was an English sailor, a soldier, a privateer, a colonizer, and captain of the ship called the Revenge. He accompanied his cousin Sir Walter Raleigh to Roanoke Island.
18. Sir Ralph Lane (c. 1532-1603) was an explorer of the Elizabethan era and part of the unsuccessful attempt in 1585 to colonize Roanoke Island. His exact nationality has been disputed, but he did serve the Crown in Ireland.
19. **Hostility** ***(noun):*** unfriendliness or opposition
20. Thomas Hariot (c. 1560-1621) was an English astronomer, mathematician, ethnographer, and translator. He was an important member of the venture, as he had translated and learned the Algonquian language from Manteo and Wanchese.
21. Joachim Gans was a Bohemian mining expert and is famous for being the first recorded Jewish person in North America.
22. **Ingenuity** ***(noun):*** the quality of being clever, original, and inventive

[15] In addition, what began as peaceful, mutually beneficial relationships with the Algonquian population, rapidly deteriorated[23] into violence. Wingina,[24] Chief of the Secoton tribe[25] of the Algonquian across the sound[26] from Roanoke Island began to feud heavily with Lane and his men. While the colonists' increased reliance on the Algonquians to provide food had escalated[27] the tension, the exposure of the Algonquians to English disease became the tipping point. Smallpox and other diseases began to decimate[28] the native population, fueling the Algonquian fear of the English. Wingina decided the English should be removed from the region at all costs.

Wingina, now calling himself Pemisapan possibly to signify his new hostile stance on the English, attempted to cut off all food supplies to the colonists, forcing them to break up into small detachments in search of food, detachments that could easily be overwhelmed by a larger Secoton force. Lane heard of this plan before it could be put into action and had Wingina/Pemisapan preemptively[29] killed, forever altering English-Native power dynamics and alliances in the region.

Shortly after the killing of Wingina/Pemisapan in June of 1586, a large fleet was spotted off the coast. Fearful that the fleet was Spanish, Lane and his men were relieved to find that it was an English fleet under the command of Sir Francis Drake.[30] Drake, having made port at the Outer Banks after months raiding Spanish shipping along the Florida coast and West Indies, agreed to help Lane in his continual desire to search for a more suitable settlement location. However, a violent hurricane quickly changed those plans, forcing an increasingly angry and frustrated Lane and his men to abandon Roanoke and return to England with Drake.

Ralph Lane would never return to North America. However, less than one year after Lane returned to England with Drake, Sir Walter Raleigh would send 118 men, women, and children again to Roanoke Island in his most ambitious[31] attempt yet to establish a lasting English colony.

1587 Voyage

The 1587 voyage to Roanoke, consisting of 118 men, women, and children, was compromised from the beginning. The failures of the previous expedition to find a suitable base from which to privateer, coupled with the lack of discovery of precious metals and other supposed treasures, led many investors to begin withdrawing support. Sir Walter Raleigh himself, even though still supportive of the idea of an English foothold in the New World, began to show a decreased enthusiasm for the venture; the colonization attempt had already cost 30,000 pounds, a steep sum in the 1580s. Nevertheless, in April of 1587, the new group of colonists began their journey.

23. **Deteriorate** ***(verb):*** to become progressively worse
24. Wingina (d. 1586) was the first North American Indian leader to be confronted by English settlers in the New World. He was a principal chief of the Secotan Indians in present day North Carolina and was eventually killed by one of Raleigh's men.
25. also spelled "Secotan"
26. Sound in this context refers to a narrow stretch of water that forms an inlet between two larger bodies of water.
27. **Escalate** ***(verb):*** to increase quickly
28. **Decimate** ***(verb):*** to kill or destroy a large percentage or part of
29. **Preemptively** ***(adverb):*** taking action or a measure against something anticipated in order to prevent it
30. Sir Francis Drake (c. 1540-1596) was an English captain, privateer, navigator, slaver, and politician in the Elizabethan era.
31. **Ambitious** ***(adjective):*** having or showing a strong desire and determination to succeed

[20] Led by John White, the colonists arrived at Roanoke in July, but it was not their intended destination. Roanoke Island was to only be a stopping point on this voyage so White could hopefully make contact with a very small garrison[32] left on the island after the departure of the 1585 expedition. Instead, the colonists were to sail up the Chesapeake Bay to find a more suitable area for settlement. However, the flotilla's[33] captain, Simon Fernandes,[34] refused to take the colonists farther up the coast, the excuse being that summer was rapidly ending. The colonists were left at Roanoke Island.

On July 22, 1587, White and the colonists set foot on Roanoke Island. The only clue as to the fate of the previous garrison was a sun-bleached skeleton of one of the men. The colonists got to work rebuilding and refurbishing the fortification and dwellings left by the 1585 expedition. By the end of July, they had made substantial progress. White, however, was convinced that he could move the colonists north to the Chesapeake, their intended destination, before winter.

Once again, the tenuous[35] relationship between the English and the Algonquian broke down. Shortly after the colonists' arrival George Howe[36] was ambushed and killed by members of the Secotan tribe. In retaliation, White and his men attacked what they thought was a Secotan village on the mainland. It was Croatoan, straining relationships even further.

The one bright spot in the month of August for White and the colonists was the birth of Virginia Dare, the first English child born in the New World. Her birth signified the possibility that the colony may very well take hold.

The threat of Algonquian attack, the lack of reliable food sources, and the approaching winter forced White to return to England for more settlers and supplies. White left for England in late August, having only been on Roanoke for slightly over a month. Prior to leaving it was determined that the remaining colonists would split into two groups; one group would stay on Roanoke Island while another headed inland in search of a permanent settlement and more potential supplies. In addition, it was agreed that, should the colonists leave Roanoke Island prior to White's return, they would carve their destination into nearby trees.

[25] John White arrived in England on November 8, 1587 and immediately reported to Sir Walter Raleigh.

1590 Voyage

John White, upon his return to England in November, 1587, fully expected to be resupplied and have yet another expedition ready to sail for Roanoke by the spring of 1588. Initially, Sir Walter Raleigh was equally hopeful. However, the primary reason for English colonization of the New World, the Spanish, disrupted their plans.

The Spanish Armada, the most formidable fleet in the world, was preparing to attack England directly. Queen Elizabeth I ordered all English vessels to remain nearby in defense of the homeland. England, with her faster, more maneuverable[37] ships under Sir Francis Drake, defeated the Spanish Armada, signaling a shift in global superpowers. However, the battle delayed the return of White to Roanoke.

32. A garrison refers to troops stationed in a fortress or town to defend it.
33. A flotilla is a fleet of ships or boats.
34. Simon Fernandes (c. 1538 – c. 1590) was a Portuguese-born navigator and occasional pirate who piloted the 1585 and 1587 English expeditions to Roanoke Island.
35. **Tenuous** ***(adjective):*** very weak or flimsy
36. George Howe was an advisor and a colonist in Roanoke colony.

After the defeat of the Spanish Armada, Raleigh's interest in colonization began to shift to Ireland, forcing White to turn to other investors to acquire revenue for the journey. It was not until early 1590 that White was able to convince a group of privateers bound for the West Indies to take him to Roanoke.

Landing on August 18, 1590, White and his men found remnants[38] of the colonists but no signs of life. Arriving at the site of the 1587 settlement, White found "CRO" carved into a tree and "CROATOAN" carved into a palisade.[39] There were no signs of a struggle or of the colonists leaving in haste.

[30] White immediately began to sail to Croatoan but, as had happened so often before, a storm disrupted his plans and he was forced to return to England, never knowing what became of the Lost Colony of Roanoke.

After the failure of the Roanoke Colony and the disappearance of its settlers, John White all but disappeared from the historical record. He died, possibly in Ireland, around 1606, one year before England, having learned from the failures at Roanoke, established the first successful English colony at Jamestown, Virginia.

37. **Maneuverable** ***(adjective):*** able to be moved or steered easily while in motion
38. **Remnant** ***(noun):*** a small remaining quantity of something
39. A palisade is a fence of wooden stakes (or a stake in the row of stakes forming the fence).

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following statements best summarizes a central idea of the text? [RI.2]
    A. Roanoke was never technically lost; it is much more likely that they simply moved and became integrated in Algonquian society.
    B. The settlers of Roanoke colony had little experience and support in creating a colony, and outside events made it very difficult for them to succeed.
    C. Roanoke could have survived if John White had simply tried harder to return with supplies between the years 1587 and 1590.
    D. Sir Walter Raleigh is the most to blame for the failure of Roanoke; he pushed for this colony and took on very little responsibility for it.

2. PART B: Which of the following quotes best supports the answer to Part A? [RI.1]
    A. "Sir Walter Raleigh himself, even though still supportive of the idea of an English foothold in the New World, began to show a decreased enthusiasm for the venture; the colonization attempt had already cost 30,000 pounds, a steep sum in the 1580s." (Paragraph 19)
    B. "The threat of Algonquian attack, the lack of reliable food sources, and the approaching winter forced White to return to England for more settlers and supplies." (Paragraph 24)
    C. "England, with her faster, more maneuverable ships under Sir Francis Drake, defeated the Spanish Armada, signaling a shift in global superpowers. However, the battle delayed the return of White to Roanoke." (Paragraph 28)
    D. "Arriving at the site of the 1587 settlement, White found "CRO" carved into a tree and "CROATOAN" carved into a palisade. There were no signs of a struggle or of the colonists leaving in haste." (Paragraph 29)

3. Which of the following best describes the English's early involvement in North America? [RI.3]
    A. The English were very much involved in the early exploration and colonization of the New World, desperate for new and available resources to support their war with Spain.
    B. The English did little to engage in exploring and colonizing the New World, as there was a strong Spanish presence there since Columbus and England did not wish to expand their war with Spain overseas.
    C. In the late 1500s, England was more concerned with its war against Spain and decreasing Spanish power in the New (and the Old) World than it was establishing North American colonies for the sake of colonies.
    D. In the late 1500s, England was experiencing a period of cultural heights known as the Elizabethan period; England therefore had no reason or desire to improve or expand their empire.

4. PART A: What does the word "volatile" most likely mean as used in paragraph 10? [RI.4]
    A. Frightening
    B. Uncontrolled or rough
    C. Surprising
    D. Calm or navigable

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. Do you think the attempt to colonize North America was worthwhile for the Europeans, especially the British? Why or why not?

2. What do you think happened to the colonizers of Roanoke Island? What do you think did not happen to them?

3. European colonizers, particularly the English, feared the wilderness and the native populations in the Americas. Did this same fear cause them to isolate themselves? In the context of this passage, how does fear drive action? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

4. In the context of this passage, what does it mean to feel alone? What must have it felt like for the settlers in Roanoke to be so isolated—can you imagine this? Do you think this isolation and loneliness could have contributed to their disappearance and/or the failure of the colony? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

5. There are several theories as to what caused the disappearance of the Roanoke colony, many of which include environmental causes. How did natural causes negatively affect the planning and implementation of the colony—such as storms on the sea and the weather? How might the settlers have planned for this? Could they have prepared themselves better, if at all? In the context of this passage, who's in control: man or nature? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

COMMONLIT

Name: _____ Class: _____

The Salem (and Other) Witch Hunts

By Mike Kubic
2016

Mike Kubic is a former correspondent of Newsweek *magazine. In this article, Kubic discusses the causes and effects of the Salem witch trials and the prevalence of prejudice-fueled hunts throughout our history. Kubic connects these seemingly unrelated tragedies in a way that reveals a dark-side of human nature. As you read, take notes on the causes of each historical "hunt" and the consequences that follow.*

[1] *"I saw Sarah Good with the Devil!*

I saw Goody Osburn with the Devil!

I saw Bridget Bishop with the Devil!"

The speaker is Abigail Williams, niece of Reverend Samuel Parris, in Act I of Arthur Miller's classic play *The Crucible*. This character is based on the historical figure of the same name. Abigail, along with her cousin Betty, accused citizens of Salem[1] of being witches. The young girls claimed that they were being attacked by these men and women who had made a pact with the devil.

"The Witch" by Joseph E. Baker is in the public domain.

[5] The charges by these youngsters spread like wildfire, and in the spring of 1692, they launched a terrifying wave of hysteria. The Salem witch trials that followed are the subject of Miller's play. A harrowing example of iniquity and unreason, the tragic proceedings have become synonymous with justice gone mad. In less than a year, over 200 individuals were accused of witchcraft, 20 of whom were executed.

The trials were swift. Anyone who suspected that some untoward[2] event or development was the work of a witch could bring the charge to a local magistrate.[3] The magistrate would have the alleged evil-doer arrested and brought in for public interrogation where the suspect was urged to confess. Whatever his or her response, if the charge of witchcraft was deemed to be credible, the accused was turned over to a superior court and brought before a grand jury.

Much of the evidence used in the "trial" was the testimony of the accuser. If more "evidence" was needed, the grand jury might consider the so-called "witch cake," a bizarre concoction that was made from rye meal and urine of the witch's victim and fed to a dog. Eating the cake was supposed to hurt the witch, whose cry of pain would betray her secret identity.

1. a village in the colony of Massachusetts
2. **Untoward** ***(adjective):*** unexpected and inappropriate or inconvenient
3. A "magistrate" is a civil officer or judge who administers the law, especially one who conducts a court that deals with minor offenses and holds preliminary hearings for more serious ones.

One suspect was subjected to *peine forte et dure*,[4] a form of torture in which he was pressed beneath an increasingly heavy load of stones to make him enter a plea. He died without confessing. Some of those convicted of "witchcraft" were paraded through the streets of the town on their way to the execution.

The sentencing of Bridget Bishop, the first victim of the witch trials, was typical of the Salem justice. Bishop was accused of not living "a Puritan lifestyle" because she wore black clothing. Her coat had been found to be oddly "cut or torn in two ways", and her behavior was regarded as "immoral." Thus convicted of witchcraft, she was tried on June 10, 1692, and executed by hanging the same day.

[10] Immediately following this execution, the court adjourned for 20 days and asked for advice from New England's most influential ministers "upon the state of things as they then stood." A mere five days later, they produced a voluble[5] answer penned by Cotton Mather, the prolific[6] pamphleteer of the period, assuring the court and the grand jury that they had done well.

The prominent ministers "humbly recommend[ed]" more of the same: that is, "the speedy and vigorous prosecution of such as have rendered themselves obnoxious, according to the direction given in the laws of God, and the wholesome statutes of the English nation…"

More people were accused, arrested and examined, but historians believe that by September 1692 the hysteria had begun to abate and public opinion turned against the trials. In 1693, some of the convicted suspects were pardoned by the governor. The Massachusetts General Court annulled[7] the guilty verdicts and even granted indemnities[8] to their victims' families.

Other Historic "Witch" Hunts

The Salem episode was a historic landmark but by no means a rare example of behavior that can afflict frightened, angry, or frustrated people if they're urged by demagogues[9] to confront an alleged "menace."

One hundred years after the Salem trials, courts in France launched mass executions of suspected enemies of the revolution that deposed[10] the monarchy. The "Reign of Terror," conducted without trials and made more efficient by the use of a new labor-saving machine — the guillotine[11] — lasted from 6 September 1793 until 28 July 1794. It beheaded a total of 42,000 individuals.

[15] Humanity's most heinous crime, the Holocaust, was carried out from 1933 till 1945 by 200,000 fanatics acting on orders of Adolf Hitler's Nazi regime, but it was also abetted by crass bigotry and sense superiority then affecting many Germans.

4. French for "strong and hard punishment"
5. **Voluble** ***(adjective):*** speaking or spoken fluently, without interruption
6. **Prolific** ***(adjective):*** producing many works
7. "Annul" means to declare something invalid.
8. **Indemnity** ***(noun):*** security or protection against a loss or other financial burden
9. A "demagogue" is a politician seeking support by appealing to popular desires or prejudices, rather than using logical argument.
10. **Depose** ***(verb):*** to remove from office suddenly and forcefully
11. The "guillotine" was a machine with a heavy blade sliding vertically in grooves, used for beheading people.

The toll included an estimated six million Jews — one-fourth of them children — and five million other people the Nazis regarded as "*minderwertig*" ("inferior"). They were primarily ethnic Poles, captured Soviet civilians and prisoners of war, other Slavs, Romanis, communists, homosexuals, Jehovah's Witnesses, and the mentally and physically disabled. The mass murder was carried out by gas or shooting in extermination facilities located in Germany and German-occupied territories.

The Great Purge in the former USSR — Union of Soviet Socialist Republics — was carried out from 1936 to 1938 on orders of the Communist Party chairman and Soviet dictator Josef Stalin. The main victims of the Moscow show trials were Communist officials and upper echelons[12] of the country's Red Army, some of whom confessed to crimes they had not committed. The purge terrorized the entire Soviet civil service and other leading members of the society, such as intellectuals, writers, academicians, artists, and scientists.

According to declassified Soviet archives, during 1937 and 1938, the state police detained 1,548,366 persons, of whom 681,692 were shot: an average of 1,000 executions a day. Some historians believe that the actual executions were two to three times higher.

Public Scares in the U.S.

In the United States, groundless fears, prejudices, and demagoguery produced three notable events that echoed the Salem trials. All three happened under extremely tense and stressful circumstances caused by global events: World War II and by the Cold War.

[20] The first episode started three months after December 7, 1941, when Japanese military aircraft attacked Pearl Harbor. President Franklin Delano Roosevelt issued an order that allowed regional military commanders to designate "military areas" from which "any or all persons may be excluded."

The order reflected the widespread fear that presumably unassimilated[13] Japanese immigrants and their offspring would be more loyal to Japan than to their new country. To prevent the rise of such an "enemy within" during the war, state and local authorities along the West Coast removed over 110,000 Japanese Americans from their homes — almost two-thirds of whom were U.S. citizens — and placed them in internment camps.[14]

Hundreds of the young Japanese American internees volunteered for the U.S. Army and fought with distinction. After the war, the camps were closed, and the residents were allowed to return to their homes. The subsequent investigation by a special government commission found little evidence of Japanese disloyalty and concluded that the wartime scare had been the product of racism.

The second and third disgraceful episodes were triggered by an irrational fear of communist subversion before and after the onset of the Cold War, an era in which the Soviet leaders proclaimed the superiority of Marxist doctrines and threatened the "bury" the liberal democracies of the United States and other Western nations.

12. An "echelon" is a level or rank in an organization, a profession, or society.
13. **Assimilate** ***(verb):*** to conform to the customs, attitudes, and habits of a group or nation
14. An "internment camp" is a prison camp for the confinement of enemy aliens, prisoners of war, political prisoners, etc.

In the late 1930s, following two major film industry strikes, Hollywood movie producers and members of the U.S. Congress accused the Screen Writer's Guild of including Communist party members. Although the party was legal and its membership was not a crime, the charges led to widespread blacklisting[15] of screenwriters, actors, and other entertainment professionals in the 1940s and 1950s. The so-called "First Red Scare" ruined the careers of hundreds of individuals working in the film industry.

[25] It peaked in 1947 when ten of these film writers and directors were brought before the House Un-American Activities Committee[16] and questioned whether they were or had been Communist party members. When the accused refused to answer, they were cited for contempt of Congress,[17] fired from their jobs, and began serving a one-year jail sentence in 1950.

The start of the "Second Red Scare" is usually traced to a speech that Joseph McCarthy, a U.S. Senator from Wisconsin, delivered on February 9, 1950, to the Republican Women's Club of Wheeling in West Virginia. Already prominent as a rabid anti-communist, he waved a sheet of paper and announced, "I have here in my hand a list of 205" members of the Communist party who, he claimed, "are still working and shaping policy in the State Department."

McCarthy never released the alleged list of names or proved any of his charges, but his reckless and vicious accusations made him both feared and famous.

During his brief political career, he made undocumented charges of communism, communist sympathies, disloyalty, and homosexuality against hundreds of politicians and non-government individuals. His attacks included the administration of President Harry S. Truman, the Voice of America, and the United States Army.

Government employees and workers in private industry, whose characters and loyalties were smeared by McCarthy's broad brush, lost their jobs. His crusade of slander ended four years after it started when his charges were rejected during televised McCarthy-Army hearings in 1954, and he was publicly denounced by fellow Republicans and Edward R. Morrow, a leading TV journalist.

[30] The Senator's only legacy is an addition to our lexicon:[18] "McCarthyism" is a term that stands for demagogic, scurrilous,[19] and reckless character assassination of opponents.

All three U.S. public scares had a significant aftermath.

In 1980, President Jimmy Carter appointed a commission to investigate whether the decision to put Japanese Americans into internment camps had been justified. The commission found that it was not. In 1988, President Ronald Reagan signed into law the Civil Liberties Act, which apologized for the internment on behalf of the U.S. government and authorized a payment of $20,000 to each individual camp survivor.

15. "Blacklist" means to say that a person or company should be avoided or not allowed to do something.
16. The House Un-American Activities Committee, also known as the HUAC, was a committee of the U.S. House of Representatives, created to investigate disloyalty and subversive organizations.
17. To be "cited for contempt" means that one is disobedient to or disrespectful of a court of law and its officers.
18. **Lexicon** ***(noun):*** the vocabulary of a person, language, or branch of knowledge
19. **Scurrilous** ***(adjective):*** making or spreading scandalous claims about someone with the intention of damaging their reputation

The law admitted that government actions were based on "race prejudice, war hysteria, and a failure of political leadership," and 82,219 Japanese Americans who had been interned and their heirs were paid more than $1.6 billion in reparations.[20]

The Hollywood blacklisting officially ended in 1960, when Dalton Trumbo, a former Communist party member and a one of the Hollywood Ten,[21] was publicly credited as the screenwriter of the highly successful film *Exodus* and was later publicly acknowledged for writing the screenplay for *Spartacus*.

[35] While he was blacklisted, Trumbo wrote under a pseudonym the script for two Academy Awards winning movies, and in 2016, his story was the subject of a movie titled *Trumbo*.

McCarthy's antics were rejected by the U.S. Senate, which on December 2, 1954, censured[22] him by a vote of 67 to 22. It was one of the rare cases of such an extreme form of repudiation[23] by fellow Senators, and it strongly affected McCarthy. He died three years later at the age of 48.

20. **Reparation** ***(noun):*** the making of amends for a wrong one has done, by paying money or helping those who have been wronged
21. The ten motion-picture producers, directors, and screenwriters who refused to answer questions regarding their possible communist affiliations.
22. "Censure" is a formal and public group condemnation of an individual whose actions run counter to the group's acceptable standard for individual behavior.
23. **Repudiation** ***(noun):*** rejection of a proposal or idea

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement identifies the central idea of the text?
    A. Historical witch hunts occurred a long time ago and are unlikely to repeat in the modern day.
    B. To this day, the Salem witch trials are considered the most extreme example of violent hysteria targeted at a specific group of people.
    C. The unreasonable fear that drove the events of Salem makes it a unique and distinct example, contrasting other witch hunts in history.
    D. While witch hunts may feel like a rare occurrence, such incidents are not uncommon in history, especially when people are fearful or frustrated.

2. PART B: Which quote from the text best supports the answer to Part A?
    A. "In less than a year, over 200 individuals were accused of witchcraft, 20 of whom were executed." (Paragraph 5)
    B. "The Salem episode was a historic landmark but by no means a rare example of behavior that can afflict frightened, angry, or frustrated people" (Paragraph 13)
    C. "All three happened under extremely tense and stressful circumstances caused by global events: World War II and by the Cold War." (Paragraph 19)
    D. "In 1980, President Jimmy Carter appointed a commission to investigate whether the decision to put Japanese Americans into internment camps had been justified." (Paragraph 32)

3. PART A: What is the meaning of "iniquity" as used in paragraph 5?
    A. unfair behavior
    B. rational behavior
    C. curious behavior
    D. reckless behavior

4. PART B: Which detail from paragraph 5 best supports the answer to Part A?
    A. "The charges by these youngsters spread like wildfire"
    B. "The Salem witch trials that followed are the subject of Miller's play."
    C. "the tragic proceedings have become synonymous with justice gone mad"
    D. "20 of whom were executed."

5. PART A: What do the three conflicts in America have in common?
    A. They were supported by reason and evidence.
    B. They were resolved with relatively few consequences.
    C. They were all the result of racist agendas and policies.
    D. They were all driven by fear during a time of crisis.

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. In your opinion, are there ongoing witch hunts today in America? If so, what are they and how can we put an end to them?

2. In the context of the text, how does fear drive action? How did fear play a role in the witch hunts depicted in the text? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

3. In the context of the text, what are the effects of following the crowd? Would these witch hunts have been possible without the support of others? Why do you think people supported these prejudiced hunts? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

4. In the context of the text, how does prejudice emerge? Why were these specific groups targeted during the witch hunts discussed? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

COMMONLIT

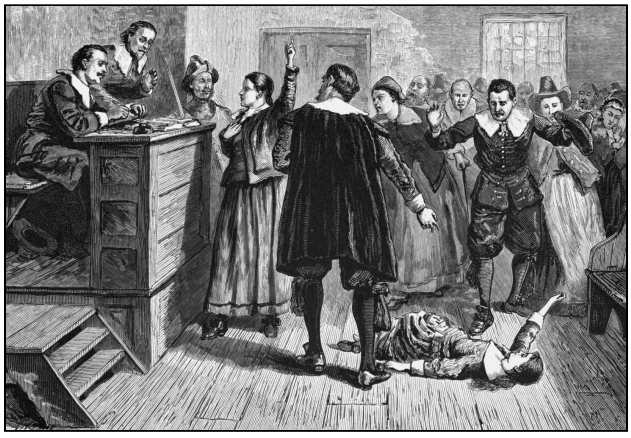
Name: _____ Class: _____

Witchcraft in Salem

By USHistory.org
2016

In 1692, a series of strange events that cannot be fully accounted for today broke out in the Puritan settlement of Salem, Massachusetts. Accusations of witchcraft quickly spread throughout the town and many—especially the women of Salem—feared that they would be next. As you read, take notes on how the witch trials were conducted in Salem.

[1] Surely the Devil had come to Salem in 1692. Young girls screaming and barking like a dog? Strange dances in the woods? This was behavior hardly becoming of virtuous[1] teenage maidens. The town doctor was called onto the scene. After a thorough examination, he concluded quite simply — the girls were bewitched. Now the task was clear. Whomever was responsible for this outrage must be brought to justice.



"Witchcraft at Salem Village" by William A. Crafts is in the public domain.

The ordeal originated in the home of Salem's Reverend Samuel Parris. Parris had a slave from the Caribbean named Tituba. Several of the town's teenage girls began to gather in the kitchen with Tituba early in 1692.[2] As winter turned to spring the townspeople were aghast[3] at the behaviors exhibited by Tituba's young followers. They were believed to have danced a black magic dance in the nearby woods.[4] Several of the girls would fall to the floor and scream hysterically.[5] Soon this behavior began to spread across Salem. Ministers from nearby communities came to Salem to lend their sage[6] advice. The talk turned to identifying the parties responsible for this mess.

Puritans believed that to become bewitched a witch must draw an individual under a spell. The girls could not have possibly brought this condition onto themselves. Soon they were questioned and forced to name their tormentors.[7] Three townspeople, including Tituba, were named as witches.[8] The famous Salem witchcraft trials began as the girls began to name more and more community members.

1. **Virtuous** ***(adjective):*** having or showing high moral standards or goodness
2. Among these girls notably included Parris' daughter Betty and his niece Abigail Williams, who began having fits and hysterical outbursts. These two young girls were among the first accusers.
3. **Aghast** ***(adjective):*** filled with horror or shock
4. In Puritan society, dancing of any kind was frowned upon or outright forbidden. It was considered idle activity and thus a sin.
5. **Hysterical** ***(adjective):*** with wild, uncontrolled emotion
6. **Sage** ***(adjective):*** having, showing, or indicating great wisdom
7. **Tormentor** ***(noun):*** someone or something that causes a lot of pain and suffering
8. Tituba was the first woman to confess to the crime of witchcraft, but this confession was forced (i.e. due to physical abuse from Parris).

Evidence admitted in such trials was of five types. First, the accused might be asked to pass a test, like reciting the Lord's Prayer. This seems simple enough. But the young girls who attended the trial were known to scream and writhe[9] on the floor in the middle of the test. It is easy to understand why some could not pass.

[5] Second, physical evidence was considered. Any birthmarks, warts, moles, or other blemishes were seen as possible portals through which Satan could enter a body.[10]

Witness testimony was a third consideration. Anyone who could attribute their misfortune to the sorcery of an accused person might help get a conviction.[11]

Fourth was spectral evidence. Puritans believed that Satan could not take the form of any unwilling person. Therefore, if anyone saw a ghost or spirit in the form of the accused, the person in question must be a witch.[12]

Last was the confession. Confession seems foolhardy to a defendant who is certain of his or her innocence. In many cases, it was the only way out.[13] A confessor would tearfully throw himself or herself on the mercy of the town and court and promise repentance.[14] None of the confessors were executed. Part of repentance might of course include helping to convict others.[15]

As 1692 passed into 1693, the hysteria began to lose steam. The governor of the colony, upon hearing that his own wife was accused of witchcraft ordered an end to the trials. However, 20 people and 2 dogs were executed for the crime of witchcraft in Salem. One person was pressed to death under a pile of stones for refusing to testify.[16]

9. **Writhe** ***(verb):*** to twist your body from side to side (in pain)
10. Puritans looked for something called "the witches' mark" or "the Devil's mark," which was believed to be the mark that sealed a witch's pact with Satan. The accused were often stripped and publicly examined for these marks.
11. Pretty much any misfortune or bad thing could be attributed to an act of sorcery: illness, poor harvest, sick or dead farm animals, spoiled food or milk, bruises, scratches, nightmares, etc. The accusers (i.e. the girls) complained of being attacked by the witches' spirits mentally and physically. Even though there was no way to prove this, the girls were often believed over the accused.
12. Again, there was no way to prove this. It was taken on faith alone, but it is believed now that the accusers intentionally lied or were caught up in the hysteria to the point of hallucination.
13. Those who pleaded not guilty were almost always found guilty and then killed. Confessing to the crime meant, ironically, that they would live, even at the cost of lying. Another incentive to confess involved property; if found guilty (under the plea of not guilty) the defendant's money and property would be confiscated from their family.
14. **Repentance** ***(noun):*** sincere regret or remorse; atonement
15. Though they would live, the people who confessed to practicing witchcraft faced a number of other consequences. One, their reputations would be damaged, if not destroyed; two, their confessions were lies they could not take back, and Puritans believed lying was a sin; and three, a confession freed the accused but left them at risk of future accusations of witchcraft.
16. Giles Corey used a tactic called "standing mute," in which he refused to submit a plea of guilt or innocence. Torture was often used on these individuals until they either spoke or died. Supposedly his last words were "more weight!"

[10] No one knows the whole truth behind what happened in Salem. Once witchcraft is ruled out, other important factors come to light. Salem had suffered greatly in recent years from Indian attacks.[17] As the town became more populated, land became harder and harder to acquire. A smallpox epidemic[18] had broken out at the beginning of the decade. Massachusetts was experiencing some of the worst winters in memory. The motives of the young girls themselves can be questioned. In a society where women had no power, particularly young women, is it not understandable how a few adolescent girls, drunk with unforeseen attention, allowed their imaginations to run wild? Historians make educated guesses, but the real answers lie with the ages.

17. Footnote: The term "Indian" refers to Native American or American Indian people. While attacks on white settlements were not uncommon in colonial America, few attacks were unprovoked by white Europeans.
18. **Epidemic** ***(noun):*** a widespread outbreak of a disease or undesired event

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which of the following best describes a central idea of the passage?
    A. Once someone was accused of witchcraft, there was no way out; anyone who confessed or tried to prove their innocence was executed.
    B. If Tituba had not been present in Salem, any suspicions about witchcraft would not have been taken as seriously.
    C. The town of Salem believed it was being plagued by witches, and in their panic they held a number of unfair trials.
    D. The girls of Salem purposefully targeted people they hated, fully understanding the consequences of their actions.

2. PART B: Which of the following quotes best supports the answer to Part A?
    A. "Parris had a slave from the Caribbean named Tituba. Several of the town's teenage girls began to gather in the kitchen with Tituba early in 1692." (Paragraph 2)
    B. "the young girls who attended the trial were known to scream and writhe on the floor in the middle of the test." (Paragraph 4)
    C. "However, 20 people and 2 dogs were executed for the crime of witchcraft in Salem. One person was pressed to death under a pile of stones for refusing to testify." (Paragraph 9)
    D. "No one knows the whole truth behind what happened in Salem. Once witchcraft is ruled out, other important factors come to light." (Paragraph 10)

3. Which of the following statements best describes how the conditions in Salem contributed to the development of the witch hunts?
    A. Salem was a strict religious community that had suffered many recent tragedies, and these conditions created an environment of fear and paranoia.
    B. Salem was a small community separate from larger European settlements and did not have the proper authorities to prevent these unjust trials.
    C. Salem did not permit dancing or any type of fun, and this boredom compelled its citizens to seek out excitement in the witch hunts.
    D. Salem was a small community in which women wielded little power because it was feared that power turned women into witches.

4. Which statement best captures the author's point of view on the trials?
    A. The author blames the girls for creating the atmosphere of fear in Salem.
    B. The author believes in the possibility of actual witchcraft in Salem.
    C. The author views its origins as unknown but explainable.
    D. The author describes the trials as nonsensical and without any procedure.

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. After reading the text, what do you think caused the Salem Witch Trials? Does any one reason stand out to you or do you think it was a combination of factors/conditions?

2. What might have caused a person to accuse another of witchcraft?

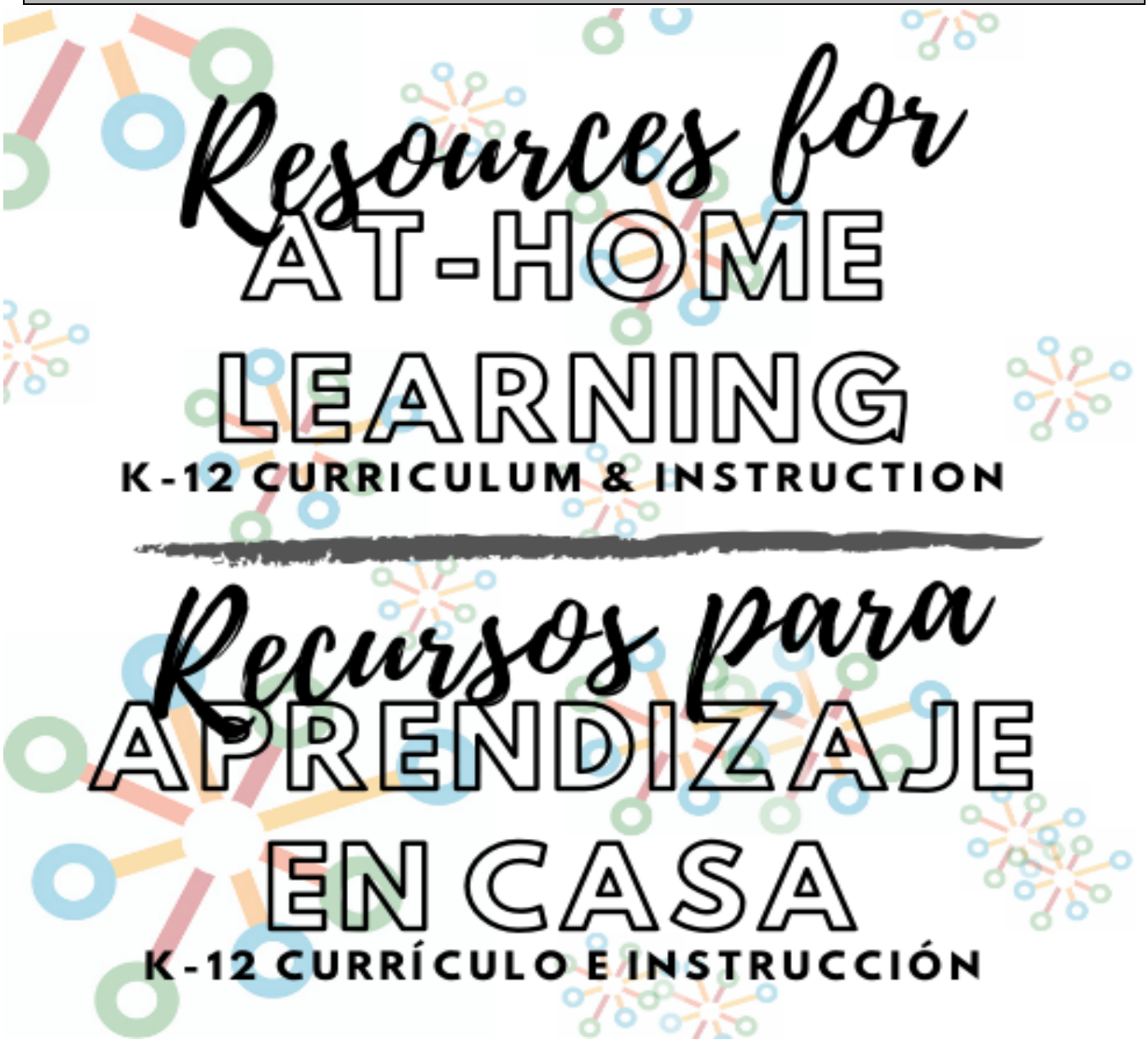
3. The Salem Witch Trials is a period largely considered a case of "mass hysteria": a phenomenon in which collective fear and paranoia of threats, real or imagined, overtakes the behavior of a community. In the context of this idea and of the overall text, what are the effects of following the crowd? What other events may be considered an example of mass hysteria? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

4. In the context of this passage, how does fear drive action? Does fear prevent groups of people from acting rationally? What else besides fear may have contributed to the Salem Witch Trials? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

DURHAM
PUBLIC SCHOOLS

8th Grade/8vo Grado

English as a Second Language (ESL)
Inglés como Segundo Lenguaje



These materials are supplemental and will not be counted for a grade; students will not be penalized if the packet is not completed.

Estos materiales son suplementarios y no serán contados como calificación; los estudiantes no serán penalizados si el paquete no se completa.

Environment | Weather

Serious Storms

March 1, 2019

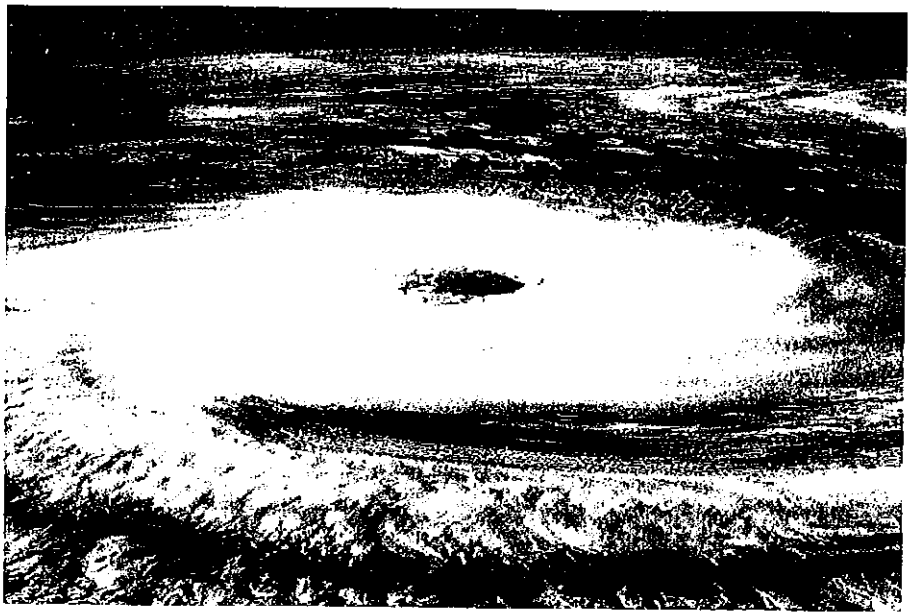
A tornado touches down in an open field. Tornadoes are incredibly powerful storms.
CULTURA RM EXCLUSIVE/JASON PERSOFF STORM CHASER/GETTY IMAGES

Tornadoes and hurricanes are cyclones. That's a storm of spinning winds. Tornadoes and hurricanes are powerful, and they can be dangerous!

A tornado is a spinning funnel of wind. It makes a roaring noise. Tornadoes form over land. Most come from giant thunderstorms called supercells. They can stretch from the sky to the ground.

Tornadoes are nature's most powerful storms. The wind speeds in tornadoes can be 300 miles an hour. A tornado can topple houses and send cars flying through the air.

Hurricanes are tropical storms. They form over warm ocean water. Sometimes, they reach land. Heavy rains from hurricanes can cause flooding. The winds can cause damage. The center of a hurricane is called the eye.



A hurricane is seen from above. Hurricanes are a type of tropical cyclone. They form over the ocean.

SUPERSTOCK/GETTY IMAGES

The eye of a hurricane is calm. It's possible to fly an airplane into a hurricane's eye. The ride is a little bumpy. But some weather scientists do it to get helpful data about these storms.

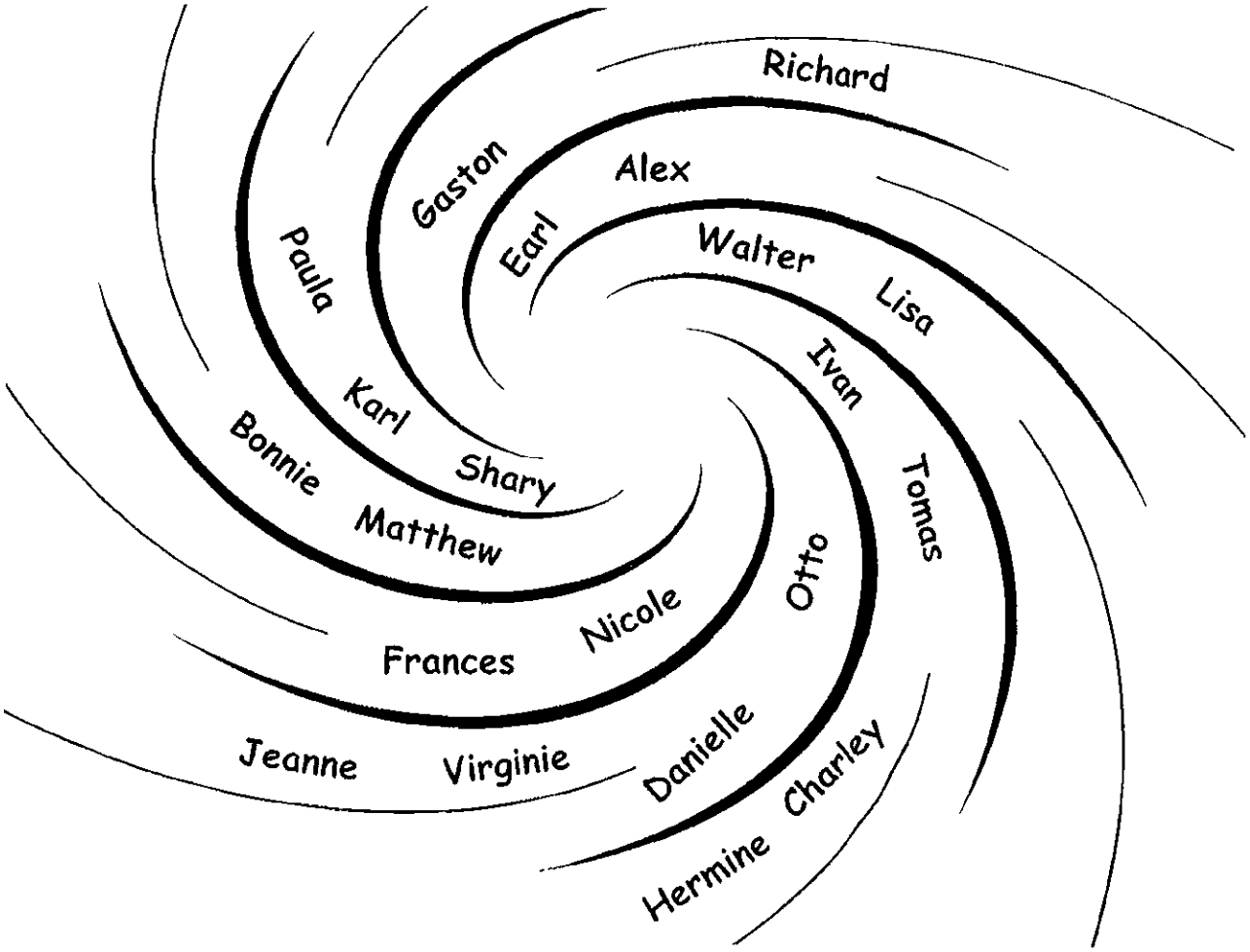
Name _____ Date _____

TFK WORLD REPORT
PROBLEM SOLVING

WHAT'S IN A NAME?

The World Meteorological Organization names hurricanes and tropical storms. They use six lists of names. The lists rotate, or alternate, each year. When a hurricane is very destructive, its name is removed from the list and not used for 10 years.

The names for storms that start over the Atlantic Ocean during 2004 are shown below. Use the names to answer the questions.



1. On a separate sheet of paper, put the 2004 storm names in alphabetical order.
2. As of September 16, Jeanne was the latest storm to be given a name. How many storms and hurricanes had been named by that day? _____
3. What will the storm after Jeanne be called? _____
4. Since the lists rotate each year, in what year will the 2004 list be used again? _____

BONUS: Why do you think meteorologists name hurricanes? Can you think of another way to keep track of storms?

Name _____ Date _____

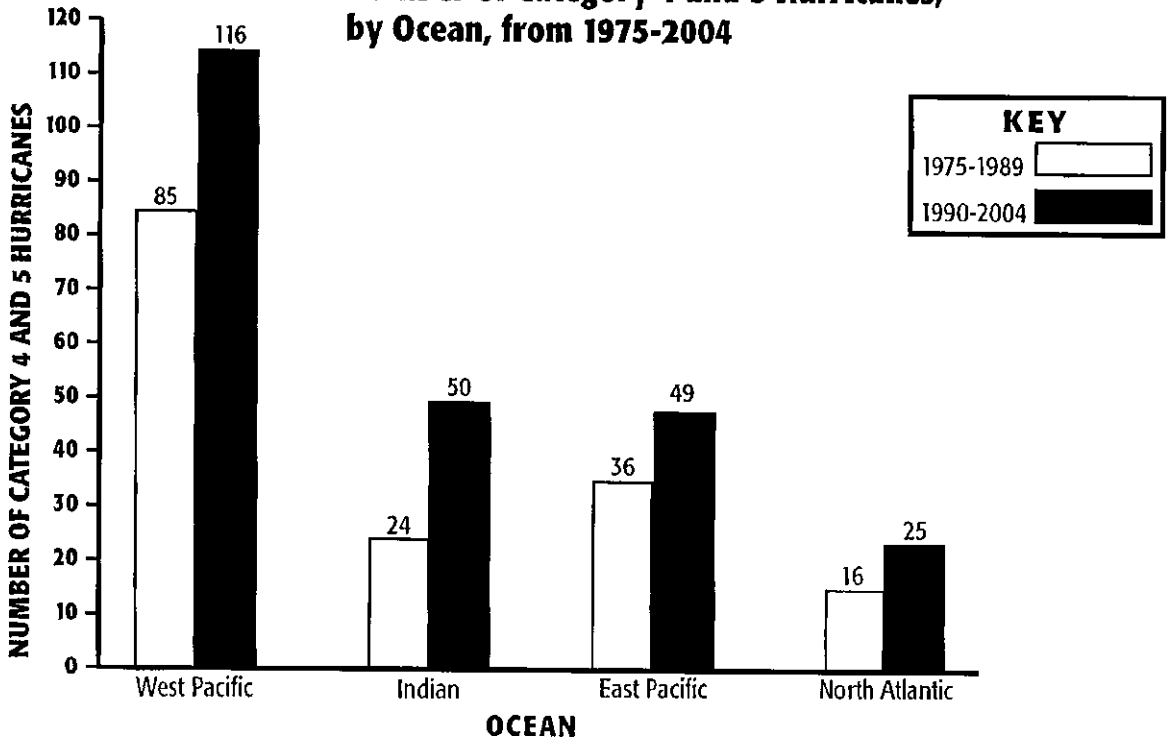
TFK WORLD REPORT
READING A GRAPH

POWERFUL STORMS

A hurricane's strength is measured on a scale of 1 to 5 using the Saffir-Simpson scale. The higher the number on the scale, the greater the hurricane's wind speeds and potential for damage. Category 4 hurricanes cause flooding and extensive damage to the outside of buildings. Category 5 hurricanes cause flood damage and can flatten many buildings.

Read the graph below to learn about the number of Category 4 and 5 hurricanes that have formed over the world's oceans from 1975 to 2004. Then answer the questions.

Number of Category 4 and 5 Hurricanes, by Ocean, from 1975-2004



SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

1. How many Category 4 and 5 hurricanes formed over the Indian Ocean from 1975 to 1989? _____ How many formed over the Indian Ocean from 1990 to 2004? _____

2. The largest increase in Category 4 and 5 hurricane formations from 1975 to 2004 occurred over which ocean? _____

3. True or false: More Category 4 and 5 hurricanes formed over the East Pacific Ocean from 1975 to 1989 than over the Indian Ocean. _____

4. How many more Category 4 and 5 hurricanes formed over the North Atlantic Ocean from 1990 to 2004 than from 1975 to 1989? _____

5. What does the bar graph tell you about Category 4 and 5 hurricanes?

_____

_____

Name _____ Date _____

TFK WORLD REPORT READING A CHART

HURRICANE WATCH!

Hurricanes are rated on a scale of 1 to 5 by their wind speed and how much damage they might cause. The scale is called a Saffir-Simpson Hurricane Damage Scale. It is shown in the chart below. Read the chart and then use it to answer the questions.

Hurricane Category	Wind Speed (miles per hour)	Storm Surge (height of waves in feet)	Damage
1	74-95 miles per hour	4-5 feet	• Damage to trees and shrubbery. Possibility of flooding in low-lying areas.
2	96-110	6-8	• Trees and signs may be blown down or damaged. Possible evacuation of people living along the coast.
3	111-130	9-12	• Buildings will be damaged. Serious flooding may occur along the coast. People in low-lying areas will be evacuated.
4	131-155	13-18	• Coastal and inland flooding. Massive evacuation of residents as far inland as six miles.
5	155 or greater	18 or greater	• Severe damage to all buildings. Wind will shatter windows. Massive evacuation of residents as far inland as 10 miles.

1. In 1992, Hurricane Andrew shook southern Florida with wind speeds estimated at 165 miles per hour. What hurricane category did meteorologists assign to Andrew? _____

2. List the maximum wind speed that a category 3 hurricane could reach. _____

3. A storm surge is a huge dome of water about 50 miles wide. What is the greatest height a storm surge can reach and still be considered a category 2 hurricane? _____

What is the lowest storm surge height for a category 2 storm? _____

4. Hurricanes can change categories as they near land. Explain the difference between a category 4 hurricane and a category 5 hurricane.

_____

_____

5. How might the aftermath of a category 2 hurricane look different from the aftermath of a category 5 hurricane? What do you think is the reason for this difference?

_____

_____

Table Talk With a family member, make a list of five things you could do now to help protect your family during a hurricane or other natural disaster.

For a hurricane to form-

First the ocean water needs to be warm enough so that the winds can take up the water through evaporation, which rises into the air. As it rises, the vapor cools and turns back into liquid. This process releases or lets heat go. The cycle of evaporation and condensation is like and engine that causes winds to form a hurricane.

If the wind speeds swirling at 40 miles per hour it is called a "tropical storm". At 75 miles per hour, it becomes a hurricane. Both tropical storms and hurricanes get a name, like Charley and Fran. About 60-70 storms form off of Africa each year. Hurricane season is from June 1 to November 30. Ninety percent of all hurricanes hit in August, September and October.

The National Hurricane Center tracks storms as they happen. Computers look for data for warning signs of a developing storm. That is how meteorologists warn us on TV or radio of a storm.

This satellite image shows Hurricane Charley near the time when the storm's center, or eye, reached the west coast of Florida at Cayo Costa on Aug. 13, 2004

In the northern hemisphere, hurricanes spin counter clock wise around a center called an "eye". When a big storm starts to form, meteorologists begin to watch it closely. Some experts even fly into the eye to get a closer look. As the storm comes closer to land, advisories are sent out. When they get to land, storms turn north before cruising again back out to sea. But sometimes it doesn't work that way because there are unpredictable changes in temperature and wind patterns.

Every hurricane is different and has it's own personality. That is why each storm has it's own name. In the Atlantic, storms are names after people. In the Pacific, storms are names after flowers. The list of names are in alphabetical order and are replaced only when a big storm takes place. That way they become part of history.

Name _____ Date _____

TFK WORLD REPORT
READING A DIAGRAM

A HURRICANE'S LIFE

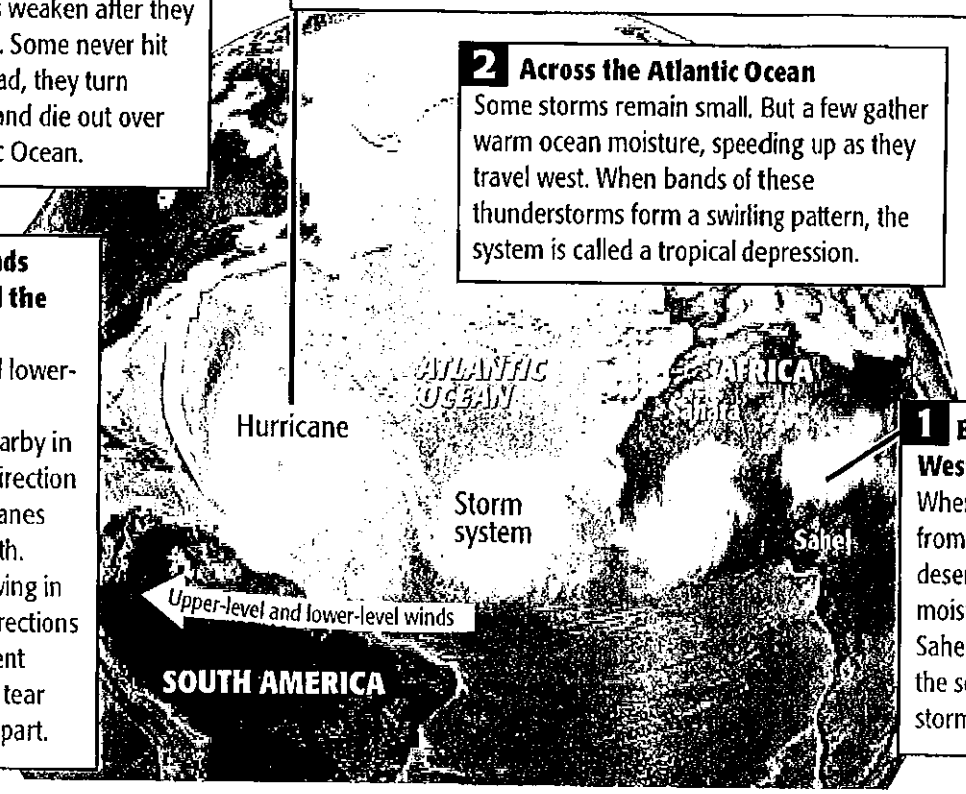
Hurricanes are born over Africa. The giant, swirling storms are fueled by wet weather, winds and warm ocean waters. Read the diagram to learn how hurricanes form. Then use it to help you answer the questions below.

3 Tropical storms and hurricanes
If the storm holds together, a column-shaped eye forms at its center. Winds spin around it, faster and faster. When winds reach 40 miles per hour, the system is called a tropical storm. When winds reach 74 miles per hour, it's a hurricane.

4 After the storm
Hurricanes weaken after they reach land. Some never hit land. Instead, they turn northeast and die out over the Atlantic Ocean.

2 Across the Atlantic Ocean
Some storms remain small. But a few gather warm ocean moisture, speeding up as they travel west. When bands of these thunderstorms form a swirling pattern, the system is called a tropical depression.

Other winds help build the storm
Upper- and lower-level winds blowing nearby in the same direction help hurricanes gain strength. Winds blowing in different directions or at different speeds can tear the storm apart.



1 Born in West Africa
When hot, dry air from the Sahara desert meets cooler, moist air from the Sahel region to the south, small storms form.

CHART FOR TIME FOR KIDS BY JOE ZEFF

1. Hurricanes are born over which continent? _____

2. What do hurricanes need to form? _____

_____

3. What is a tropical depression? _____

4. At which wind speed does a storm turn into a hurricane? _____

5. What happens to a hurricane's strength as it reaches land? _____

_____

BONUS: In which parts of the U.S. are people in great danger of being hit by hurricanes? Why?

Name _____ Date _____

TFK WORLD REPORT
READING A MAP

HURRICANE HITS IN THE UNITED STATES

Hurricanes hit the United States 165 times from 1900 to 2000. Follow the directions below to find out which states have been affected by these massive, swirling storms.

NOAA/NWS/TROPICAL PREDICTION CENTER

1. Find and shade the states that have been hit by hurricanes: Alabama, Connecticut, Florida, Georgia, Louisiana, Maine, Maryland, Massachusetts, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Rhode Island, South Carolina, Texas and Virginia.

2. Circle your state on the map. Have hurricanes hit your state? _____

3. What do you notice about the location of states that have been hit by hurricanes?

_____

_____

4. Read the cover story to find out which states were hit by Hurricane Katrina. Then put a check mark on each of the states.

5. Where are the states affected by Katrina located? _____

6. More than 50% of the U.S. population lives along the coast. Do you think people should continue to build homes along the coast? Why or why not?

_____

_____

Table Talk

Talk to a family member about the ways that people can stay safe during a hurricane. Write two examples on the back of this page.

HURRICANES

C K W F R A N C L F M V Q L F

D L A C I P O R T R I I C I R

F V J U S O J N C H A R L E Y

N X F U I I O V L H M T X D R

S F D X K J B W M Q P B J B I

R T E M P E R A T U R E J I Y

E I H U R R I C A N E S Q V E

T N W S P M R O T S N Y S A T

U Y W R N Y D G Y B T F E N A

P P R E D I C T I O N O B V M

M T S B T G H W A F I F R Y I

O D R X Y G O L R O E T E M L

C T P Y D S T T B W L S Z J C

N O I T A R O P A V E Z Y J G

T K S P O F Y E R V X T P W O

Charley
climate
computers
evaporation
eye
Fran
hurricanes
Ivan
meteorology
prediction
storm
temperature
tropical

What's In a Name?

1) Alex, Bonnie, Charley, Danielle, Earl, Frances, Gaston, Hermine, Ivan, Jeanne, Karl, Lisa, Matthew, Nicole, Otto, Paula, Richard, Shary, Tomas, Virginie, Walter
2) 10
3) Karl
4) 2014

Powerful Storms

1) 24
2) West Pacific
3) True
4) 9
5) The number of category 4 & 5 hurricanes has been increasing.

Hurricane Watch!

1) 5
2) 130
3) 8; 6
4) A category 5 hurricane causes severe damage to buildings, and evacuation for 10 miles.
5) There would be much more damage to buildings and destruction from a category 5 one.

A Hurricane's Life

1) Africa
2) Hot, dry air meets cooler, moist air
3) Bands of thunderstorms form a swirling pattern
4) 74 miles per hour
5) It weakens
6) On the East coast, because it's closest to the Atlantic Ocean

Hurricane Hits in the United States

3) They are on or near the East Coast or the Gulf Coast.
5) on the Gulf Coast

DURHAM PUBLIC SCHOOLS
Advanced Academics

Advanced Academics – Enrichment and Extension

Student Enrichment and Extensions K-12

How can YOU continue to support your learning while at home?

PURPOSE OF ENRICHMENT AND EXTENSION

Provides extended learning opportunities and challenges to students who have already mastered, or can quickly master, the basic curriculum.

Gives the student more time to study concepts with greater depth, breadth, and complexity.

Keeps advanced students engaged and supports accelerated academic needs.

Scavenger Hunt Walk Take a walk around the neighborhood. Look for plants, animals, and other objects found in nature such as an unusual spider web, tree bark that looks like another object, or behaviors of animals seen. Record your findings through pictures, writing, or drawings.	**Work and Learn** Talk to your adult family members, or neighbors about their job. What do they do each day? What connections can you make between their work and the subjects you are learning? What do they like best about their work? If they could change one thing, what would it be and why?	**Make a Splash** Using objects found around your house, create a model of a water slide. Use a marble or small ball to represent a rider. What happens when you raise or lower part of the slide? If you add a twist or loop, how does that impact the speed of the rider?
Design Something New Create with materials found around the house (jar lids, empty toilet paper rolls, shoeboxes, soda bottle or milk bottle caps, yarn, newspapers, etc.) What invention could you design with these materials? Or can you combine two objects to help solve a problem.	**Strategy or Luck?** Play a board game or card game with a family member. As you play, think about these things: *Is the game based on strategy or luck? In what ways could the rules of the game be changed to make it more challenging?* To learn more, research the history of the game and how it may have changed over time.	**Strategy or Luck –II** Create your own board game with a learning component. If your game is based on animals, research questions about animals to include. Will your game be based on luck or strategy? Be sure to write the directions and rules of play as you design your game.
Independent Study Make a list of 10 things that interest you, then select one to learn more about. How will you research the subject or person? In what way can you display your new knowledge? Perhaps it is to learn how to do something new (cook, sew, change the oil in your parents car, woodwork, etc.)	**Master Chef** Get busy in the kitchen learning how to prepare new recipes or creating recipes of your own. Do you enjoy decorating cakes or cookies? With this extra time, work on your technique. Stop and think – how is science, math, reading, and history a part of the culinary arts? How has it changed over time?	**You are the Author** Keep a daily journal of your experience during this pandemic. The journal could be a digital one that captures a picture from each day, an artistic one, or a personal narrative. Now is your chance to create a primary source historical document during this time.

The Four C's: To make any learning more meaningful, think/talk about the **connections** you can make to other learning, **concepts or big ideas worth remembering, changes** in your attitude or thinking as a result of the learning, and **challenges** you or others may need to overcome based on the content.

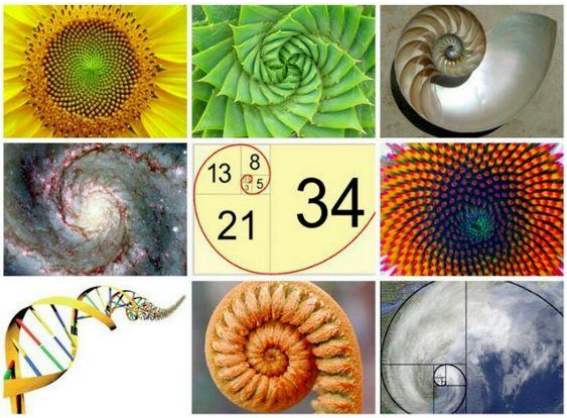
DURHAM PUBLIC SCHOOLS
Advanced Academics

Advanced Academics – Enrichment and Extension

Math in Nature

"What do hurricanes, galaxies, sunflowers, Mona Lisa, and the human ear have in common?"

Have you ever heard of the Fibonacci sequence or the Golden Ratio? It is based on the research of a famous Italian mathematician and goes as follows: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144 and on to infinity. Each number is the sum of the previous two and is found throughout nature.



"Where there is matter, there is geometry."
~ Johannes Kepler

Go on a nature walk outside or through the internet to find examples, such as the array of seeds in the center of a sunflower. You'll notice what looks like spiral patterns curving left and right. If you count these spirals, your total will be a Fibonacci number.

Research further to discover more about the Golden Ratio. Where are other examples of this in our world?

Think like Leonardo da Vinci

Leonardo da Vinci carried a notebook with him at all times so that he could jot down ideas, impressions, and observations as they occurred. His notebooks contained jokes and fables, the observations and thoughts of scholars he admired, letters, philosophical musings and prophecies, plans for inventions, and treaties on anatomy, botany, flight geology, water, and painting."
How to Think Like Leonardo da Vinci, M. Gelb

Grab a notebook and create a list of 100 questions. Most likely you will need to return to this several times to complete. Do you notice any key themes about yourself as you complete your list? Were questions easier to formulate when you first started or as you continued to work on your list?
Take time to reflect on your list and connections to your identity as a person, student, family member, and friend. Are there questions from this list that lead you to an independent study?

"Genius is made, not born. And human beings are gifted with an almost unlimited potential for learning and creativity."
Leonardo da Vinci

Spontaneous

We often need to "think on our feet" and look for quick *creative* responses. Challenge a family member or friend to play along.
In three minutes, how many answers can you give for things that:

- have a coat (painted wall)
- bounce (Kid on a trampoline)
- are read (people's minds)
- you fill (an empty stomach)
- are crunched (numbers)
- have lines (a play)
- are powerful (love)
- slide (time)
- contain the word ice (icing)

Create some of your own.

In three minutes, how many answers can you give:

- Multiple uses for a paperclip
- Multiple uses for a brick
- Multiple uses for a shoe
- A piece of advice
- Things that require a strategy
- Ways to earn money

Hands-On

- With 7 sheets of notebook paper, make a freestanding structure as tall as possible.
- With a deck of cards and some Cheerios or other cereal, build a structure with the cards that will support as many Cheerios as possible.
- With a 4" x 5" piece of aluminum foil, a tub of water and a pile of pennies, create a boat with the aluminum foil to hold as many pennies as possible.

Source: Odyssey of the Mind: Spontaneous Competitions

Connecting to the World Around You: In what ways can **you** make your time productive while at home?

Advanced Academics – Enrichment and Extension

Enrichment in Content Areas

Math and Science

Real-Life Math

If you have access to the internet, conduct research on how math in used in professions, such as Physical Trainer, Video Game Designer, Network Engineer, Marine Biologist, Fashion Designer, etc.

Real World Issues

If you have access to the internet, conduct research on real world issues related to the field of math and/or science. Think about:

- How this issue has changed over time
- The origin of the issue
- Ethical implications

Visual Representation: How could you display your research?

Compile facts and figures about the issue then create a data visualization that conveys the information in a clear and compelling way.

- Digitally: Create graphics and/or interactives and prepare them as if you will share them on social media and/or school website.
- Manually: Create posters and prepare them as if you will display them in your classroom to raise awareness

Or, research those "data facts" that astound people to display and analyze, such as the amount of food consumed at the zoo daily/weekly; Comparison of the "area" of various animal enclosures; Sports statistics; Number of McDonalds per state; Video games; Stadium facts such as food, ticket sales, merchandise; Fashion industry, etc.)

Higher Level Questioning

Use open ended problem solving tasks and questions that allow for multiple perspectives on representing mathematical thinking

- "What would happen if I switched these 2 numbers/ values?"
- "How does this problem relate to your world?"
- "Could you reach that same answer in a different way?"
- "Do you see a pattern? How would you extend that pattern?"

Critical Thinking Activities

Brain teasers – Example: Four people need to cross a rickety rope bridge to get back to their camp at night. Unfortunately, they only have one flashlight and it only has enough light left for seventeen minutes. The bridge is too dangerous to cross without a flashlight, and it's only strong enough to support two people at any given time. Each of the campers walks at a different speed. One can cross the bridge in 1 minute, another in 2 minutes, the third in 5 minutes, and the slow poke takes 10 minutes to cross. How do the campers make it across in 17 minutes?

Or this scientific one: What comes next in the sequence? H, Be, F, S, Mn, Kr, In, Gd, Tl, …?

To find more, google "Science Brain Teasers" or "Math Brain Teasers".

Strategy Games such as Sudoku, Chess, Checkers, Tangrams, etc.

DURHAM PUBLIC SCHOOLS
Advanced Academics

Advanced Academics – Enrichment and Extension

English Language Arts	**Create a Visual** Create a visual that captures the main idea or problem, important details, significance of the issue and poses potential solutions.	**From Nonfiction to Fiction** Write a fictional story that reflects the issue from a nonfiction article. >> What conflict exists? >> Is there an ethical issue to debate between characters?	**Compare and Contrast** Use a current article and compare and/or contrast it to a previously read article in order to make text-to-text connections.
	Persuasive Writing Has being at home given you ideas for changes to occur in school or in other areas of life? Create a blog (real or imaginary) to show your writing. Use the writing process and apply persuasive techniques.	**Media Messages** Create two contrasting media messages that use persuasive techniques to capture opposing sides of an argument. Be sure to capture the underlying reasons for both.	**Narrative Writing** Keep a daily journal of your experience during this pandemic. Now is your opportunity to create a primary source document during this historical time.
	Alternate Ending Create an alternate ending to the story/novel you complete. What would you do differently than the author?	**Write a Diary Entry** From the point of view of any character, write a diary entry. How might that character feel or think at that point in time? How does looking at a story from multiple perspectives make have more meaning?	**Soundtrack** If you were making a movie of the book or novel you just completed, what songs/ music would you include in the soundtrack? Why?
Social Studies/History	**Virtual Field Trip** Design a virtual field trip of North Carolina (or another state of your choosing) that highlights the geography, history, industry, notable historians, and remarkable attributes of that state.	**Online Museum** Create an online virtual museum documenting era of exploration, Colonial America, Revolutionary War, Civil War, Spanish America War, World Wars I & II, Cold War, Iraq War, etc.	**Community Problem** Research a community problem and identify its root causes. Create a proposal for public policy that addresses these issues and prepare a presentation that could be made to city official.
	Humanity Project How could you contribute to your community during this pandemic? • Create cards and letters for neighbors, hospital patients, nursing home residents, etc. • Make protective masks for hospitals • Plan for a larger project once the quarantine is lifted	**Graphic Novel** Create a graphic novel based on a historical figure or time period. • What elements would need to be added to hold a reader's attention? • What historical accuracies should be included? • Be sure to include time-period clothing and resources.	**Historical Monuments** Explore historical monuments, such as the Parthenon, Stonehenge, Chichen Itza, and Taj Mahal. Built hundreds, even thousands of years ago and without the technological advancements of today, these monuments show that we can achieve a lot more than we think.

DURHAM PUBLIC SCHOOLS

Arts Education Parent & Student At-Home Learning Support

Category	Materials	Description
K-2 Dance	Paper/writing utensils/music or sound/space to move safely Word Bank: pounce, recede, melt, march, glide, reach, Deflate, bend, advance, fling, slither, Hoover, gallop, twist, balance, tiptoe, press Dance levels: low, middle, high	**1234 SHAPE 5678...ACTION!** **Teacher: Mrs. Chinfloo** Phase 1: Can you be still for 4 counts- Freeze in place, but on count 5 you slither like a snake? Explore different ways to create interesting shapes and take off. Phase 2: What if you make a pattern? Examples: [shape,action,shape or shape, shape, action, shape, shape, action] How many other patterns can you create? Phase 3: Explore how altering your tempo(slow or quick) affects your actions!
3-5 Dance	Paper/writing utensils/music or sound/space to move safely Thesaurus Word bank: first, then, next, later on, finally and in the end. Literacy resources: Folktale,Fairytale Prose, poetry(Acrostic or Haiku) Example: Hair(Acrostic poem for dance) Hanging,heavily down my back Anchored and attached Interlocked inside each coil Reaching for some, receding for others - by TJChinfloo Haiku by Robert J. Rentschler Snow blankets the beds But look! Crazy crocuses Raise their yellow heads. Cool morning rain brings Out bright umbrella blossoms First flowers of spring	**Making A Movement Story** **Teacher: Mrs. Chinfloo** Phase 1:Recall the sequential order of your day or event. Write it out then divide the retelling into 3-parts. Act out the parts like a movie on mute. Then try it again but over exaggerate your arms. Each time you redo your story add interesting movements. Keep going until you can Retell your story from beginning to end with movement. Phase 2: Now try the same process in Phase 1 with your favorite Folktale or Fairytale. Follow the same process but add a few movements from a dance class. Phase 3: Now you can explore retelling a poem. Go online or look around your other learning materials for a poem you like. Apply all the steps in Phase 1 &2. Phase 4: Create your own poem or story! For this phase you can create an Acrostic/Haiku poem like the example. Pick as many topics as you like. Keep in mind you will perform it as a dance so consider lots of action words. This is where your Thesaurus will be handy.
6-8 Dance	Paper/writing utensils/music or sound/space to move safely Dance Elements: Body, Energy,Action, Time & Space	**Lights. Camera. ACTION!** **Teacher: Mrs. Chinfloo** You have been hired by your favorite recording artist to choreograph their next music video. Assignment Objectives:Select a dance genre that best suits the music genre to choreograph your dance. • Create a dance composition that fulfill aesthetic criteria including: clear beginning, development of an idea, resolution, and end. • Incorporate the use of a variety of the dance elements effectively.

		• Execute technical skills in selected dance movements. • Use self-reflection along with constructive feedback from the teacher to revise choreography. • Integrate the use of clarity, concentration, and focus while performing each phrase of submission. <u>Assignment Procedure</u>: Only select movements you can execute correctly with clarity. You may also incorporate inventive movements. Begin by making short dance phrases. Decide which choreographic form you want to focus on. Choose music thoughtfully. Maintain a daily log to document (written/photo journal) each step of your choreographic process listed. Mention your challenges as well as your successes!

9-12 Dance	Materials:
	Pencil/Pen
	Paper,
	Journal,
	Space to work safely and independently
	Listening device (optional)
	
	Dance levels:
	Beginning
	Intermediate
	Advanced/Honors
		<u>Choreographic Process Reflection</u> **Teacher: Ms. Leathers**
		
		Please write a thoughtful 2-3 page response on the following questions. Share your dance and writings with a friend, classmate or family member.
		
		• Are there emotional or physical joys or challenges, from our current environment that can be expressed through dance? Create a short (1-2 minute) dance-work, expressing that, incorporating various choreographic tools:
		  ○ Gestures
		  ○ Isolations
		  ○ Symmetrical movement
		  ○ Asymmetrical movement
		  ○ Abstract movement
		  ○ Levels (low, middle, high)
		  ○ Manipulation
		  ○ Beginning, Middle, End
		  ○ Emotion
		  ○ Sound (ie: music, poetry, clap, stomp, snap, etc.)
		• What does choreography and dancing help you investigate about yourself? When watching others? Working as a large or small group?
		• Can dance be used as a forum for social protest? How much or how little does the audience and/or community affect the work? Is dance an inspiration for activism?

K-2 Music	Word bank: dynamics (loud or soft), steady beat, rhythm, improvisation, melody, body percussion (clap, pat)	**<u>Listening Walk</u>** Go on a walk with your family around the house or outside. Keep track of 5 things you hear, close or far. • Are these sounds loud or soft? • What dynamic is each sound? • Does the sound keep a steady beat or does it use a rhythm? • Can you clap or pat the rhythm? **<u>Make up a Song</u>** • Make up your very own song about anything you want (improvisation); It can be about a picture, toy, nature, your family….ANYTHING! • Perform your song for your family, pets or stuffed

		animals **Practicing Vocal Techniques** • Practice using vocal techniques of singing, saying, whispering and humming your favorite songs • Challenge your family members to name that tune • Sing and dance along with songs on TV shows
3-5 Music	**Word bank: rhythm, soundscape, composition, melody,, quarter note (ta), eighth notes (ta-di), half note (ta-a), sixteenth notes (takadimi), pitch**	**Poetry or Favorite Book Soundscape** • Create a rhythm poem about Spring or use your favorite book • Have different characters represented by different sounds • Have different moods or emotions expressed in different sounds • Have different settings expressed by different sounds • Read the book and accompany with your soundscap • Perform for your family or have them participate. **Create a Band** • Look through your house and find items that can produce different sounds. • Create a 16-beat composition using already learned rhythms (ta, ta-di, ta-a, takadimi, etc.) • Teach it to your family **Mystery Melodies** • Fill 3 glasses with water • Tap the glasses gently with a utensil (fork, spoon, or knife) • Adjust the level of water in the glasses so that you have 3 different pitches • Can you play Hot Cross Buns?
6-12 Music (Student doesn't have instrument at home)	Pencil Paper Listening device	Reflective Song Journal Teacher: Ms. O'Dell STEP 1: Write the name of a favorite song that helps you find hope during a challenging time STEP 2: Ask a family member or guardian how this piece makes them feel and how music has helped them through a challenging time. Can the person sing or play the song? STEP 3: How did the person first hear the song? (someone else singing or playing, on the radio, at school, at a party, etc.) STEP 4: Draw a simple picture to go with the song OR write a few words or a few sentences about the song *Why is the song important or memorable to the person?*

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Arts Education Parent & Student At-Home Learning Support

6-12 Instrumental Music (Student has instrument at home)	Instrument, Method Book/Sheet Music, Pencil Paper	Practice Share Log-Goal: Evaluate the success of your practice. **Step 1: Set Goals**- Before you begin practicing, write down 3 things that you would like to improve during your practice time. (example: improve a scale that you are having trouble with, recognition of notes that are higher or lower than you are used to working with) **Step 2: Plan**- Write down the order of your practice session, decide how much time you will spend in each area. (Example: Long Tones- 3 minutes, Scales- 5 minutes, Line(s) from your book -5 minutes, Sheet music assigned by your director-10 minutes. **Step 3: Follow your practice plan!** **Step 4: Reflect**-Copy and answer the following questions. 1. What did you do when you came across a challenge? 2. Is there anything that you would do differently in your plan to give you more success with that challenge? **Step 5: Share!** Once you feel performance ready, play one of your practice successes for a family member or friend.

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Arts Education Parent & Student At-Home Learning Support

6-12 Chorus	Pencil Paper Optional - Device	*From Dorleen Fryling's blog, DorleenFryling.org 3/17/2020, Adapted for DPS Middle and High School Chorus by Amy Davis, Jeremy Nabors, and Alicia Jones - 3/24/2020* Greetings, singers! For this assignment, please pick ONE thing to do each week, between 4/6 and 4/24/2020. There is no way for us to replicate the beauty and benefits of singing together in real-time at this point, but we can do things to continue to thrive as musicians. Realizing that you all have different prior experiences and different ability levels, these learning experiences allow you to create, analyze, perform, explore, process, practice, learn from others, and learn by yourself. **__Create a chorus concert:__ Create a chorus concert of your own. Choose a total of five pieces for your choir to sing. It can be favorite songs from this year, previous years in chorus, EOE, All County. Include at least five choral pieces. Create a program to hand out to the audience. *Write the answer to this question – Which song is your favorite and what makes it your favorite? Use Musical Terms(rhythm, dynamics, tempo, etc)* ***__Commercial Jingles: Commercials are all around us on TV.__ Create a jingle (simple song in the commercial) for a real or imaginary product. Try your hand at jingle writing. Choose a word or phrase you want to remember, such as the date for your next social studies test. Then set the phrase to a familiar melody, your own tune or a rhythmic rap. Your goal is to help others easily remember the phrase. Share your commercial jingle with your family. Record it and email it to your teacher, if you can! **__Conduct an interview__: Ask a family member you're stuck with (or call someone) about their music making. Some possible questions are: Did they/do they have formal or informal music education? How do they prefer making music? What impact has music had on them? Do they think that all students should be exposed to music education? What memories do they have about music making? Write up a summary of your findings or record a video.
6-8 Theatre Arts	Paper and Pencil or Pen	ACTIVITY #1: - If there was a play written about what is going on in the world right now, what would the TITLE be? Draw a poster that would be used to advertise it. Include: TITLE OF PLAY, YOUR THEATRE NAME/LOGO, TICKET COST, DATES OF PERFORMANCES, AUTHOR OF PLAY, LOCATION OF PERFORMANCES. ACTIVITY #2: - Choose your favorite character from a movie or TV show. Create a VENN Diagram to show similarities between the character and yourself.

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Arts Education Parent & Student At-Home Learning Support

9-12 Theatre Arts	Paper and Pencil or Pen	ACTIVITY #1:
		- Write a ONE page monologue from YOUR perspective on how social distancing affects you.
		ACTIVITY #2:
		- Write a DUET scene between 2 people quarantined on a ship. Incorporate ONE OF THESE TOPICS:
		  - The last roll of toilet paper
		  - A reformed thief
		  - An expired prescription
		  - A loud crash
		  - A plea for forgiveness

K-2 Visual Arts	Paper, Pencil Optional: Mirror, Something to color with **NEED PAINT BRUSHES?** - **Q-Tips** - **Cotton balls** - **Clothespins holding** small sponges, cotton balls, or wadded up paper towels (these become disposable brushes) - **Clean Makeup Sponges** (with permission from the owner) - And of course….**fingers!**	Superhero Self Portrait! • Imagine you are a Superhero that is here to help save the day! Draw a picture of yourself in action! • Don't forget to include: your superhero costume complete with a mask and cape. • Once you have drawn yourself you can add in details showing off your super powers! • **Tip: Take a look in the mirror before you get started so you can study the features that make you unique!**
3-5 Visual Arts	Paper, Pencil Optional: Something to color with! NEED PAINT? **Kool Aid- dark**: rich flavors work best **Coffee or tea:** soft tones of browns and tan, can be darker or lighter like a pen and ink wash. **Juice:** Grape, Cranberry, Pomegranate **Powdered Kool Aid in the packets** : Mix the powder in 1/3 cup of water. It makes a more intense color, AND some flavors become **'Scratch and Sniff"** paint! Works like watercolor. **Old Waterbased (Crayola works great) Markers! :** Soak markers in jars/cups of water. After a few hours it turns into liquid watercolor!	Design the tallest building ever! • Imagine you are an architect. Draw a plan for the newest, tallest building in the world. How big will it be? How will it be shaped? Will it house people? Will it have windows? Where will it be located? • Sketch your building design in pencil. Once you like the shape of it, draw it in markers or a pen. Add other buildings or things around it to show how big it is and where it is located. • Fun Fact: Currently, the tallest building in the world is the Burj Khalifa in the Middle Eastern city of Dubai. It is 2717 ft (or 1/2 mile) high.

DURHAM PUBLIC SCHOOLS

Arts Education Parent & Student At-Home Learning Support

6-8 Visual Arts	Paper, Pencil, Colored Pencils, Markers.	**YOU'RE HIRED!** You just got hired by Kellogg's to design their new cereal box that will cater to kids your age. You must also come up with a new name and flavor for the cereal. Remember this is a campaign and you only have two weeks to complete this job and prepare it for presentation to the Kellogg's Art Director and Board members. You can use colored pencils, markers, and crayons if you like.
9-12 Visual Arts	Pencil, Paper Optional: Colored Pencils	Looking at Art: 1) Take a piece of paper and fold it in half hamburger style. 2) On one half, draw a sketch of a piece of artwork in your home(this could be from a magazine or book) a) Fill up the page b) Do a light pencil outline first (to make sure it all fits c) Shade it in using dark and medium values d) Add color if you have that option 3) On the other half answer these questions (see if you can fill the all of this half of the page): a) What would you TITLE the work? b) What do you think is going on in the artwork? c) What do you see that makes you say that? d) What more can you find? e) Repeat b) thru d) as many times as you can. 4) Now do the same for a piece of artwork that shows happiness in your home or from a book/magazine. 5) Then, take another sheet of paper and fold it in half. 6) On one half, draw NEW artwork that combines these two works in a creative way. 7) On the other half, write a STORY about the new artwork.

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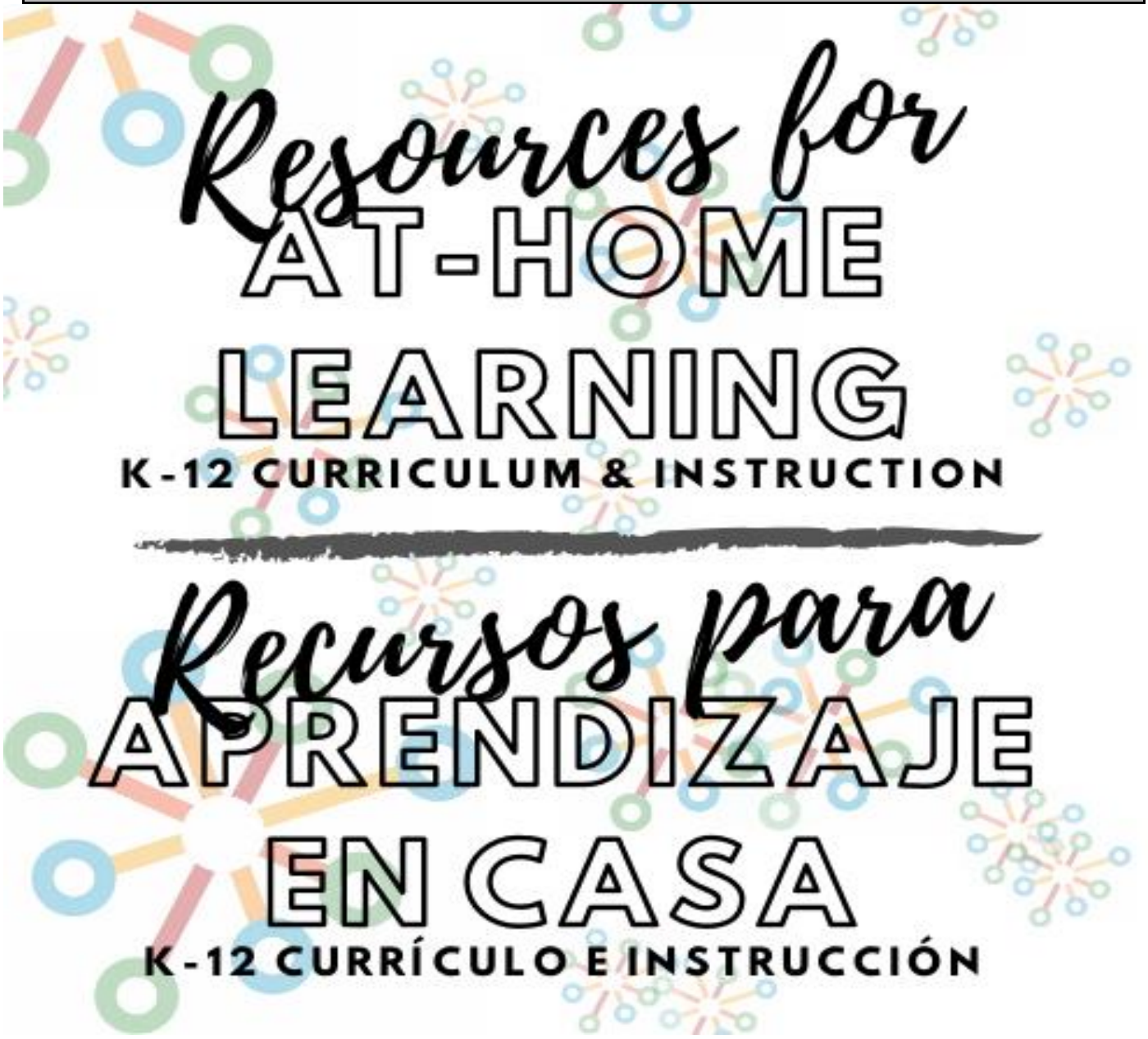
GRADES 6-8

Healthful Living (Health/PE)



These materials are supplemental and will not be counted for a grade; students will not be penalized if the packet is not completed.

Estos materiales son suplementarios y no serán contados como calificación; los estudiantes no serán penalizados si el paquete no se completa.

DPS Support Services

Name: _____

Fitness Log - Choose five of the following exercises to do each day

- 15 minute walk/ jog
- 30 Jumping Jacks
- 10 push-ups (3 times) https://www.youtube.com/watch?v=6_HVkk-P_3I
- 20 sit-ups (3 times) https://www.youtube.com/watch?v=1fbU_MkV7NE
- 20 air squats (2 times) https://www.youtube.com/watch?v=MPOat2sC1gI
- 30 second plank (3 times) https://www.youtube.com/watch?v=9d6j03p2ugQ
- 15 lunges (2 times) https://www.youtube.com/watch?v=kmOl81XqN8Q
- 15 Burpees (2 times) https://www.youtube.com/watch?v=dZgVxmf6jkA
- 30 seconds arm circles forward (3 times) https://www.youtube.com/watch?v=140RTNMciH8
- 30 seconds arm circles backwards (3 times) https://www.youtube.com/watch?v=XMoWi2TOxxE
- 30 Mountain Climbers (2 times) https://www.youtube.com/watch?v=zT-9L3CEcmk
- 30 second 6 inches (2 times) -https://www.youtube.com/watch?v=bmlUlbg53I8

When you have finished your exercises, please complete this cool down stretch ***EVERY DAY***!
https://www.youtube.com/watch?v=u5Hr3rNUZ24

	Exercise 1	Exercise 2	Exercise 3	Exercise 4	Exercise 5
Day 1					
Day 2					
Day 3					
Day 4					
Day 5					
Day 6					
Day 7					
Day 8					
Day 9					
Day 10					
Day 11					
Day 12					
Day 13					
Day 14					

Food Diary Log

Record the food that you eat daily. Be sure to write down the calories for ALL food you eat so that you can calculate your daily calorie intake total in the “Calories Eaten” column. If you run out of room, you can add an additional piece of paper.

Day	Breakfast	Lunch	Dinner	Snacks	Calories Eaten
Sunday					
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					
Sunday					
Monday					
Tuesday					
Wednesday					
Thursday					
Friday					
Saturday					

Pacer Test Worksheet

The pacer test is a variation of the Beep Test, and is part of the FitnessGram and Brockport test batteries. It is a maximal aerobic fitness test, where the participants run 20m shuttles at increasing speeds. The speeds and levels of the 20 meter PACER test is based on the original details of the shuttle run test developed by Leger et al. (1988).

Directions: Students will use the information above to complete the following items.

- **Total:** Students will add up all of the pacers they completed over the three attempts.
  Example: Pacer 1 (25), Pacer 2 (30), Pacer 3 (37). 25+30+37=92 The total number of pacers would be 92.
- **Average:** Students will use the Pacer Score Total and divide by 3. Students divide by 3, because that is the total number of pacers that have been run.
  Example: 92/3=30.7 (Round your average to the nearest tenth, 30.66666667 becomes 30.7).
- **25% of Average:** Students will find 25% of the Pacer Average, and complete the "25% of Average" column.
  Example: 30.7 ✕ 0.25= 7.7 (Round to the nearest tenth, 7.675 becomes 7.7).
- **Pacer 4:** You will add together the "average", and the "25% of average" to find the "Projected Pacer 4" score needed for a student to earn a 100 on their final pacer test.
  *Example: 30.7+7.7= 38.4. (Round **up** to a whole number). The correct answer would be 39 pacers.*

Name	Pacer 1	Pacer 2	Pacer 3	Pacer Score Total	Pacer Average	25% of Average	Projected Pacer 4
Justin L.	25	30	37	92	30.7	7.7	39
Roy C.	21	17	29				
Mayor S.	20	25	15				
Pascal M.	29	31	35				
David H.	45	53	59				
Coach K.	4	7	3				
Zion W.	29	37	42				
Roy W.	3	5	7				
PeeDee P.	61	61	61				
Nick E.	52	57	61				
Jermaine C.	58	59	60				
Sugar Ray L.	15	24	36				
Beast R.	30	21	13				
Zach G.	5	7	9				

DURHAM PUBLIC SCHOOLS
Career & Technical Education

CTE Career Development Remote Learning Activities

This packet contains 12 activities that you can work on to increase your career development skills during the unexpected closure of schools. Activities are designed to reinforce the learning that has already taken place in the different CTE classrooms during the 2019-20 School Year. These activities are for supplemental learning and are not required.

Activity #1: Writing Prompt

Directions: Draft a 5-paragraph essay using the following prompt:

How has the COVID-19 pandemic affected your current future job or your chosen career pathway?

When drafting your essay, please use the rubric below as your guide and Self-Evaluation.

Traits	4	3	2	1
Focus & Details	There is one clear, well focused topic. Main ideas are clear and are well supported by detailed and accurate information.	There is one clear, well focused topic. Main ideas are clear but are not well supported by detailed information.	There is one topic. Main ideas are somewhat clear.	The topic and main ideas are not clear.
Organization	The introduction is inviting, states the main topic, and provides an overview of the paper. Information is relevant and presented in a logical order. The conclusion is strong.	The introduction states the main topic and provides an overview of the paper. A conclusion is included.	The introduction states the main topic. A conclusion is included.	There is no clear introduction, structure, or conclusion.
Voice	The author's purpose of writing is very clear, and there is strong evidence of attention to the audience. The author's extensive knowledge and/or experience with the topic is/are evident.	The author's purpose of writing is somewhat clear, and there is some evidence of attention to the audience. The author's knowledge and/or experience with the topic is/are evident.	The author's purpose of writing is somewhat clear, and there is evidence of attention to the audience. The author's knowledge and/or experience with the topic is/are limited.	The author's purpose of writing is unclear.
Word Choice	The author uses vivid words and phrases. The choice and placement of words seems accurate, natural, and not forced.	The author uses vivid words and phrases. The choice and placement of words is inaccurate at times and/or seems overdone.	The author uses words that communicate clearly, but the writing lacks variety.	The writer uses a limited vocabulary. Jargon or clichés may be present and detract from the meaning.
Sentence Structure, Grammar, Mechanics, & Spelling	All sentences are well constructed and have varied structure and length. The author makes no errors in grammar, mechanics, and/or spelling.	Most sentences are well constructed and have varied structure and length. The author makes a few errors in grammar, mechanics, and/or spelling, but they do not interfere with understanding.	Most sentences are well constructed, but they have a similar structure and/or length. The author makes several errors in grammar, mechanics, and/or spelling that interfere with understanding.	Sentences sound awkward, are distractingly repetitive, or are difficult to understand. The author makes numerous errors in grammar, mechanics, and/or spelling that interfere with understanding.

Activity #2: Post-Secondary Research Project

Furthering Your Education

For this assignment, you will be researching THREE post-high school educational options.

(Access to the internet is needed for this activity. If you do not have access, please move to the next activity.)

This is a partial list of some secondary options for students:·

- Durham Technical Community College
- Wake Technical Community College
- NC Central University
- Duke University
- Any other 4 year colleges that you are interested in
- Any other post secondary training programs that you are interested in

Questions to consider when researching:

School 1: (Name)

1. Name one area of study that is offered at this school that interests you.
2. What is the length of the program you are interested in?
3. What is the cost of tuition?
    a. Per credit hour:
    b. Per semester:
    c. Full program:
4. List at least 3 classes you think will be interesting in this program and explain why:
5. List 3 positives and 3 drawbacks to this school as a choice for you.
6. List 3 things you find interesting about this school.

Helpful resources: mynextmove.org, cfnc.org, xello.world

Activity #3: Writing and Revising Activity

Directions: Revise the 5-paragraph essay you wrote on day 1. As with any piece of writing, you should revisit your original writing to revise and improve your first draft. It can be beneficial and effective to have someone else read your writing and offer feedback. This can be a family member, friend, or fellow student.

How has the COVID-19 pandemic affected your current job or your chosen career pathway?

When drafting/revising your essay, please use the rubric on **page 1** as your guide for Self-Evaluation.

Activity #4: Writing Activity

Directions: Describe a day in the life of 5 pieces of equipment or tools for one specific career.

For example, describe a day in the life of a Chef and possible tools and equipment found in a restaurant's kitchen. Selected items might include: measuring cup, blender, oven, fryer and dishwasher. You might choose a Nurse and decide to include the following items: a stethoscope, PPE, blood pressure cuff and defibrillator found in a doctor's office or hospital.

You can create a 1 paragraph written caption for each tool or equipment you choose. Adhere to proper grammar and sentence mechanics for each paragraph. When drafting your paragraphs, please use the instructions and rubric below as your guide. Each paragraph will be assessed individually.

For your writing assignment, use the Self-Evaluation Criteria rubric located on **page 1**.

Activity #5: Soft Skills
Modeling & Conversation

When it's time to go to college or take a job, in addition to academic knowledge and vocational skills, students also need those "soft skills," otherwise known as job readiness skills. Soft skills are those characteristics that help you function as an individual (motivation, self-confidence, and flexibility) as well as within a group (teamwork, negotiation, and respect). When it comes to school and workplace success, these skills are key.

Directions: Choose two (2) skills from the table provided below. Take a few minutes to talk to a friend or family member to develop a better understanding of the two skills that you chose. You can look up the words in the dictionary, have friends or family members talk about personal experiences, reflect on your own experiences or even go online for a better understanding and examples. Once you feel that you have a clear understanding of the two skills, come up with a good way to explain it to your classmates, friend, neighbor or family member as well as two ways to model the skill—including the "wrong" way and the "right" way to model the skill. You can share the explanation and models with your family members, neighbor or a friend. Consider doing the same activity with the other skills listed on the table below:

What are soft skills? Personal character traits and interpersonal skills for working with others.						
Communication	Teamwork	Problem-Solving	Critical Thinking	Using Technology	Time Management	Self-Confidence
Interviews	Work Ethic	Motivation	Listening	Respect	Responsibility	Stress Management
Flexibility	Patience	Interpersonal Skills	Negotiation	Networking	Presentation Skills	

Activity #6: Career Success Skills Vocabulary

Directions: Complete a Frayer Model vocabulary graph for each of the terms in the chart below.

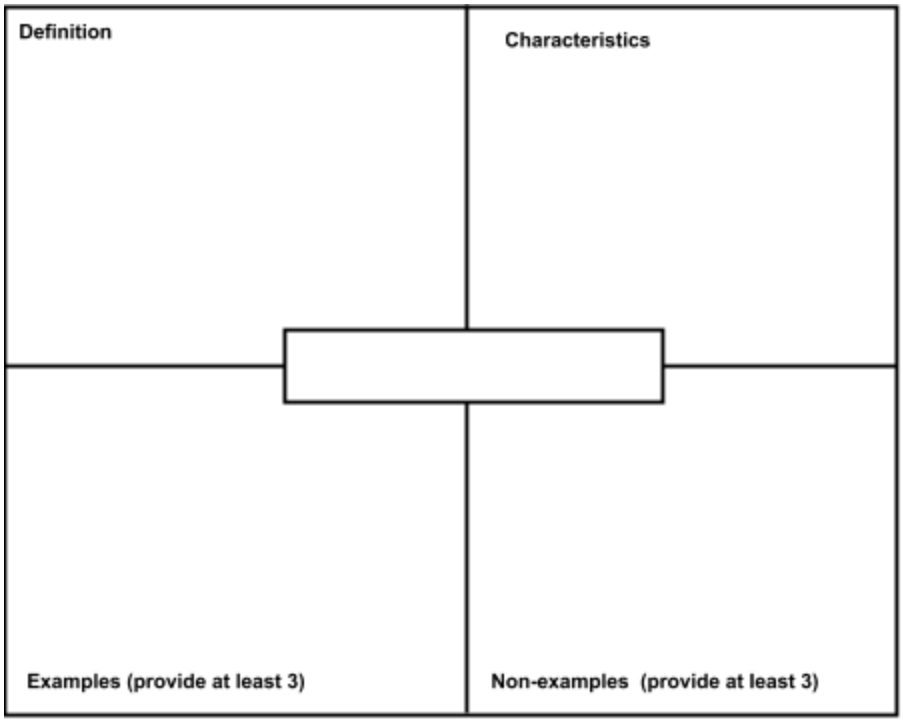
The following 12 terms represent skills that today's students need to succeed in their careers. These skills are intended to help students keep up with the lightning-pace of today's modern markets. Each skill is unique in how it helps students, but they all have one quality in common. Below are the terms and definitions associated with these skills.

Terms/Skills	Definitions
Critical thinking	Finding solutions to problems
Creativity	Thinking outside the box
Collaboration	Working with others
Communication	Talking with others
Information literacy	Understanding facts, figures, statistics, and data
Media literacy	Understanding the methods and outlets in which information is published
Technology literacy	Understanding the machines that make the Information Age possible
Flexibility	Deviating from plans as needed
Leadership	Motivating a team to accomplish a goal
Initiative	Starting projects, strategies, and plans on one's own
Productivity	Maintaining efficiency in an age of distractions
Social skills	Meeting and networking with others for mutual benefit

How to Use a Frayer Model

The Frayer Model is a strategy that uses a graphic organizer for vocabulary building. This technique requires students to (1) define the target vocabulary words or concepts, and (2) apply this information by generating examples and non-examples.

Directions:
On a separate sheet of paper, please draw a Frayer Model (see template below) for each of your vocabulary terms. Then place the vocabulary term in the middle of the Frayer Model and complete the four-square organizer for each term.



Activity #7: Self Assessment: Work Values

Job satisfaction comes from having a job that meets your expectations and satisfies your needs. The list below includes a number of things people want or value in their job. Not all these values are met each day. However, choosing an occupation that meets most of your work values is important.

Directions: Think about what you want from an occupation. From the list below:

1. Check the values that are **most** important to you.
2. Add work values not mentioned which are also important to you.
3. Re-write and prioritize the list from 1-10.

Put what you value most as #1, and proceed down the list to what you value the least, or is not important to you, as #10

JOB VALUES:

_____1. Adventure — working in a job that requires taking risks
_____2. Prestige — having an important position
_____3. Creativity — finding new ways to do things
_____4. Helping others — working in the assisting and caring of other people
_____5. High earnings — being well paid for the standard of living you want
_____6. Variety of duties — having several different things to do
_____7. Independence — deciding how to do my work
_____8. Exercising leadership — being able to direct and influence others
_____9. _____
_____10. _____

Activity #8: Research Paper: Entrepreneurs

Directions: ***(Access to the internet is needed for this activity. If you do not have access, please move to the next activity.)***

1. Select a person or company from the list below.

2. Research and include the following information in your paper:
   a. Factual data about the entrepreneur: birth date, marital status, children, education. ***OR***
   b. Factual data about the company: name, address, telephone number, date the company was founded, current revenues, number of employees, amount of the original investment, and the current value of the company.

3. Describe the following for companies:
   a. The company's key mission
   b. How the company originated (early experiences).
   c. How business growth was managed.
   d. How obstacles were overcome.

4. Relate, if possible, the entrepreneur's or industry's:
   a. "keys to success"
   b. future vision
   c. lessons learned
   d. inspiring comments

3Com Corp	Spectrum	Nike, Inc.	Best Buy	Apple
Duke University	Ashley Furniture	Home Shopping Network	JetBlue Airways	Compaq Computer
Sun Microsystems	Dell Computer Corp	Crop Genetics International	GSK	Steve Jobs
James Edgar Broyhill	Duplin Winery	Kate Spade	Oprah Winfrey	Mrs. Fields' Cookies
L. A. Gear, Inc.	McDonald's Corp	Netflix	SAS	FHI360
Biscuitville	Chick-fil-a	Pepsi	Any other entrepreneur or company that you would like to learn more about or have a personal connection	

Activity #9: Likes and Dislikes

Directions: Answer the following questions to discover more about yourself.

1. Describe your present lifestyle. What are your hobbies? What do you do when you are not working or in school?
2. What part(s) of your life do you enjoy the most? Time with your family? Learning new things? Hanging out with friends? Other?
3. What part(s) of your life do you dislike? Do you expect this to change soon?
4. Who are the most important people in your life? How do they influence your decisions?
5. If you have work experience or have participated in an internship or job shadowing, what are the things about your current or past jobs that you liked and disliked? List 3 likes and 3 dislikes.
6. List 4 careers you have thought about doing. Describe why you're interested in each occupation.

Activity #10: Work Values Activity

Directions: Answer the following questions. This exercise is intended to help you learn from your past and design your future!

1. Through the years, has your family identified with a particular career cluster? In other words, if someone asked you "What did your ancestors do?" What would you say?
2. Can you think of one piece of advice that has been handed down through your family that reflects the work values held by your ancestors? What is it? (You might think of this as your "family motto")
3. Who in your family has been considered "successful"?
    a. Why? How did this success affect other family members?
4. What can you remember about particular family members' attitudes toward work?
    a. What were you encouraged to believe about the value of work?
    b. Did your family discuss work issues? If yes, what was the "gist" of the discussions? If no, why do you think this topic was avoided?
5. Try to recall incidents in your life that affected your thinking or feelings about the world of work. It may be helpful to think about these questions in five year time blocks: i.e. first five years of your life, second five years, etc.).
    a. The value of work:
    b. Work choice:
6. With your family in mind finish these sentences:
    a. As a boy/man or girl/woman, I must:
    b. As a boy/man or girl/woman, I must not:
7. How do you think all this relates to your work attitude/career choice?

Activity #11: Career Style Interview

Directions: Please answer the seven questions below. After you have completed the activity yourself, interview someone in your household (or remotely by phone) with these same questions. Examine how that person chose their particular career and if it complements or goes against their preferred style.

1. Whom did you admire when you were growing up? Tell me about him or her.
2. What magazines do you read regularly? What do you like about them? What TV show do you really enjoy? Why?
3. Tell me about your favorite book/movie.
4. What do you like to do with your free time? What are your hobbies? What do you enjoy about these hobbies?
5. Do you have a favorite saying or motto? Tell me a saying you remember hearing.
6. What were your favorite subjects in middle school and high school? Why? What subjects did you hate? Why?
7. What are your earliest recollections? I am interested in hearing three stories about things you recall happening to you when you were between three and six years old.

Activity #12: Time Capsule Letter

Directions: Complete the letter to yourself in order to 1) record specific details about your life at this moment 2)reflect on what is important to you, and to 3)reflect on how to envision your future.

Graduation *(Your graduation year):*_____

Dear *(Your name):* _____

Congratulations on graduation! This is a big accomplishment and there are great things in store for you. I know you are college and career ready because you have worked hard during high school to prepare.

You are academically eligible because you have____

You have a growth mindset (understanding that the ability to learn is not a fixed quantity, but a skill that continues to develop over time) because you have _____

You take ownership of learning because you have _____

You have a high school and beyond plan and you are headed to _____

You are ready to transition to college and career because you have _____

Your hard work in high school has really paid off! Now you're ready for the future. Next year, I predict you will be _____

Sincerely,

_____