8th Grade FUESD Study Plan Week of May 11th

Week 8 Monday/ lunes	Tuesday/ martes	Wednesday/ miércoles	Thursday/ jueves	Friday/viernes

ELA
• Read 30 minutes independently
• 1 Lexia/or Reading Plus Lesson
• Daily Writing Journal
 	
Science
• Read *How Big is Our Universe?* (pgs. 2-3)
• Work on the Comprehension Activities
 	
Social Studies/ ELD Connection
• ELD Monday
  • Read *The 13th Amendment*
  • Answer *The 13 Amendment* Text Dependent Questions
 	
Math
• 1 Dreambox or ST Lesson
• Powers Notes 1
• Powers Notes 2
• Powers Practice
• Powers Answer Sheet
• Powers Answer Key
 	
PE
• PE Week 8
 	
"Leadership" Activities:
Leadership Activities:
• Kindness and Compassion
• FUESD SEL Resources
	ELA
	• Read 30 minutes independently
	• 1 Lexia/or Reading Plus Lesson
	• Read: *The Forgotten Island*
	• Answer the Multiple Choice questions
	
	Science
	• Read *How Big is Our Universe?* (pg.4)
	• Work on the Comprehension Activities
	
	Social Studies/ ELD Connection
	• ELD Tuesday
	• Read *Creating a Constitution*
	• Work on the Graphic Organizer
	
	Math
	• 1 Dreambox or ST Lesson
	• Negative Exponents Notes
	• Negative Exponents Practice 1
	• Negative Exponents Answer Sheet
	• Negative Exponents Answer Key
	
	PE
	• PE Week 8
	
	Leadership Activities:
	• Kindness and Compassion
	• FUESD SEL Resources
		ELA
		• Read 30 minutes independently
		• 1 Lexia/or Reading Plus Lesson
		• Daily Writing Journal
		
		Science
		• Read *How Big is Our Universe?* (pgs. 5-6)
		• Work on the Comprehension Activities
		
		Social Studies/ ELD Connection
		• ELD Wednesday
		• Read *Creating a Constitution*
		• Work on the Graphic Organizer
		
		Math
		• 1 Dreambox or ST Lesson
		• Negative Exponents Practice 2
		• Negative Exponents 2 Answer Sheet
		• Negative Exponents Answer Key
		
		PE
		• PE Week 8
		
		Leadership Activities:
		• Kindness and Compassion
		• FUESD SEL Resources
			ELA
			• Read 30 minutes independently
			• 1 Lexia/or Reading Plus Lesson
			• Read *The Forgotten Island*
			• Answer the text dependent questions
			
			Science
			• Read *How Big is Our Universe?* (pg. 7)
			• Work on the Comprehension Activities
			
			Social Studies/ ELD Connection
			• ELD Thursday
			• Read *Creating a Constitution*
			• Work on the Graphic Organizer
			
			Math
			• 1 Dreambox or ST Lesson
			• Roots Notes
			• Roots Practice
			• Roots Answer Sheet
			• Roots Answer Key
			
			PE
			• PE Week 8
			
			Leadership Activities:
			• Kindness and Compassion
			• FUESD SEL Resources
				ELA
				• Read 30 minutes independently
				• 1 Lexia/or Reading Plus Lesson
				• Daily Writing Journal
				
				Science
				• Read *How Big is Our Universe?* (pgs. 8-9)
				• Work on the Comprehension Activities
				
				Social Studies/ ELD Connection
				• ELD Friday
				• Read *Creating a Constitution*
				• Work on the Storyboard
				
				Math
				• 1 Dreambox or ST Lesson
				• Exponent Rules GimKit
				
				Math Challenge Yourself
				• Fast Growing Plants
				• Fast Growing Plants Answer Sheet
				•
				• Fast Growing Plants Answer Key
				
				PE
				• PE Week 8
				
				Leadership Activities:
				• Sharpen the Saw
				  • Kindness and Compassion
				  • FUESD SEL Resources

8 Grado - Plan de Estudio de FUESD - 11 de mayo

Semana 8 lunes	martes	miércoles	jueves	viernes
ELA/ SS • Leer 30 minutos independiente • 1 Lección del programa Lexia/o Reading Plus en la computadora • Escribir en su diario de entrada de todos los días **Ciencias** • Leer *How Big is Our Universe?* (pgs. 2-3) • Work on the Actividad de Comprensión Coneccion de ELD/SS • ELD lunes • Leer *The 13th Amendment* • Contestar las preguntas de comprensión para Matematicas • 1 leccion del programa Dreambox o ST Math • Powers Notes 1 • Powers Notes 2 • Powers Practice • Powers Answer Sheet • Powers Answer Key PE • PE semana 8 Actividades de "Leadership": • Kindness and Compassion • FUESD SEL Resources	ELA/ SS • Leer 30 minutos independiente • 1 Lección del programa Lexia/o Reading Plus en la computadora • Leer *The Forgotten Island* • Contestar las preguntas de comprensión **Ciencias** • Leer *How Big is Our Universe?* (pgs. 2-3) • Work on the Actividad de Comprensión Coneccion de ELD/SS • ELD martes • Leer Creating a Constitution • Trabaja en el organizador gráfico Matematicas • 1 leccion del programa Dreambox o ST Math • Negative Exponents Notes • Negative Exponents Practice 1 • Negative Exponents Answer Sheet • Negative Exponents Answer Key PE • PE semana 8 Actividades de "Leadership": • Kindness and Compassion • FUESD SEL Resources	ELA • Leer 30 minutos independiente • 1 Lección del programa Lexia/o Reading Plus en la computadora • Escribir en su diario de entrada de todos los días **Ciencias** • Leer *How Big is Our Universe?* (pgs. 2-3) • Work on the Actividad de Comprensión Coneccion de ELD/SS • ELD miércoles • Leer Creating a Constitution • Trabaja en el organizador gráfico Matematicas • 1 leccion del programa Dreambox o ST Math • Negative Exponents Practice 2 • Negative Exponents 2 Answer Sheet • Negative Exponents Answer Key PE • PE semana 8 Actividades de "Leadership": • Kindness and Compassion • FUESD SEL Resources	ELA • Leer 30 minutos independiente • 1 Lección del programa Lexia/o Reading Plus en la computadora • Leer *The Forgotten Island* • Contestar las preguntas de comprensión **Ciencias** • Leer *How Big is Our Universe?* (pgs. 2-3) • Work on the Actividad de Comprensión Coneccion de ELD/SS • ELD jueves • Leer Creating a Constitution • Trabaja en el organizador gráfico Matematicas • 1 leccion del programa Dreambox o ST Math • Roots Notes • Roots Practice • Roots Answer Sheet • Roots Answer Key PE • PE semana 8 Actividades de Leadership": • Kindness and Compassion • FUESD SEL Resources	ELA • Leer 30 minutos independiente • 1 Lección del programa Lexia/o Reading Plus en la computadora • Escribir en su diario de entrada de todos los días **Ciencias** • Leer *How Big is Our Universe?* (pgs. 2-3) • Work on the Actividad de Comprensión Coneccion de ELD/SS • ELD viernes • Leer Creating a Constitution • Terminar organizador gráfico Matematicas • 1 leccion del programa Dreambox o ST Math • 1 Dreambox or ST Lesson • Exponent Rules GimKit Math Challenge Yourself • Fast Growing Plants • Fast Growing Plants Answer Sheet • Fast Growing Plants Answer Key PE • PE semana 8 Actividades de "Leadership": • Afila la sierra • Kindness and Compassion • FUESD SEL Resources

Goldfish

Writing Prompts Ideas

- In the distance, the goldfish could see…
- As I floated in the water with the sun shining on my back…
- Ready or not, here I come…

Five Ws and One H

Who...

- Who is the character?

Where…

- Where is the character?

When…

- When did the event take place?

Why...

- Why is the character there?
- Why did this happen?
- Did something cause this to happen?

What...

- What is happening?
- Can you provide more detailed information?

How...

- How did the character get there?

- How did the character get out of their situation?
- How did this happen?
- Can you provide more information to prove this?

Monday: Write the beginning of the story using one of the given "**Writing Prompt Ideas**."

Wednesday: Write the middle of the story.

Friday: Write the end of the story.

The Forgotten Island

by ReadWorks

When Lina awoke, she was alone on the island. The air was cool and bullfrogs croaked. It was that brief moment when the sun had set but the stars hadn't yet appeared. The whole sky was an indeterminate shade of deep blue, as though the moon were a nervous actress afraid to take her place on the stage. Lina rubbed her eyes and looked around.

"Hello?" she called. "Cesar? Marie?"

There was no response.

The moon was rising now, shedding light on the island. They had always called it "The Forgotten Island" because no one but them seemed to remember its existence. It wasn't on any of the maps they could find, and the park rangers didn't know about it. But its obscurity didn't bother the island. It just kept on existing. Lina secretly loved that the island was a secret between the three of them-her, Cesar, and Marie.

Lina remembered the day they had found the island. The Tennessee River was long and had several tributaries. In the hot summer days when there was no school, they would take Marie's father's boat down the river, exploring the side streams. It was two summers ago that they discovered The Forgotten Island.

But now Lina was alone, and it was night. Swimming in the river at night was dangerous. The river was treacherous, moving at a lazy pace most of the time but able to change into a roaring torrent within a few short minutes. Lina heard a far-off boom. Thunder. Of course.

She sighed. It was her own fault she was stuck in this situation.

"Come on, Lina, let Marie steer," Cesar had said. Marie was two years older than Lina, but much more timid and unsure on the water. Lina had given Marie the rudder, only to watch her move the boat around aimlessly in circles. In the end, Lina had snatched the rudder back to steer them to the island. Marie had sat to the side, silent and with tears slowly sliding down her cheeks. Marie always did know how to win sympathy.

They had argued then, and Cesar took Marie's side, the same way that Cesar always took Marie's side. Lina had exploded and yelled at them to just leave. So they left. Afterwards, she paced the island, looking into the horizon, watching for the boat to return. Eventually she grew tired of waiting and lay down in the sand. The summer heat was oppressive, the air thick with moisture that stuck in

your throat every time you took a breath. She had assumed Cesar and Marie would wake her up when they returned. She would apologize and everything would be fine. Except now it was nighttime, with a storm approaching, and she was all alone on the island.

"Lina. Get a grip."

Just saying the words out loud made her feel better, stronger. Lina saw the first flash of lightning. She counted the seconds-one, two, three, four, five, six, seven, eight, nine, ten-before she heard the boom of thunder. The thunder was louder now as the storm neared. She pulled her jacket around her chest tighter. If it were storming, no one would be able to bring a boat to find her on the island. If Cesar and Marie were stuck on the river during the storm, they might be in even more danger than she was.

The Tennessee River could be fickle in the summer, and this was just the type of storm that could bring about a surge of rapids. Lina felt the first cold raindrop slide down her neck, and her mind returned to her own predicament. At least Marie and Cesar had each other. She was stuck on this narrow slice of land by herself. She just hoped she didn't become as forgotten as the island.

"Stay calm, stay calm, Lina," she said, but this time she said it silently, in her head. Thunder boomed loudly in the distance. What were her options? She could try to swim to shore, but she had never been the strongest swimmer, and the river's current was already quickening as the rain began to fall harder. She could wait out the storm in the hopes that by morning someone would come to retrieve her. She made her way to the beach on the east side.

She slid down to the beach, quietly. Lina knew this island, and she knew how to move without startling the birds that nested in the grass. She reached the beach and lay down. Now there was no sound but the bullfrogs and the steady patter of raindrops.

Suddenly, Lina spotted something in the water. It was Marie's father's boat, and inside it were Marie, Cesar, and Marie's dad himself. As the boat approached, it became clear that Marie's dad was the one steering through the turbulent river. Lina breathed a deep sigh, expelling her anxiety, and went running toward the water, waving her hands frantically. She saw the expressions on the faces in the boat turn, simultaneously, to relief.

It was proving difficult for Marie's dad to reach the edge of the beach; the wind kept turning the boat away from the sand, pulling the boat's nose back. In her gratitude and eagerness to get off the island, Lina jumped into the river. Only once she was submerged in the icy water did she stop to think: If Marie's dad couldn't battle the current in his boat, how would she be able to? But before she could panic or take so much as a single stroke, she had already drifted up to the side of the small vessel. A cluster of arms reached into the water for her own, and hauled her up and out. She smiled weakly at Marie's dad and, without a word, clutched Cesar and Marie in a cold group hug. They didn't seem to mind becoming wet.

The summer continued, and Lina and Cesar taught Marie how to steer the boat. But they never returned to the island. There were other side streams to explore.

Name: _____ **Date:** _____

1. What is The Forgotten Island?

A. an island in the Mediterranean Sea that has sunk below the surface of the water

B. an island that is said to exist in the Pacific Ocean but has never been found

C. an island in the Tennessee River that almost nobody knows about

D. an island off the coast of Florida that was once inhabited but is now deserted

2. Which character does Marie have a conflict with in the story?

A. Cesar

B. a park ranger

C. Lina

D. her dad

3. Read these sentences from the text.

Come on, Lina, let Marie steer,' Cesar had said. Marie was two years older than Lina, but much more timid and unsure on the water. Lina had given Marie the rudder, only to watch her move the boat around aimlessly in circles. In the end, Lina had snatched the rudder back to steer them to the island. Marie had sat to the side, silent and with tears slowly sliding down her cheeks. Marie always did know how to win sympathy.

Based on this evidence, why does Marie cry?

A. She is upset that Cesar has not been given a turn to steer the boat.

B. She is upset that Lina takes the rudder back.

C. She is upset that Cesar has come along with her and Lina.

D. She is upset that Lina is younger than she is.

4. Read these sentences from the text.

The Tennessee River could be fickle in the summer, and this was just the type of storm that could bring about a surge of rapids. Lina felt the first cold raindrop slide down her neck, and her mind returned to her own predicament. At least Marie and Cesar had each other. She was stuck on this narrow slice of land by herself. She just hoped she didn't become as forgotten as the island.

'Stay calm, stay calm, Lina,' she said, but this time she said it silently, in her head. Thunder boomed loudly in the distance. What were her options? She could try to swim to shore, but she had never been the strongest swimmer, and the river's current was already quickening as the rain began to fall harder. She could wait out the storm in the hopes that by morning someone would come to retrieve her. She made her way to the beach on the east side.

How is Lina feeling in these two paragraphs?

A. Lina is feeling concerned about her safety.

B. Lina is feeling furious at Marie and Cesar.

C. Lina is feeling guilty about how she treated Marie.

D. Lina is feeling proud of herself.

5. What is a theme of this story?

A. The best way to resolve a disagreement with someone is to talk about it with that person.

B. A person's age is less important than a person's level of ability.

C. Even when friends get into fights, they still care about each other.

D. A person's level of ability is less important than a person's age.

6. Read these sentences from the text.

Suddenly, Lina spotted something in the water. It was Marie's father's boat, and inside it were Marie, Cesar, and Marie's dad himself. As the boat approached, it became clear that Marie's dad was the one steering through the turbulent river. Lina breathed a deep sigh, expelling her anxiety, and went running toward the water, waving her hands frantically. She saw the expressions on the faces in the boat turn, simultaneously, to relief.

It was proving difficult for Marie's dad to reach the edge of the beach; the wind kept turning the boat away from the sand, pulling the boat's nose back.

What does the phrase "the boat's nose" probably mean?

A. the front of the boat
B. the left side of the boat
C. the right side of the boat
D. the back of the boat

7. Read these sentences from the text.

They had argued then, and Cesar took Marie's side, the same way that Cesar always took Marie's side. Lina had exploded and yelled at them to just leave. So they left.

How could the last of these sentences be rewritten without changing its meaning?

A. Consequently, they left.
B. Specifically, they left.
C. Primarily, they left.
D. Namely, they left.

8. What do Lina and Cesar teach Marie to do at the end of the story?

9. Describe the conflict between Lina and Marie in this story. Support your answer with evidence from the text.

10. Explain whether the conflict between Lina and Marie is resolved by the end of the story. Support your answer with evidence from the text.

How Big Is Our Universe? An Exploration Through Space and Time:

Text Dependent Activities

Monday:

1) **Go to page 3 of the article and do the "Try This":**

- Does your thumb suddenly change position?

- Move your thumb closer to your nose and try again. Can you see your thumb jump even more?

- What term do Astronomers use to call this effect?

Tuesday: Write down 5 new words that you came across in the reading. Write down the word, the definition, draw or insert a picture, add synonyms or antonyms, and write the word in a sentence.

Word	Definition	Picture	Synonyms or Antonyms	Write the Word in a Sentence

Wednesday:

2) **Go to page 5 of the article:**

- At the speed of light, how many years would it take to travel across the Milky Way galaxy?

3) **Go to page 6 of the article: Look at the caption above the photograph at the bottom of the page:**

- How many years does it take for light to reach us from the Andromeda Galaxy?

4) **Go to page 6 of the article and answer the "Try This" question**

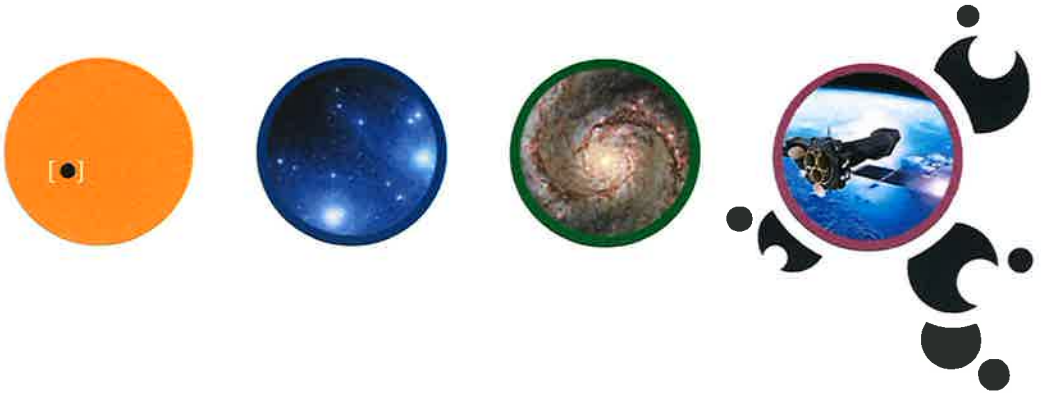
    - What balloon has traveled the furthest from the starting line? How do you know?

Friday:

5) **Go to page 8 of the article:**

- What does this quote mean to you? "Time, not space, limits our view of the universe."

6) **What questions do you have after reading this article?**



how big is our universe?

[an exploration through space and time]

contents

how far away?

On a beautiful, clear night, the stars seem so close you could almost reach out and touch them. How far away are the stars? What lies beyond them? How large is the universe as a whole?

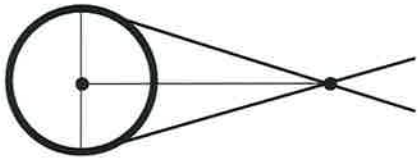
Without knowing distances, the sky is just a starry bowl over our heads – like the dome of a planetarium. If we can figure out the distance to the stars, we will begin to see what the universe looks like in three dimensions, and we will begin to answer some of the greatest of questions: How old is the universe? Is it infinitely large? What is our place in the cosmos?

This booklet shows how generations of explorers have taken us, step by step, ever further into the vast expanse of the universe. It is a journey of discovery that has only just begun.

Third century BC. Aristarchus of Samos measures the distance to the Moon by looking at the shadow of the Earth during a lunar eclipse.

imagine this:

This composite image shows all the places in the universe that humans have been to.



how far are the sun and planets?

The Sun is so far away that it would take the Space Shuttle seven months to fly there. That's why the Sun, which is one hundred times the diameter of the Earth, looks so small!

Three hundred years ago, astronomer **Edmund Halley** found a way to measure the distance to the Sun and to the planet Venus. Knowing these distances helped find the true scale of the entire solar system for the first time.

Halley knew that every 121 years the planet Venus passes in front of the Sun. Venus' position, relative to the Sun behind it, appears very different when viewed from two different places on Earth. How different depends on how far away Venus and the Sun are from the Earth.

1761. Using observations of the "transit of Venus" made by astronomers around the world, the distance to the Sun is determined to be 93 million miles. This photograph is from the 1882 transit of Venus.

try this:

your "point of view" makes a difference!

Hold up your thumb at arm's length. With one eye closed, line up your thumb with an object in the distance. Now switch eyes so that only the other eye is open. Does your thumb suddenly change position? Move your thumb closer to your nose and try again. Can you see your thumb jump even more?

Astronomers call this effect "parallax." The closer an object, the more it appears to shift against the distant background, when viewed from two different spots.

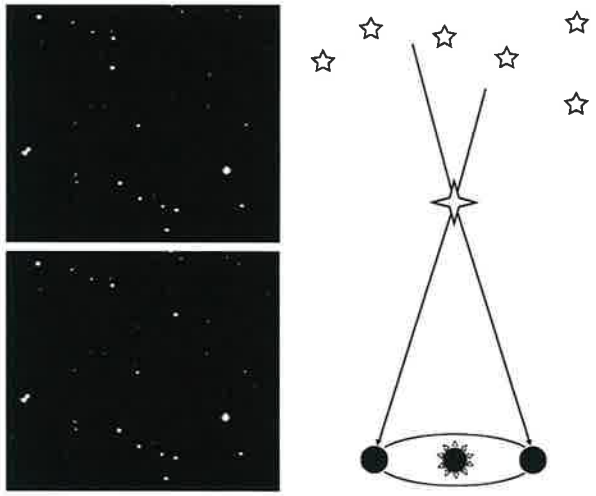
The furthest human object is the space probe Voyager 1. Launched in 1977, it is now more than twice as far from the Earth as Pluto.

how far are the stars?

Traveling to the stars? Don't pack for a week or a month. Pack for 70,000 years – the travel time to the nearest star beyond our Sun using our fastest spaceship!

As the Earth moves around the Sun, our view of nearby stars changes slightly against the background of other stars that are further away. Astronomers use this effect, called parallax, to determine the distance to the nearest stars.

1836. German scientist **Friedrich Bessel**, using a specially designed telescope, is the first to see a star's position appear to change as the Earth moves around the Sun. He finds the star to be 700,000 times further away than our Sun!



try this: jumping stars

These pictures were taken six months apart, when Earth was on opposite sides of its orbit. Can you tell which star is closer than the rest? Look for the star that appears to change postion, like your thumb when seen from two points of view.

Deneb, in the constellation Cygnus, is one of the most distant stars you can see by eye. It takes light from Deneb 1600 years to reach us.

how far is it across the milky way?

Our Milky Way galaxy of stars is so huge that even at the speed of light it would take 100,000 years to travel across it!

The further a star, the fainter it looks. Astronomers use this clue to figure out the distance to very distant stars. But there's a big challenge to this method: You need to know the star's "wattage" – how bright it really is – to begin with.

1908. Henrietta Leavitt discovers a way to tell the "wattage" of certain pulsating stars by observing how long it takes them to brighten and dim. The method opens the way to measuring distances all the way across the Milky Way galaxy.

making a mental model: how big is the milky way?

Imagine that our entire solar system were the size of a quarter. The Sun is now a microscopic speck of dust, as are its planets, whose orbits are represented by the flat disc of the coin.

On this scale, the diameter of our Milky Way galaxy will be about the size of the United States! How far away is the nearest star to our Sun? In our model, Proxima Centauri (and any planets that might be around it) would be another quarter, two soccer fields away. This is the typical separation of stars in our part of the galaxy.

Our solar system is about 2/3 of the way from the center of our Milky Way galaxy.

how far are other galaxies?

Even "nearby" galaxies beyond our own Milky Way galaxy are so far that it takes their light millions of years to reach us. The images we take today show how these galaxies looked millions of years ago.

The further a galaxy, the smaller it appears. You can use this method to get a rough idea which galaxies are closer and which are further. Although galaxies come in different shapes and sizes, the spiral galaxies similar to our own Milky Way are thought to be roughly the same size. So if a spiral galaxy looks half as big as another, it is probably twice as far away.

1924. Edwin Hubble presents the first evidence that galaxies lie far beyond the Milky Way. To date, billions of galaxies have been discovered.

try this: far and small

You've been asked to award a prize to the balloon that has traveled the furthest from the starting line. But you have only this photo taken from the starting line to go on.

What clues will you use? How do you know that the balloons that look smaller are further away and not just smaller balloons? Which balloon would you choose, and why? Astronomers face the same challenges trying to determine the distance between galaxies.

The furthest thing you can see by unaided eye is the Andromeda Galaxy, the nearest large galaxy to our Milky Way. Light from Andromeda takes 2 million years to reach us!

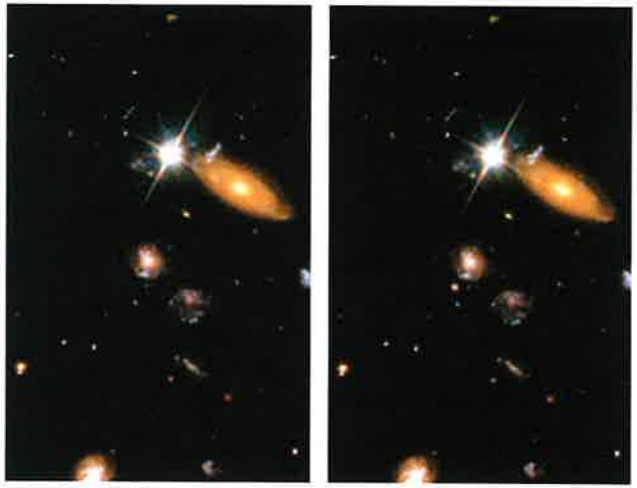
how far are the distant galaxies?

They're so far that the light arriving on Earth today set out from the galaxies billions of years ago. We see the galaxies not as they are today, but as they looked long before there was life on Earth.

Some galaxies are so far away that they appear as tiny smudges, even through the largest telescopes. It's tough to determine how large or bright these fuzzy distant galaxies are. But astronomers can figure out the distance to these galaxies, by watching for incredibly bright exploding stars called supernovae.

Some types of supernovae have a known brightness – or "wattage" – so we can figure out how far they are, and therefore the distance to their home galaxy.

1986. Astronomers begin to use supernovae to find the distance to the furthest galaxies we can see.



try this:
can you spot the exploding star?

The picture on the right was taken three weeks after the one on the left. In that time, a star at the edge of one of these distant galaxies has exploded — "gone supernova." Can you spot the supernova in the picture at right? Even though the explosion is as bright as a billion suns, it is so far away that it is just a speck of light!

Light from the furthest galaxies we can see has taken more than ten billion years to reach us!

how far can we see?

Time, not space, limits our view of the universe. Beyond a certain distance, light hasn't had time to reach us yet since the beginning of the universe.

The image at left is the oldest and youngest picture of the universe ever taken. Oldest, because it has taken the light nearly 14 billion years to reach us. Youngest, because it is a snapshot of our newborn universe, long before the first stars and galaxies formed. The bright patterns show clumps of simple matter that will eventually form stars and galaxies.

Although this light fills the entire night sky, it is so faint and has so little energy that it is detectable only with special instruments. This colorized image was taken by NASA's Wilkinson Microwave Anisotropy Probe.

2003. NASA's WMAP satellite takes images of the most distant part of the universe observable from Earth. The image shows the furthest we can see using any form of light.

making a mental model: how big is the universe that we can see?

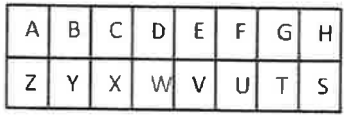
Imagine that our entire Milky Way galaxy were the size of a CD. On this scale, the nearest spiral galaxy, Andromeda, would be another CD about eight feet away.

The furthest galaxies we have ever seen, pictured in the Hubble Ultra Deep Field above, would be CDs about nine miles away. The edge of the observable universe, the furthest we can possibly see, is only another mile beyond that.

The universe of 14 billion years ago was so hot and dense that living then would have been like living *inside* the Sun!

ESL At Home 6-8 Weeks 1-2

Use notebook paper to complete these activities. Do one each day!

Monday	Tuesday	Wednesday	Thursday	Friday
Choose any book, TV show or movie. Write a 1 paragraph summary, and then write and illustrate an alternate ending.	Use things you can find in your house to invent something new. Illustrate and label it. Write about how you would use this invention to solve a problem.	Create a cipher code, then write a message to a family member. See if they can unlock the code. EX: 	For each letter of the alphabet, find four objects in your house that begin with the letter. Example: **A**: airplane toy, animal crackers.. **B**: bread **C**: **D**:	Choose something in your house to use as a measuring tool, like a water bottle or a spoon. Measure 10 things with that tool and make a list. Example: My bed = 12 water bottles by 16 water bottles.
Monday	Tuesday	Wednesday	Thursday	Friday
Find 30 objects in your home. Sort them into lists. Example: things that are red, things that are plastic, things that are magnetic.	Roll up three pieces of paper to make tubes. Stand them up. See how many things you can stack on top of the tubes. Make a list of all the things you were able to stack.	Create a scavenger hunt for your family. Hide things around your house, then write clues to help them search.	Observe the cars that pass by your home in 1 hour. Tally the color of each car. Create ratios to explain the probability of a certain color car passing by.	Think of two characters from two different books or shows. Write a story about what might happen if they met each other.

ESL en Casa 6-8 Semanas I-2

Usar una hoja de libreta para completer las actividades. Hacer uno por dia.

Lunes	Martes	Miercoles	Jueves	Viernes
Escoge cualquier libro, pelicula o programa de television. Escribo un parafo resumido, y despues escribe escribe y dibuja un final alterno.	Usar cosas que puedas encontrar en tu casa para inventar algo nuevo. Dibujalo y etiquetalo. Escribe como este invento va hacer de ayuda.	Crear un codigo de cifrado, despues escribe un mensaje a un familiar. Ve si ellos pueden descifarlo. EX: 	Encontrar cosas en casa que empiecen con las letras del abecedario. Dar 4 ejemplos de cada uno Ejemplo: **A**: anillo, agua... **B**: basura, bote .. **C:** **D:**	Escoge algo en tu casa para usar de herramienta para medir, como una botella de agua o una cucharra. Medir 10 cosas con tu herramiento y hacer una lista. **Ejemplo**: Mi cama mide 12 botellas de agua por 16 botellas de agua.
Lunes	Martes	Miercoles	Jueves	Viernes
Encontrar 30 cosas en tu casa. Acomodarlos por listas. Ejemplo: cosas que son rojas, cosas que son de plastico, cosas que tienen iman.	Enrollar 3 pedazos de papel para hacer tubos. Paralas y mira cuantas cosas puedes poner encima. Hacer una lista de todo lo que pusiste encima.	Crear una busqueda de tesoros para tu familia. Esconde cosas alrededor de tu casa y escribe pistas para que los demas los encuentren.	Observar los carros que pasan por tu hogar en una hora. Cuenta los coloroes de cada carro. Crear proporciones de cada color para determinar la probabilidad.	Piensa en dos diferentes personajes de distinos libros o peliculas. Escribe una historia de como pudieran llegar a conocerse.

Monday- The Thirteenth Amendment

1. In what ways did The Constitution protect slavery without mentioning it by name?

2. Did The 13th Amendment completely abolish involuntary labor?

Tuesday- Creating a Constitution

1. Who met?

2. Where did they meet?

3. Explain why they met.

Wednesday- Creating a Constitution

1. When did the representatives meet?

2. Summarize the Plan

Virginia:
New Jersey:

Thursday- Creating a Constitution

1. Summarize the Compromises

The Great Compromise:
⅗ Compromise:

2. Select the portion of the text that support the claim that the founding fathers disagreed about the principles of the new Constitution.

Friday- Creating a Constitution Storyboard

Complete the Storyboard in the box. Type in the complete sentences and fill in the blanks in the boxes below.

I am James Madison.
I am William Patterson.
I am Roger Sherman.

THE THIRTEENTH AMENDMENT

Key concepts you will learn about at this station:

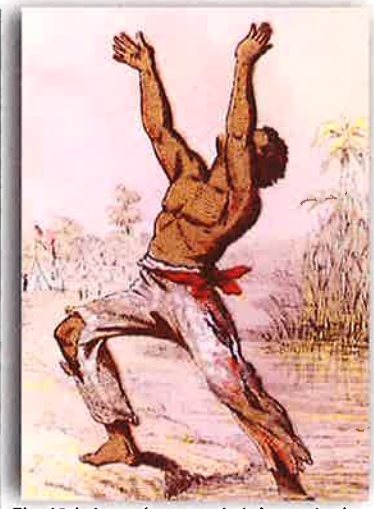
Rights and Liberties; Inclusion; Labor systems

THE US CONSTITUTION: AMENDMENT XIII

"Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction."

WHY? *So why or how did the come to be?*

Historical background: When the Constitution was written, slavery was legal throughout the nation, with the exception of a handful of states in New England. Although it did not use the word "slavery," the Constitution actually protected the institution by allowing states to count their slaves as 3/5 of a person toward the apportionment of representatives in the House. This meant that states with large numbers of slaves received greater representation in Congress than states with few or no slaves, and it gave those states more electoral votes in the selection of the President. When the war ended, Congress and the States ratified the 13th Amendment in 1865, which abolished slavery forever "except as punishment for crime" (a phrase that allowed states to sentence convicted criminals to periods of hard labor). This amendment helped guarantee that no person would be treated differently because of his or her race.



The 13th Amendment ended slavery in the United States

OUR CONSTITUTION IN ACTION!

A modern example: Although slavery has been abolished in the United States for more than 150 years, some forms of enslavement still exist in the world. The problem of "human trafficking" (illegally transporting people from other countries for the purpose of labor or sexual exploitation) is one that countries like the United States and organizations like the United Nations have paid increasing attention to over the past decade. Because forced labor is illegal in most countries, it is difficult to know how many "modern day slaves" there are.

CONSIDER!

1. ***In what ways did the Constitution protect slavery without mentioning it by name?***
2. ***Did the 13th Amendment completely abolish involuntary labor?***

CREATING A CONSTITUTION

The Constitutional Convention May 1787-September 1787

THE ARTICLES OF CONFEDERATION

The population of the United States was approximately four million in the 13 states that were governed under the Articles of Confederation. The nation's first attempt at outlining government was created by the Second Continental Congress at the close of the America Revolution. However, it soon became clear that the weak Confederation government was largely underfunded and inadequate for managing the various conflicts that arose among the states. Furthermore, as the Articles of Confederation could only be amended by unanimous vote of the states, proposed changes were almost impossible. In addition, the Articles made it difficult for the national government to tax or collect debts from states because states' had the right to refuse payment.

THE CONVENTION PURPOSE

In May 1787, leaders called for a convention to revise the Articles of Confederation. Representatives from each state were summoned to meet in Philadelphia. Fifty-five delegates would eventually attend. This meeting would become known as ***Constitutional Convention*** because the result of the Convention was the creation of the United States Constitution.

THE NEW JERSEY AND VIRGINIA PLANS

The ***Virginia Plan*** (known as the **Large-State Plan**) was drafted by James Madison of Virginia. The Virginia Plan proposed a legislative branch consisting of two houses, called bicameral legislature. Each of the states would be represented in proportion to their population. As Madison worded it, representation would be based on "Quotas of contribution, or to the number of free inhabitants." States with a large population, like Virginia, would thus have more representatives than smaller states. States that had a large population like Virginia rallied behind this plan. On the other hand, smaller states generally opposed it. Smaller states preferred William Patterson's ***New Jersey Plan*** which proposed a single-house legislative branch. In the New Jersey Plan, each state, regardless of size, would have one vote. They argued that each state should have equal representation in the nation's law making process. In the end, the convention settled on the Connecticut Compromise (or Great Compromise), creating a bicameral (two house) legislative branch. In this compromise the number of legislators in the House of Representatives is proportionate to the population, while in the Senate each state is equally represented.

THE THREE FIFTHS COMPROMISE

The delegates had unanimously agreed that representation in the House of Representatives would be proportionate to the states' populations. However, this principle created a concern for both the Northern and Southern states when it came to slavery. Since slaves could not vote, non-slaves in slave states would thus have the benefit of increased representation in the House of Representatives. Those who opposed slavery proposed that only free citizens of each state be counted. Delegates who supported slavery (mostly from the South) opposed. They wanted slaves to count as part of the states overall population. The following is the ***Three-Fifths Compromise*** as written in the US Constitution:

> *"Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and excluding Indians not taxed,* ***three fifths of all other Persons.***"
>
> **Article 1, Section 2, Paragraph 3 of the United States Constitution**

In this compromise slaves counted as three-fifths of a person, which reduced the representation of the slave states relative to the original proposals. On the other hand, Southern states where pleased because taxation for the South was applied with the same ratio, meaning that taxation on the slave states was also reduced.

On September 7, 1787 the Constitution was signed by 39 of the 55 delegates, even though many cautioned that the new constitution had not yet guaranteed the rights of citizens.

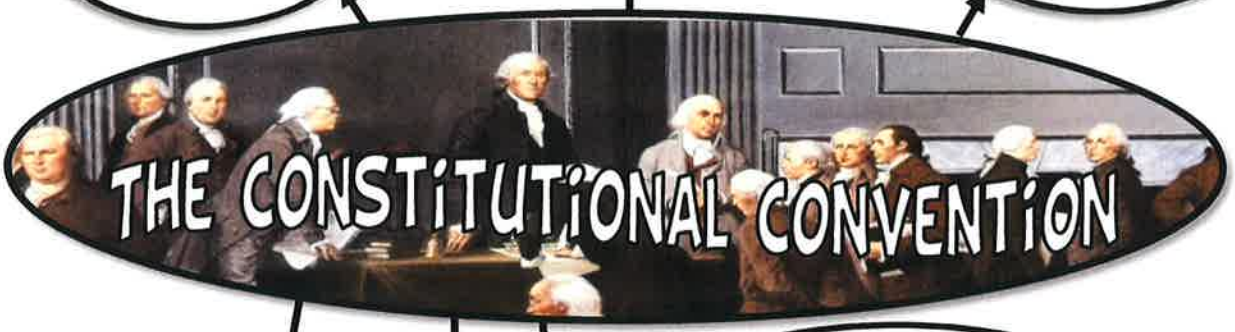
Directions: Use the text to fill in the bubble chart.

Name_____Period____

WHO MET?
1

WHERE DID THEY MEET?
2

EXPLAIN WHY THEY MET
3



WHEN DID REPRESENTATIVES MEET?
4

Summarize the Plans
5

1. Virginia_____

2. New Jersey_____

SUMMARIZE THE COMPROMISES
6

1. The Great Compromise_____

2. 3/5 Compromise_____

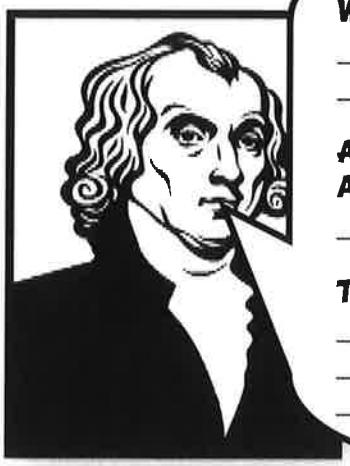
USE EVIDENCE FROM THE TEXT TO SUPPORT

Select a portion of text that support the claim that the founding fathers disagreed about the principles of the new Constitution.

Common Core– Supporting a claim with evidence.

Name_____ Period____

THE CONSTITUTIONAL CONVENTION STORYBOARD



I AM JAMES MADISON. I INTRODUCED THE _____PLAN, WHICH STATED THAT_____

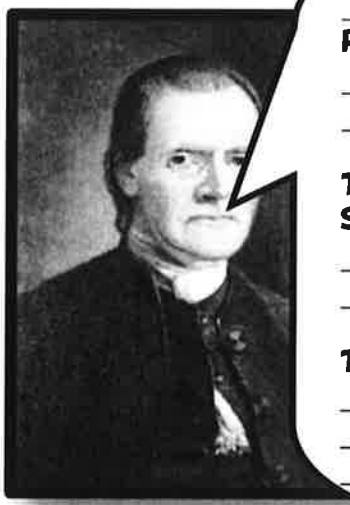
AS I DELEGATE FROM THE LARGE STATE OF VIRGINIA, I ARGUED THAT_____

THIS EXCERPT FROM THE TEXT BEST SUPPORTS MY IDEAS:

I AM WILLIAM PATTERSON. I INTRODUCED THE _____ PLAN, WHICH STATED THAT_____

AS I DELEGATE FROM THE SMALL STATE OF NEW JERSEY, I ARGUED THAT_____

THIS EXCERPT FROM THE TEXT BEST SUPPORTS MY IDEAS:



I AM ROGER SHERMAN. I INTRODUCED THE _____ _____, WHICH COMBINED IDEAS OF THE TWO PLANS BY CREATING_____

THIS COMPROMISE MADE BOTH THE LARGE STATES AND SMALL STATES PLEASED BECAUSE_____

THIS EXCERPT FROM THE TEXT BEST SUPPORTS MY IDEAS:

Key Concept

Power of a Power

Words To find the power of a power, multiply the exponents.

Examples Numbers $(5^2)^3 = 5^{2 \cdot 3}$ or 5^6 Algebra $(a^m)^n = a^{m \cdot n}$

You can use the rule for finding the *product* of powers to discover another Law of Exponents for finding the *power* of a power.

$$(6^4)^5 = \overbrace{(6^4)(6^4)(6^4)(6^4)(6^4)}^{\text{5 factors}}$$

$= 6^{4+4+4+4+4}$ Apply the rule for the product of powers.

$= 6^{20}$

Notice that the product of the original exponents, 4 and 5, is the final power 20.

Examples

Simplify using the Laws of Exponents.

1. $(8^4)^3$

$(8^4)^3 = 8^{4 \cdot 3}$ Power of a Power

$= 8^{12}$ Simplify.

2. $(k^7)^5$

$(k^7)^5 = k^{7 \cdot 5}$ Power of a Power

$= k^{35}$ Simplify.

Got It? Do these problems to find out.

a. $(2^5)^2$ b. $(w^4)^6$ c. $[(3^2)^3]^2$

Power of a Product

Key Concept

Words To find the power of a product, find the power of each factor and multiply.

Examples Numbers $(6x^2)^3 = (6)^3 \cdot (x^2)^3$ or $216x^6$ Algebra $(ab)^m = a^m b^m$

Extend the power of a *power* rule to find the Laws of Exponents for the power of a *product*.

$$(3a^2)^5 = \overbrace{(3a^2)(3a^2)(3a^2)(3a^2)(3a^2)}^{\text{5 factors}}$$

$= 3 \cdot 3 \cdot 3 \cdot 3 \cdot 3 \cdot a^2 \cdot a^2 \cdot a^2 \cdot a^2 \cdot a^2$

$= 3^5 \cdot (a^2)^5$ Write using powers.

$= 243 \cdot a^{10}$ or $243a^{10}$ Power of a Power

Common Error
When finding the power of a power, do not add the exponents. $(a^5)^2 = a^{12}$, not a^7.

Examples

Simplify using the Laws of Exponents.

3. $(4p^3)^4$

$(4p^3)^4 = 4^4 \cdot p^{3 \cdot 4}$ Power of a Product

$= 256p^{12}$ Simplify.

4. $(-2m^7n^6)^5$

$(-2m^7n^6)^5 = (-2)^5 m^{7 \cdot 5} n^{6 \cdot 5}$ Power of a Product

$= -32m^{35}n^{30}$ Simplify.

Got It? Do these problems to find out.

d. $(8b^9)^2$ e. $(6x^5y^{11})^4$ f. $(-5w^2z^8)^3$

STOP and Reflect

How do you know when an expression is in simplest form? Explain below.

Real World

Example

Tutor

5. A magazine offers a special service to its subscribers. If they scan the square logo shown on a smartphone, they can receive special offers from the magazine. Find the area of the logo.

$A = s^2$ Area of a square

$A = (7a^4b)^2$ Replace s with $7a^4b$.

$A = 7^2(a^4)^2(b^1)^2$ Power of a Product

$A = 49a^8b^2$ Simplify.

The area of the logo is $49a^8b^2$ square units.

NAME _____ DATE _____ PERIOD _____

Lesson 4 Homework Practice

Powers of Monomials

Simplify.

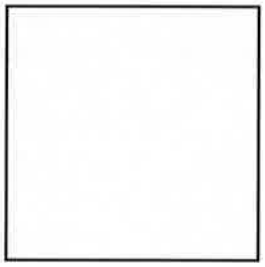
1. $(6t^5)^2$ **2.** $(4w^9)^4$ **3.** $(12k^6)^3$ **4.** $(15m^8)^3$

5. $(4d^3e^5)^7$ **6.** $(-4r^6s^{15})^4$ **7.** $[(7^2)^2]^2$ **8.** $[(3^2)^2]^3$

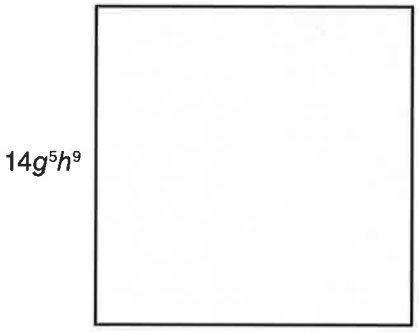
9. $(\frac{3}{5}a^6b^9)^2$ **10.** $(4x^2)^3(3x^6)^4$ **11.** $(0.6p^5)^3$ **12.** $\left(\frac{1}{5}w^5x^3\right)^2$

GEOMETRY Express the area of each square below as a monomial.

13.



14.



15. MEASUREMENT In the Metric System, you would need to have $(10^4)^2$ grams to equal 1 metric ton. Simplify this measurement by multiplying the exponents, then simplify by finding the actual number of grams needed to equal 1 metric ton.

16. GAMING A video-game designer is using the expression $6n^3$ in a program to determine points earned, where n is the game level. Simplify the expression for the n^2 level.

Key Concept

Zero and Negative Exponents

Words Any nonzero number to the zero power is 1. Any nonzero number to the negative n power is the multiplicative inverse of its nth power.

Examples

Numbers	Algebra
$5^0 = 1$	$x^0 = 1, x \neq 0$
$7^{-3} = \frac{1}{7} \cdot \frac{1}{7} \cdot \frac{1}{7}$ or $\frac{1}{7^3}$	$x^{-n} = \frac{1}{x^n}, x \neq 0$

Negative Exponents
Remember that 6^{-3} is equal to $\frac{1}{6^3}$, not -216 or -18.

You can use exponents to represent very small numbers. Negative powers are the result of repeated division.

Examples

Write each expression using a positive exponent.

1. 6^{-3}

$6^{-3} = \frac{1}{6^3}$ Definition of negative exponent

2. a^{-5}

$a^{-5} = \frac{1}{a^5}$ Definition of negative exponent

Got It? Do these problems to find out.

a. 7^{-2} b. b^{-4}
c. 5^0 d. m^{-3}

a. _____
b. _____
c. _____
d. _____

Examples

Write each fraction as an expression using a negative exponent other than −1.

3. $\frac{1}{5^2}$

$\frac{1}{5^2} = 5^{-2}$ Definition of negative exponent

4. $\frac{1}{36}$

$\frac{1}{36} = \frac{1}{6^2}$ Definition of exponent

$= 6^{-2}$ Definition of negative exponent

Got It? Do these problems to find out.

e. $\frac{1}{8^3}$ f. $\frac{1}{4}$
g. $\frac{1}{c^5}$ h. $\frac{1}{27}$

e. _____
f. _____
g. _____
h. _____

Example

5. STEM **One human hair is about 0.001 inch in diameter. Write the decimal as a power of 10.**

$0.001 = \frac{1}{1{,}000}$ Write the decimal as a fraction.

$= \frac{1}{10^3}$ $1{,}000 = 10^3$

$= 10^{-3}$ Definition of negative exponent

A human hair is 10^{-3} inch thick.

Got It? Do this problem to find out.

i. STEM A water molecule is about 0.0000000001 meter long. Write the decimal as a power of 10.

i. _____

STOP and Reflect
Explain below the difference between the expressions $(-4)^2$ and 4^{-2}.

Multiply and Divide with Negative Exponents

The Product of Powers and the Quotient of Powers rules can be used to multiply and divide powers with negative exponents.

Examples

Simplify each expression.

6. $5^3 \cdot 5^{-5}$

$5^3 \cdot 5^{-5} = 5^{3+(-5)}$ Product of Powers

$= 5^{-2}$ Simplify

$= \frac{1}{5^2}$ or $\frac{1}{25}$ Write using positive exponents. Simplify

7. $\frac{w^{-1}}{w^{-4}}$

$\frac{w^{-1}}{w^{-4}} = w^{-1-(-4)}$ Quotient of Powers

$= w^{(-1)+4}$ or w^3 Subtract the exponents.

Got It? Do these problems to find out.

j. $3^{-8} \cdot 3^2$ k. $\frac{11^2}{11^4}$
l. $n^9 \cdot n^{-4}$ m. $\frac{b^{-4}}{b^{-7}}$

j. _____
k. _____
l. _____
m. _____

Name_____ Date_____ Per_____

Exploring Negative Exponents

Task 1: Complete the following patterns by filling out the tables. Focus on what is happening between each answer that enables you to find the next answer.

Table A

Product	Repeated Multiplication	Written as a power
243	$3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$	3^5
81	$3 \cdot 3 \cdot 3 \cdot 3$	3^4
27	$3 \cdot 3 \cdot 3$	3^3
9	$3 \cdot 3$	3^2
3	3	3^1
1		3^0

Table B

Product	Repeated Multiplication	Written as a Power
32	$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2$	2^5
16	$2 \cdot 2 \cdot 2 \cdot 2$	2^4
8	$2 \cdot 2 \cdot 2$	2^3
		2^2
		2^1
		2^0

Table C

Product	Repeated Multiplication	Written as a Power
3125	$5 \cdot 5 \cdot 5 \cdot 5 \cdot 5$	5^5

Task 2: Analysis Questions

1. Look at each table and describe what is happening to the numbers in the product column as you look at them from top to bottom:

Table A:

Table B:

Table C:

2. Look at each table and describe the pattern in the repeated multiplication column as you look at it from top to bottom:

Table A:

Table B:

Table C:

3. Look at each table and describe what is happening in the written as a power column as you look at it from top to bottom:

Table A:

Table B:

Table C:

4. Does a negative exponent result in a negative answer? Explain.

5. Describe what you notice about the simplified expressions with negative exponents.

_____

_____

6. Write each problem as **repeated multiplication** (using a fraction if necessary):

a.) 4^{-3}

b.) 6^{-2}

c.) 9^{5}

d.) 7^{-4}

7. Write each expression as a decimal.

a.) 10^{-1}

b.) 10^{-3}

8. Write each decimal using negative exponents

a.) 0.01

b.) 0.0001

NAME _____ DATE _____ PERIOD _____

Lesson 5 Homework Practice

Negative Exponents

Write each expression using a positive exponent.

1. 8^{-5} **2.** 3^{-9} **3.** z^{-2} **4.** p^{-4}

Evaluate each expression.

5. $(-6)^{-5}$ **6.** 8^{-4} **7.** 2^{-9} **8.** $(-7)^{-3}$

Write each fraction as an expression using a negative exponent.

9. $\frac{1}{2^9}$ **10.** $\frac{1}{64}$ **11.** $\frac{1}{e^5}$ **12.** $\frac{1}{7^4}$

Simplify. Express using positive exponents.

13. $\frac{6^5}{6^2}$ **14.** $n^{-2} \cdot n^{-3}$ **15.** $\frac{w^3}{w^{-1}}$ **16.** $\frac{k^{-4}}{k^{-6}}$

17. **ROADS** A state highway that is 4^4 miles long runs parallel to a smaller country road that is 4^2 miles long. How many times longer than the country road is the state highway? Write the answer as a number with a positive exponent.

18. **FUNDRAISERS** The hospital spent 9^5 dollars on new medical equipment this year. Last year, they spent 9^7 dollars. How many times more money did they spend last year than this year?

19. **MEASUREMENT** 1 milligram is equal to 10^{-3} grams. Write this number using a positive exponent.

20. **DISTANCE** A long-distance runner runs 2^5 miles one week and 2^7 miles the next week. How many times farther did he run in the second week than in the first week?

Key Concept

Square Root

Words A square root of a number is one of its two equal factors.

Symbols If $x^2 = y$, then x is a square root of y.

Example $5^2 = 25$ so 5 is a square root of 25.

Every positive number has *both* a positive and negative square root. In most real-world situations, only the positive or *principal* square root is considered. A **radical sign**, $\sqrt{\ }$, is used to indicate the principal square root. If $n^2 = a$, then $n = \pm\sqrt{a}$.

Examples

Find each square root.

1. $\sqrt{64}$

$\sqrt{64} = 8$ Find the positive square root of 64, $8^2 = 64$.

2. $\pm\sqrt{1.21}$

$\pm\sqrt{1.21} = \pm 1.1$ Find both square roots of 1.21; $1.1^2 = 1.21$.

3. $-\sqrt{\frac{25}{36}}$

$-\sqrt{\frac{25}{36}} = -\frac{5}{6}$ Find the negative square root of $\frac{25}{36}$; $\left(\frac{5}{6}\right)^2 = \frac{25}{36}$.

4. $\sqrt{-16}$

There is no real square root because no number times itself is equal to -16.

Got It? Do these problems to find out.

a. $\sqrt{\frac{9}{16}}$ b. $\pm\sqrt{0.81}$ c. $-\sqrt{49}$ d. $\sqrt{-100}$

Example

5. **Solve $t^2 = 169$. Check your solution(s).**

$t^2 = 169$ Write the equation.

$t = \pm\sqrt{169}$ Definition of square root

$t = 13$ and -13 Check $13 \cdot 13 = 169$ and $(-13)(-13) = 169$ ✓

Got It? Do these problems to find out.

e. $289 = a^2$ f. $m^2 = 0.09$ g. $y^2 = \frac{4}{25}$

Cube Roots

Key Concept

Words A **cube root** of a number is one of its three equal factors.

Symbols If $x^3 = y$, then x is the cube root of y.

Numbers such as 8, 27, and 64 are **perfect cubes** because they are the cubes of integers.

$8 = 2 \cdot 2 \cdot 2$ or 2^3 $27 = 3 \cdot 3 \cdot 3$ or 3^3 $64 = 4 \cdot 4 \cdot 4$ or 4^3

The symbol $\sqrt[3]{\ }$ is used to indicate a cube root of a number.

If $n^3 = a$, then $n = \sqrt[3]{a}$. You can use this relationship to solve equations that involve cubes.

Examples

Find each cube root.

6. $\sqrt[3]{125}$

$\sqrt[3]{125} = 5$ $5^3 = 5 \cdot 5 \cdot 5$ or 125

7. $\sqrt[3]{-27}$

$\sqrt[3]{-27} = -3$ $(-3)^3 = (-3) \cdot (-3) \cdot (-3)$ or -27

Got It? Do these problems to find out.

h. $\sqrt[3]{729}$ i. $\sqrt[4]{-64}$ j. $\sqrt[3]{1{,}000}$

Example

8. **Dylan has a planter in the shape of a cube that holds 8 cubic feet of potting soil. Solve the equation $8 = s^3$ to find the side length s of the container.**

$8 = s^3$ Write the equation.

$\sqrt[3]{8} = s$ Take the cube root of each side.

$2 = s$ Definition of cube root

So, each side of the container is 2 feet.

Check $(2)^3 = 8$ ✓

Cube Roots

while $\sqrt{-16}$ is not a real number, $\sqrt[3]{-27}$ is a real number. $-3 \cdot -3 \cdot -3 = -27$

a. _____ b. _____ c. _____ d. _____ e. _____ f. _____ g. _____ h. _____ i. _____ j. _____

NAME _____ DATE _____ PERIOD _____

Lesson 8 Homework Practice

Roots

Find each root.

1. $\sqrt{36}$
2. $-\sqrt{144}$
3. $\sqrt[3]{\frac{27}{64}}$
4. $\sqrt[3]{2{,}744}$
5. $\pm\sqrt{2.25}$
6. $\pm\sqrt{\frac{121}{289}}$
7. $\sqrt{\frac{-81}{100}}$
8. $\pm\sqrt{0.0025}$
9. $-\sqrt{0.49}$
10. $-\sqrt{3.24}$
11. $-\sqrt{\frac{25}{441}}$
12. $\pm\sqrt{361}$

ALGEBRA Solve each equation. Check your solution(s).

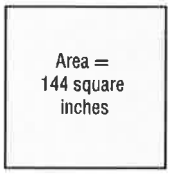
13. $h^2 = 121$
14. $324 = a^2$
15. $x^2 = \frac{81}{169}$
16. $0.0196 = m^2$
17. $\sqrt{y} = 6$
18. $\sqrt{z} = 8.4$

19. **GARDENING** Moesha has 196 pepper plants that she wants to plant in square formation. How many pepper plants should she plant in each row?

20. **RESTAURANTS** A new restaurant has ordered 64 tables for its outdoor patio. If the manager arranges the tables in a square formation, how many will be in each row?

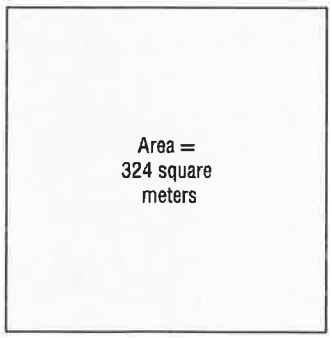
GEOMETRY The formula for the perimeter of a square is $P = 4s$, where s is the length of a side. Find the perimeter of each square.

21.



22.

23.



Fast Growing Plant? **Name**_____

I recently purchased a new plant. When I bought the plant it was exactly one foot tall. I noticed the plant was growing at a pretty fast rate, so after one month I decided to measure its height. After one month my plant was two feet tall. I decided that I would measure the height of my plant at the end of each month. As I give you the measurements please fill in the data in the table below. After two months my plant was four feet tall. After three months my plant was eight feet tall. We had to move the plant out of my house at this point. We relocated it to a nearby office building. After four months the plant was 16 feet tall and after five months the plant was 32 feet tall.

Months owned	0	1	2	3	4	5		
Height in feet								

1. If my plant keeps growing at this rate, how can you find the height of my plant after eight months? Add this height to the table.

2. If my plant keeps growing at this rate, how can you find the height of my plant for any number of months? Think of a couple of different ways that the height could be found for any number of months.

3. Write an equation that gives the height of plant in feet for any number of months. Explain what your variables represent in the context of this story.

4. I recently went back to the store where I bought my plant and I found out that the plant was alive for a long time before I bought it and that the store owner believes it was growing at the same rate, even before it was one foot tall. Assuming this is the case, and that my plant was doubling in height each month, how tall was plant (in feet) one month before I purchased it?

5. How tall was my plant (in feet) two and three months before I purchased it? What math are you doing to find the height a year earlier?

6. You should have noticed that in your equation in problem three the exponent represents the number of months that you owned the plant. What exponent value would it make sense to use in your equation to model when I bought the plant? How about 1, 2 and 3 months before I owned the plant?

7. Fill in the table below to include the plant's height for months before and after I purchased the plant.

Months owned	-4	-3	-2	-1	0	1	2	3	4
Height in feet									

8. Based on questions 4 – 7, describe in words what happens when we take a positive number and raise it to a negative power.

9. Describe any patterns or anything you notice in the table in problem number seven.

10. Based on what you learned think about the value of the following powers of two. If it helps think about them in the context of my plant:

$2^{-6} =$ $2^{-7} =$ $2^{6} =$ $2^{7} =$

Beanstalk?

After the world learned about my fast growing plant, news broke about a giant beanstalk in a far away land. A man named Jack had been recording the height of his fast-growing beanstalk for sometime. Jack kept a record of the beanstalk's height in meters.

Years Owned	Height in Meters
0	1
1	10
2	100
3	1000
4	
5	
9	

11. If my beanstalk keeps growing at this rate, how can you find the height of the beanstalk after 4 ,5 and 9 years?

12. Write an equation that gives the height of the beanstalk for any number of years. Explain what your variables represent in the context of this story.

13. The beanstalk was growing at the same rate for several years before Jack found it. How tall was the beanstalk 1, 2, 3, 4 and 5 years before Jack found it. Just like we can model the height of the beanstalk three years after Jack found it with 10^3 we can model how tall the plant was three years before Jack found it with 10^{-3} If possible try to write the heights in fractions and decimals:

Years since Jack found beanstalk	Height in meters of beanstalk
-5	
-4	
-3	
-2	
-1	
0	
1	
2	
3	
4	
5	

14. Lets now make some observations from the table in problem 13. What operation do you do to move to a greater power of ten? What operation do you do to move to a lesser power of ten? What patterns or other observations do you notice in the table?

15. When we raise 10 or any other positive whole number to a negative power what is the result?

16. Rewrite each expression in its standard numeral form.

$10^{-6} =$ $10^{6} =$ $10^{-8} =$ $10^{8} =$

17. Determine the value of these expressions. You might consider thinking of each expression in the context of the plant or beanstalk or you might think of terms in symmetry.

$4^{-2} =$ $3^{-1} =$ $5^{-3} =$ $6^{-2} =$

18. Make up your own story to help you (or your class) understand negative exponents. Make up a story about a one ton blob. At what rate was it growing before and after you got him at the pet store?

To learn even more about negative exponents try going to www.**geogebra**.org/ *or* http://www.meta-calculator.com/online/ to see a graph of the exponential patterns that you have been studying. Make sure that you can view the negative x values in quadrant two so that you can see the values of the negative exponents.

PHYSICAL EDUCATION
MAKE-UP ACTIVITY LOG

Name_____ Period_____

Date(s) of absence:_____

- Keep a daily log of physical activities you have done each day.
- Include the type of activity and the amount of time spent doing each activity.
- **A minimum of thirty (30) minutes is required each day to receive credit.**
- **A parent must sign the log each day to verify the completion of the activity.**
- Examples of activities include walking, biking, jogging, swimming, skiing, hiking, skating, etc.

Date	Activity	Amount of Time	Parent Signature

Educación Física
Registro de Actividades

Nombre_____ Periodo_____

Fechas de Ausencias:_____

- Mantén un registro diario de actividades físicas que has hecho cada dia.
- Incluye el tipo de actividad y la cantidad de tiempo que usaste haciendo cada actividad cada día.
- **Un minimo de treinta (30) minutos es requerido cada dia para recibir crédito.**
- **Un padre de familia debe firmar el registro cada dia para verificar que se a completado la actividad.**
- Ejemplos de actividades incluyen caminar, bicicletear, correr, nadar, esquiar, patinar, etc.

Fecha	Actividad	Cantidad de Tiempo	Firma

TABATA

1. PUSH-UPS 20

10 SEC REST — 20 SEC MOVE

2. SKIER JUMPS 20

10 SEC REST — 20 SEC MOVE

3. ALT. LEG KICKS 20

10 SEC REST — 20 SEC MOVE

4. BURPEES 20

10 SEC REST — 20 SEC MOVE

5. SQUATS 20

10 SEC REST — 20 SEC MOVE

6. JOG IN PLACE 20

10 SEC REST — 20 SEC MOVE

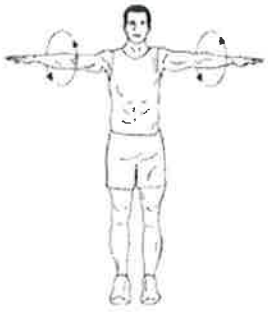
beginner circuit

WORKOUT
by DAREBEE
© darebee.com
Level I 3 sets
Level II 5 sets
Level III 7 sets
2 minutes rest

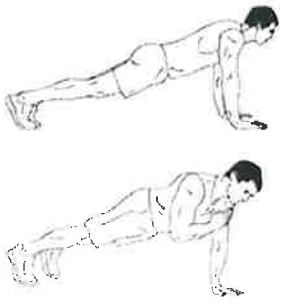
12 jumping jacks

6 squats

6 calf raises



12 raised arm circles



6 shoulder taps

6 plank rotations

100%

DAREBEE HIIT WORKOUT © darebee.com

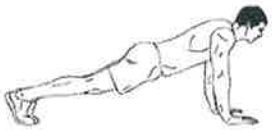
Level I 3 sets **Level II** 5 sets **Level III** 7 sets | 2 minutes rest

20sec high knees

20sec shoulder taps

20sec high knees

20sec shoulder taps



20sec plank hold

20sec shoulder taps

20sec high knees

20sec shoulder taps

20sec high knees