



Whiteriver Unified School District

Eighth Grade Packet

Week 4: April 13 – 17, 2020

Student Name:

Name Day Standard		Week3	April 13 – 17, 2020
	Monday	Class	ELA 8
	<i>RI.8.1 Cite textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.</i> <i>RI.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.</i> <i>RI.8.5 Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.</i> <i>RI.8.6 Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.</i> <i>RI.8.3 Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).</i>		

To Fly, *from* Space Chronicles

Neil deGrasse Tyson

SHORT-RESPONSE QUESTIONS

DIRECTIONS: Complete the following items after you have read the text.

1. (a) Draw an inference from the text.

Reread paragraph 1 of “To Fly.” From the details in this paragraph, what do you infer is the “serious constructional defect” in the flying equipment used by Daedalus and Icarus?

(b) Cite textual evidence to support your inference.

Which sentence in paragraph 1 most clearly supports your inference about the defect in the flying equipment?

2. Analyze the impact of allusions on meaning.

In paragraph 3 of “To Fly,” what key point is supported by the allusions to Superman, angels, the winged horse Pegasus, the wing-footed god Mercury, Cupid, Peter Pan, and Tinkerbell?

3. (a) Analyze the structure of a paragraph.

Reread paragraph 4 of “To Fly.” The author uses a comparison to organize information in the paragraph. What two things does he compare?

(b) Analyze the role of a particular sentence in developing a key concept.

How does the second sentence in paragraph 4 support the concept, or idea, that humans envy birds for their ability to fly?

4. (a) Determine an author’s point of view.

Reread paragraph 6 of “To Fly.” What is the author’s point of view, or opinion, on whether it is possible for objects to travel faster than the speed of sound? What is the author’s opinion of people who once argued it was impossible for objects to travel faster than the speed of sound?

(b) Analyze how the author responds to conflicting viewpoints.

What evidence does the author offer to support his opinion on whether objects can travel faster than sound?

EXTENDED-RESPONSE ACTIVITY

Connections and Distinctions

DIRECTIONS: Complete the following activity as either a written response or a group discussion.

5. of “To Fly” makes between or among individuals, ideas, and events. Then, make a general statement about the connections and distinctions you analyzed. Use evidence from “To Fly” to support your ideas.

Use these guidelines in your writing or discussion.

- Reread paragraph 3. In this paragraph, the author uses several examples of objects that fly to explore an idea about flight. Explain what the author says about the meaning that humans attach to all these objects. Then, analyze the connections and distinctions among the objects. For example, how are the symbols of the bald eagle and jets similar to fictional characters such as Superman, Peter Pan, and Cupid? How are the symbols and the fictional characters different?
- Reread paragraph 8. Then, analyze the comparison that the author makes between the Wright brothers’ flight and earlier attempts to fly—for example, in balloons and in gliders. Explain what was different about the Wright brothers’ flight.
- Reread paragraphs 11 and 12. Then, analyze the connections that the author makes between the German V-2 rockets used to bomb London during World War II and the modern rocket. Explain how the author categorizes these flying objects. Also explain how the V-2 rocket and modern rockets are similar to one another and how they both are different from an airplane.
- Make a general statement about the connections that the author of “To Fly” makes between individuals, ideas, and events.

TIP FOR WRITTEN RESPONSE

Check your writing to be sure that you have used scientific or technical terms correctly.

TIP FOR DISCUSSION

Ask for evidence of one another’s claims or statements. For example, ask, “What makes you think so?” or “What evidence can you cite for that?”

To Fly

Neil deGrasse Tyson

Expository writing An **expository essay** provides information and discusses ideas on a nonfiction subject that the reader may be unfamiliar with. There are a number of different devices that the writer of an expository essay may use to develop ideas and draw connections between concepts.

For example, in his essay “To Fly,” Neil deGrasse Tyson uses **allusions**, or references to well-known people, places, literary works, characters, myths, historical events, or works of art, to inform the reader about the history of human flight. If deGrasse Tyson were to elaborate on the history of flight by telling personal anecdotes about his experiences with flying, perhaps the information provided in the expository essay would be less memorable or creditable. However, by providing allusions to famous myths and historical events in the history of flight, a memorable impression is left on the reader.

DIRECTIONS: Answer these questions about “To Fly.” Use textual evidence from the story to support your responses.

1. What is Tyson’s impression of the Wright Brothers?

2. How does Tyson help us imagine Chuck Yeager?

3. What effect did the men Tyson describes have on Tyson’s life?

4. What is one way in which Tyson shows the effect of human flight on space travel?

ANALYZE CRAFT AND STRUCTURE → EXPOSITORY WRITING

Expository writing is nonfiction writing that explains or informs. For example, expository writing may present information, discuss ideas, or explain a process.

Because the work of an expository essay is to explain or inform, it needs to follow a structure that the reader can follow. Some expository essays use **description** and imagery to make it easier for readers to visualize complex ideas in their minds. Other expository works are organized as **comparison-and-contrast** essays, where the author lays out similarities and differences between two subjects. Still other expository essays use a **cause-and-effect** organization, so that readers can understand how one event results in another.

In the end, the organization of an expository essay is a strategy for logic and clarity. Sometimes, expository essays present information that is extremely complex—so an essay’s organization can make all the difference in the reader’s understanding.

DIRECTIONS: Read the passage below. Then, answer the questions that follow.

The field of argumentation includes every kind of discourse that attempts to change man's actions or opinions. Exposition is explanation when only one theory or one interpretation of the facts is possible; when views of truth or of policy conflict, and one course is expounded in opposition to another, the process becomes argumentation. This art is used not only by professional speakers, but by men of every occupation. The schoolboy pleading for a holiday, the workman seeking employment, the statesman advocating a principle of government are all engaged in some form of argumentation. Everywhere that men meet together, on the street or in the assembly hall, debate is certain to arise. Written argument is no less common. Hardly a periodical is published but contains argumentative writing. The fiery editorial that urges voters to the polls, the calm and polished essay that points out the dangers of organized labor, the scientific treatise that demonstrates the practicability of a sea-level canal on the Isthmus are attempts to change existing conditions and ideas, and thus come within the field of argumentation.

—George K. Pattee, *Practical Argumentation*

1. At the beginning of the passage, the author compares and contrasts exposition with argumentation. How are these similar and different?

2. In the middle of the passage, the author uses descriptive imagery. What are three examples?

3. At the end of the passage, the author uses cause-and-effect to explain the art of argumentation. What are some of the causes and effects he gives?

A. DIRECTIONS: Read the passage below. Then, answer the questions that follow.

Modesty in word and action is indispensable to one who would gain the friendship of his audience. Anything that savors of egotism at once creates a feeling of enmity. No one can endure another's consciousness of superiority even though the superiority be real. An appearance of haughtiness, self-esteem, condescension, intolerance of inferiors, or a desire for personal glory will at once raise barriers of dislike. On the other hand, modesty should never be carried so far as to become affectation; that attitude is equally despicable. Personal unobtrusiveness should exist without being conspicuous.

—George K. Pattee, *Practical Argumentation*

1. Is this passage expository? How do you know?

2. What is the author's purpose in this paragraph?

B. DIRECTIONS: Read the passage below. Then, answer the questions that follow.

A student will hardly have reached this point in the study of Argumentation before finding it necessary to search for information that will assist him in the construction of his argument. To one unfamiliar with a library, a search after facts bearing upon a given subject is likely to prove tedious. For this reason a few words of advice concerning the proper way in which to use a library may be of great help to a beginner. Nothing, however, can be given here that will even approximate the value of a few hours' instruction by the librarian . . .

—George K. Pattee, *Practical Argumentation*

1. What information is the author presenting in this passage?

2. Why does the author feel this information is important?

3. What cause and effect does the author mention?

Name		Week3	April 13 – 17, 2020
Day	Tuesday	Class	ELA 8
Standard	8.L.2.c Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. 8.L.4 Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies. 8.L.4.b Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).		

CONCEPT VOCABULARY AND WORD STUDY

To Fly

Neil deGrasse Tyson

WORD LIST

myopic	foresight	naiveté	prescient	seminal
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A. DIRECTIONS: In each of the following items, think about the meaning of the italicized word or phrase, and then answer the question.

1. Would wearing all white clothes in a blizzard *enable* people to find you if you were lost? Explain.

2. Derrick does not think that humans will ever visit Mars. Do you think Derrick’s view towards interplanetary travel is *myopic*? Why or why not?

3. Gunther had the *forethought* to call and make sure there was a table big enough for twelve guests. Did Gunther anticipate the needs of the group? Explain.

4. Crystal’s *naiveté* caused her embarrassment when meeting the Secretary of State. Would you say Crystal is a worldly person? Explain.

5. Solomon’s *prescient* warning that the bridge would collapse turned out to be accurate. Was Solomon’s warning prophetic? Explain.

6. Would you say that an unnoticed and minor book was a *seminal* piece of literature? Why or why not?

B. WORD STUDY: The Old English prefix *fore-* means “before,” “towards,” or “front.” For example, the word *forejudge* means “form a judgment prematurely and without adequate information.” So, if you *forejudge* someone, you are judging that person “before” you have any adequate details about him or her. Find three words that use the prefix *fore-* and use them correctly in a sentence.

1. _____:
2. _____:
3. _____:

WORD STUDY → OLD ENGLISH PREFIX *FORE-*

The Old English prefix *fore-* means “before,” “towards,” or “front.” For example, the word *forejudge* means “form a judgment prematurely and without adequate information.” So, if you *forejudge* someone you are judging that person “before” you have any adequate details about him or her.

A. DIRECTIONS: In each of the following items, think about the meaning of the italicized word. Then, answer the question.

1. Henry *forearmed* Hal against the impending attack upon his personage. Is Hal prepared to defend himself? Why or why not? Explain.

2. Anastasia's *forearms* were sore after climbing the rope twenty times in a row. True or false: Her lower legs are sore.

3. Would you call your progeny your *forefathers*? Why or why not? Explain.

4. If the weather *forecast* called for sunny skies all week, would you prepare for rain? Explain.

5. There was a sense of *foreboding* as Camila reached for the letter that was resting on the mantel. Would you say there is a feeling of casualness in the air? Explain

B. DIRECTIONS: Write each italicized word from Section A next to its meaning.

1. _____ part of the arm between the elbow and wrist

2. _____ a prediction of future events

3. _____ fearful apprehension

4. _____ a member of past generations of one's family

5. _____ prepared someone in advance of an attack

WORD STUDY**OLD ENGLISH PREFIX *FORE-***

A. **Directions:** Select the correct word from the box on the right to complete each sentence.

forecaddie
forecabin
foreclosed
forecourt

1. Uncle John couldn't come up with the money to save his farm so the bank on him.
2. After checking the rigging, swabbing the deck, and repainting the hull, the sailors headed down into the _____ to rest.
3. We sent the ___ off to go find all of the golf balls Eric managed to hook or slice into the rough.
4. The party was held on the _____ of the estate.

B. **Directions:** Use each of the following words in a complete sentence. Consult a dictionary if needed.

1. forehead
2. foreground
3. foredoomed
4. forehand

C. **Directions:** Using your knowledge of the prefix *fore-*, craft an answer to the following question about a group of wise men: The wizened sages have *foretold* of a *foretoken* that will be arising in the eastern sky. What is it that the *foretoken* *forewarns* of? Is it something *foreboding*?

Name		Week3	April 13 – 17, 2020
Day	Wednesday	Class	ELA 8
Standard	8.L.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. 8.L.2.c Spell correctly.		

CONVENTIONS → CAPITALIZATION

To Fly

Neil deGrasse Tyson

The **capitalization** of certain words in sentences is an important part of writing correctly. Capital letters are used in a variety of situations.

Capitalization
The first word in a sentence : <u>W</u> e should go to the store.
The first word in a quotation: Tracy said, " <u>W</u> e should go to the store."
The pronoun I: Tracy and <u>I</u> went to the store.
Proper nouns: <u>T</u> racy and I went to the <u>D</u> aisy Convenience Store.
Titles of people: Tina and <u>M</u> r. Henderson met us there!

A. **Directions:** Rewrite these sentences substituting capital letters where appropriate.

1. daedalus and icarus both flew in the sky.

2. television programs would end with images of united states air force jets in flight.

3. the famed physicist lord kelvin argued that flight was impossible for heavy objects.

4. the astronauts of the apollo program flew to the moon.

B. **Directions:** Underline the words in each sentence that should begin with a capital letter.

1. they would play the "star spangled banner" after the program.
2. the image of the bald eagle appears on the quarter, the susan b. anthony dollar, the kennedy half dollar, and the eisenhower dollar.
3. characters of myth and fiction that fly, such as pegasus, mercury, cupid, peter pan, and tinker bell, capture our imagination.

CONVENTIONS CAPITALIZATION

The **capitalization** of certain words in sentences is an important part of writing correctly. Capital letters are used in a variety of situations.

Capitalize	Example
the first word in a sentence	<u>T</u> he zoo is closed on Tuesday.
the first word in a quotation that is a sentence	Sally wrote, " <u>T</u> he party will be at 3 o'clock."
the pronoun I	This year <u>I</u> am going to run a marathon.
proper nouns, geographical names, and organizations	The largest continent in the world is <u>A</u> sia.
titles of people	My English teacher is <u>M</u> s. Young.

DIRECTIONS: Rewrite these sentences, substituting capital letters where appropriate.

1. wow! these fireworks are spectacular!

2. whenever i see andrea, she is with rachael.

3. the city of cleveland lies on the shore of lake erie.

4. my brother will enter the university of wisconsin in september.

5. george washington fought on the side of the british in the french and indian war.

CONVENTIONS**CAPITALIZATION**

A. **Directions:** Underline the words in each sentence that should begin with a capital letter.

1. as soon as i met janet scott, i knew we would be friends.
 2. it was emma lazarus who wrote, "give me your tired, your poor."
 3. the yellow sea separates south korea from china.
 4. the matterhorn is one of the mountains in the alps.
 5. my brother jason is going to a class reunion at the university of chicago.
 6. she asked, "have you ever appeared on late-night TV?"
 7. hoover dam is in nevada, southeast of las vegas.
 8. the rose bowl parade is televised every new year's day.
 9. how could the owner have said, "my dog is friendly"?
 10. my whole family went to visit aunt cecilia.
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B. **Directions:** Each numbered pair contains a two-word proper noun and a proper adjective modifying a common noun. Capitalize each item correctly.

Example: A. english channel B. english silverware
 A. English Channel B. English silverware

1. A. korean war B. korean soldier
_____ _____
2. A. roman empire B. roman architecture
_____ _____
3. A. italian renaissance B. italian pastries
_____ _____
4. A. kentucky derby B. kentucky people
_____ _____
5. A. french revolution B. french dressing
_____ _____

Name		Week3	April 13 – 17, 2020
Day	Thursday	Class	ELA 8
Standard	<i>8.W.1 Write arguments to support claims with clear reasons and relevant evidence.</i> <i>8.W.1.b Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</i> <i>8.W.1.e Provide a concluding statement or section that follows from and supports the argument presented.</i>		

Research Project
Unit 5 : “To Fly” from Space Chronicles

Name: _____ Spring 2020 Hour: 1 2 3 4 5 6

Directions: Locate an article about the U.S. Space Shuttle Program.

Web site: _____

Title: _____

Author: _____

Date: _____

Summary: Write 1 paragraph summary of the article. Identify the Main Idea of the article.

Draw a picture of the Space Shuttle. Include the details and make it colorful.

Name		Week3	April 13 – 17, 2020
Day	Friday	Class	ELA 8
Standard	<p>RI.8.1 Cite textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.</p> <p>RI.8.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.</p> <p>RI.8.5 Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.</p> <p>RI.8.6 Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.</p> <p>RI.8.3 Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).</p> <p>8.L.2.c Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>8.L.4 Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.</p> <p>8.L.4.b Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).</p> <p>8.L.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.</p> <p>8.W.1 Write arguments to support claims with clear reasons and relevant evidence.</p> <p>8.W.1.b Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.</p> <p>8.W.1.e Provide a concluding statement or section that follows from and supports the argument presented.</p>		

SELECTION TEST "To Fly" from *Space Chronicles*

Neil deGrasse Tyson

FIRST READ: Comprehension

Identify the choice that best answers the question.

- _____ 1. According to physicist Lord Kelvin as cited in "To Fly," a chapter from *Space Chronicles*, why would human flight be impossible?
 - a. Humans would not be able to breathe at altitudes necessary for flight.
 - b. Powerful air currents would cause any flying vehicle to crash.
 - c. It is impossible to design artificial wings.
 - d. Things heavier than air cannot fly.

- _____ 2. In "To Fly," how does the author respond to Kelvin's assertion about flight?
 - a. He suggests that technological ingenuity can solve all problems.
 - b. He points out that birds are heavier than air, yet they fly.
 - c. He reminds the reader that Kelvin was not an inventor.
 - d. He reveals plans for a self-propelled airplane.

- _____ 3. In "To Fly," why does the author present information about the speed of sound?
 - a. to show that the laws of physics were made to be broken
 - b. to reveal the difference between physics and other sciences
 - c. to indicate how rapidly humans have overcome the laws of physics
 - d. to prove that anything not prohibited by the laws of physics is possible

- _____ 4. According to the author of "To Fly," what made the German V-2 missile a significant invention? Choose **two** options.
 - a. It was like a sentinel in space.
 - b. It used gravity to power its flight.
 - c. It could hold more than one person.
 - d. It could be launched far from its target.
 - e. It landed at elevations lower than its launch point.

- _____ 5. According to the author of "To Fly," what is the greatest achievement in flight so far?

- a. the launch of Voyager 2
- b. the Apollo 11 lunar landing
- c. the Wright Brothers' aeroplane
- d. the breaking of the sound barrier

First Read: **CONCEPT VOCABULARY**

Identify the choice that best answers the question.

- _____ 6. If a vacationer has *foresight*, which of the following is **most likely** to be true? Base your answer on the meaning of *foresight*.
- a. She is willing to try many varieties of new foods.
 - b. She stays close to her guide in museums and cathedrals.
 - c. She packs clothing for all potential changes in the weather.
 - d. She chooses the passport photo that makes her look happiest.
- _____ 7. Which of the following situations **best** illustrates the meaning of *naivete*?
- a. Isaac always passes the ball to the more talented players on the team.
 - b. Jocelyn does not understand why they are laughing at the crude joke.
 - c. Hiroshi is conducting his own orchestral composition at the concert in June.
 - d. Lela is interested in taking a cooking class if one is available after school.
- _____ 8. Which fact about an author **best** illustrates the meaning of *prescient*?
- a. Jane Austen's 1817 novel *Persuasion* is partly set in Bath, England.
 - b. In *The Sleeper Awakes*, written in 1899, H. G. Wells describes aerial warfare before it was invented.
 - c. George Eliot wrote *Romola* in 1862–1863 and set it in fifteenth-century Florence.
 - d. *David Copperfield*, published in 1850, is the most autobiographical of Charles Dickens's books.

Close Read: **ANALYZE THE TEXT**

Identify the choice that best answers the question.

_____ 9. Read the following passage from “To Fly.”

For millennia, the idea of being able to fly occupied human dreams and fantasies. Waddling around on Earth’s surface as majestic birds flew overhead, perhaps we developed a form of wing envy. One might even call it wing worship.

What is the author saying about humans?

- a. They want the powers that they observe in other creatures.
- b. They sometimes pray to birds because birds are magnificent.
- c. They should give up on the notion that they will ever outfly birds.
- d. They live in a world of fantasy instead of keeping their feet on the ground.

_____ 10. Read the following passage from “To Fly.”

We did, however, ultimately learn to fly because of the technological ingenuity afforded by our human brains. And of course, while birds can fly, they are nonetheless stuck with bird brains. But this self-aggrandizing line of reasoning is somewhat flawed, because it ignores all the millennia that we were technologically flightless.

What does the author mean when he says that this line of reasoning is flawed?

- a. We may be smarter than birds, yet we failed to fly until very recently.
- b. Bird brains may be just what is needed in order to fly successfully.
- c. We cannot logically compare the brains of two different species.
- d. We humans typically exaggerate our accomplishments.

11. The following question has two parts. Answer Part A first, and then Part B.

_____ **Part A** According to the author of “To Fly,” why can people fly faster than the speed of sound but not faster than the speed of light?

- a. The speed of light is simply too fast.
- b. The speed of sound is difficult enough to beat.
- c. The laws of physics prevent breaking the light barrier.
- d. The sound barrier is far easier to test with modern technology.

Part B Which of these passages from “To Fly” **best** supports the answer to Part A?

- a. Any limits to breaking the sound barrier were purely psychological and technological.
- b. Although other craft routinely travel many times faster than the speed of sound, none can travel faster than the speed of light.
- c. Credit the Apollo astronauts who went to the Moon with attaining the highest speeds at which humans have ever flown: about seven miles per second at the end of the rocket burn that lifted their craft beyond low Earth orbit.
- d. Actually, the real problem is not the moat that separates these two speeds but the laws of physics that prevent any object from ever achieving the speed of light, no matter how inventive your technology.

12. The following question has two parts. Answer Part A first, and then Part B.

Part A In “To Fly,” what is the **most likely** reason for the lunar module’s name, Eagle?

- a. Eagles can fly farther than all other birds.
- b. The people who named the module were making a joke.
- c. Orville and Wilbur Wright’s first plane was named “Kitty Hawk.”
- d. As America’s national bird, the name “Eagle” best represents our power in being the first nation to the moon.

Part B Which of these passages from “To Fly” best supports the answer to Part A?

- a. The United States even adopted a flying predator as a symbol of its strength: the bald eagle, which appears on the back of the dollar bill, the quarter, the Kennedy half dollar, the Eisenhower dollar, and the Susan B. Anthony dollar.
- b. Previously, people had flown in balloon gondolas and in gliders and had executed controlled descents from the sides of cliffs, but none of those efforts would have made a bird jealous.
- c. Never mind that Apollo astronauts landed on the airless Moon, where wings are completely useless, in a lunar module named after a bird.
- d. A mere sixty-five years, seven months, three days, five hours, and forty-three minutes after Orville left the ground, Neil Armstrong gave his first statement from the Moon’s surface: “Houston, Tranquility Base here. The Eagle has landed.”

Close Read: **ANALYZE CRAFT AND STRUCTURE**

Identify the choice that best answers the question.

_____ **13.** What **key** point is the author supporting in “To Fly” with his allusions to eagles, Superman, angels, Cupid, and Peter Pan?

- a. Wings are not just for birds.
- b. Humans idolize creatures that fly.
- c. Some wings work better than others.
- d. Flying can give people superpowers.

_____ **14.** According to this magazine piece excerpted in “To Fly,” what would be the **main** effect of building a space station?

In the hands of the West a space station, permanently established beyond the atmosphere, would be the greatest hope for peace the world has ever known. No nation could undertake preparations for war without the certain knowledge that it was being observed by the ever-watching eyes aboard the “sentinel in space.” It would be the end of the Iron Curtains wherever they might be.

- a. It would watch for the establishment of new Iron Curtains.
- b. It would put space firmly in the control of Western powers.
- c. It would persuade people around the world to work for peace.
- d. It would ensure that no country could make plans for war unseen.

_____ **15.** According to this passage from “To Fly,” what is one way in which the Wright brothers’ flight **differed** from earlier flights?

Wilbur and Orville Wright were the first to fly a heavier-than-air, engine-powered vehicle that carried a human being—Orville, in this case—and that did not land at a lower elevation than its takeoff point. Previously, people had flown in balloon gondolas and in gliders and had executed controlled descents from the sides of cliffs, but none of those efforts would have made a bird jealous.

- a. The flight carried more people.
- b. The flight did not land downhill.
- c. The flight did not need an engine.
- d. The flight was entirely man-made.

Language Development: **WORD STUDY**

Identify the choice that best answers the question.

_____ **16.** What is the meaning of the prefix *fore-* in the underlined word?

Our teacher forewarned us that the article might be difficult to read.

- a. four
- b. again
- c. before
- d. caution

_____ 17. The underlined word has the base word *thought*. Given your understanding of that base word and the meaning of the prefix *fore-*, choose the **most likely** meaning of *forethought*.

The Maxwells put a great deal of forethought into their plans for the house.

- a. thought that takes place ahead of time
- b. thought that is dedicated toward a goal
- c. thinking that concerns the front of something
- d. thinking that uses the creative part of the brain

Language Development: **CONVENTIONS**

Identify the choice that best answers the question.

_____ 18. Which underlined word is a proper adjective?

In 1906, Alberto Santos-Dumont, a Brazilian designer, was the first person to fly a heavier-than-air machine in Europe—specifically, in Paris.

- a. Alberto
- b. Brazilian
- c. Europe
- d. Paris

_____ 19. In which sentence are proper nouns correctly capitalized?

- a. How do scientists observe the rings of saturn from earth?
- b. The Arecibo Observatory is on the island of Puerto Rico.
- c. The telescope was designed by scientists from Cornell university.
- d. A laboratory run by the U.S. air force assisted in the design of Arecibo.

20. The following question has two parts. Answer Part A first, and then Part B.

_____ **Part A** Which underlined word should be capitalized in this sentence?

Dr. Markus told our high school class, "that helmet was used by the astronauts on an early space launch."

- a. high school
- b. that
- c. astronauts
- d. space

_____ **Part B** Which capitalization rule explains the need to capitalize the answer to Part A?

- a. Capitalize place names.
- b. Capitalize proper adjectives.
- c. Capitalize names of organizations.
- d. Capitalize the first word in a quotation.

Canyon Day Junior High Virtual Lesson Plan

Teachers: Mrs. Nelsa G. To-ong & Mr. Kenn Patrick Bulaso Class Math – 8 Date: April 13-17,2020

Week of:	
Standard	<p>8.NS.A.1. Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.</p> <p>8.EE.A.1. Know and apply the properties of integer exponents to generate equivalent numerical expressions.</p> <p>8.EE.A.2. Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes.</p> <p>8.EE.A.1. Know and apply the properties of integer exponents to generate equivalent numerical expressions. For example, $3^2 \times 3^{-5} = 3^{-3}$</p> <p>8.EE.A.4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used.</p>
Learning Goal	<ul style="list-style-type: none"> • I will learn different strategies to justify whether a number is rational or not. • I will learn about irrational numbers and be able to differentiate between a rational and irrational number. • I will learn strategies to calculate square roots and cube roots of rational numbers. • I will use my strategies for square and cubed roots to solve equations like $x^2 = p$, $x^3 = p$ • I will learn how to use the properties of exponents to create equivalent expressions. • I will write a number with a negative and zero exponent as an equivalent expression. • I will learn how to use scientific notation to write very large and small quantities. • I will learn to perform operations with numbers written in scientific notations.
Success Criteria	<p>I will accurately:</p> <ul style="list-style-type: none"> • Convert non- repeating decimals into fractions • Convert multiple repeating decimals into fractions • Identify whether a number is a perfect square and use that information to determine if the square root of a number is rational • Calculate perfect cubes and squares for equations • Multiply expressions with the same base to find equivalent expressions • Multiply expressions with different bases to find equivalent expressions • Multiply expressions with a Power of a power to find equivalent expressions • Divide expressions with the same base to find equivalent expressions • Use the negative property of exponents to write equivalent expressions. • Write large and small quantities using scientific notations • Convert between scientific and standard form • Add and subtract numbers in scientific notations.
Assignments that are to be completed for each day.	
Monday	<ul style="list-style-type: none"> • Lessons are on Rational numbers as decimals and Irrational numbers. Do activity # 1 about writing fraction into decimal and vice versa on page 2. • Activity # 2 is to classify if rational or irrational number (page 3).

Tuesday	<ul style="list-style-type: none"> • Lessons are on Square roots and Cube root of a rational number. Do activity 1 about solving some sample problems involving square root and cube root on page 4. • Activity # 2 is to identify the square and the cube of a number and writing the square root and cube root (page 5).
Wednesday	<ul style="list-style-type: none"> • Lesson is on Exponential Expressions: Multiplication Properties of Exponent. Do the warm up and activity 1 is about simplifying each expression using properties of exponent on page 7. • Activity # 2 is to simplify expressions using multiplication property of exponent. (page 8).
Thursday	<ul style="list-style-type: none"> • Lesson is on Exponential Expressions: Division Properties of Exponent, Zero Exponent and Negative Exponent. Do activity # 1 about simplifying each expression using division property of exponent on page 10. • Activity # 2 is to simplify expressions using negative and zero exponent (page 11).
Friday	<ul style="list-style-type: none"> • Lesson is on Scientific Notation. Do activity # 1 about writing the number into scientific notation on page 13. • Activity # 2 is writing each number either scientific notation or standard form (page 14).

DAY 1: (April 13, 2020)

TOPIC: Rational Numbers as Decimals

What is a Rational Number?

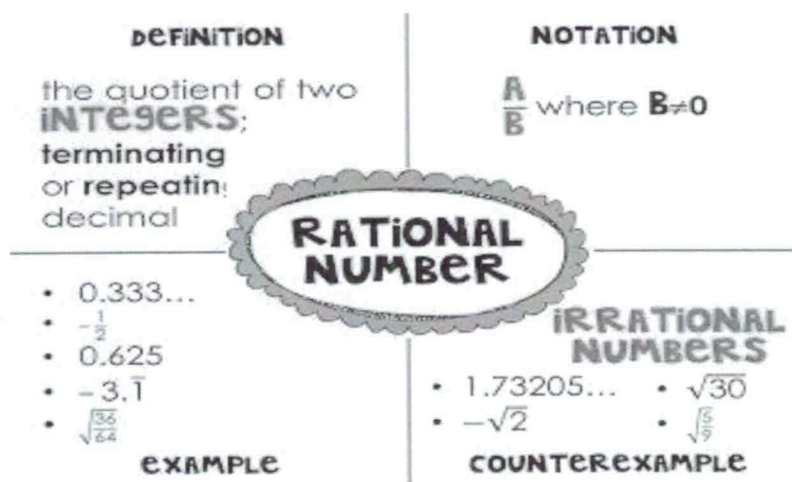
A **number** that can be made by dividing two integers (an integer is a **number** with no fractional part). The word comes from "ratio".

Examples: • $1/2$ is a **rational number** (1 divided by 2, or the ratio of 1 to 2)

$$\frac{a}{b} \begin{array}{l} \swarrow \text{integers} \\ \nwarrow b \neq 0 \end{array}$$

Rational Number: 5 $-1\frac{2}{5}$ 0.25 $0.6\overline{6}$

Fractional Form: $\frac{5}{1}$ $-\frac{7}{5}$ $\frac{1}{4}$



KEY CONCEPT



Because repeating decimals are rational numbers, you can write them in fraction form.

STEP 1 Assign a variable to represent the repeating decimal.

STEP 2 Write an equation: *variable = decimal*.

STEP 3 Multiply each side of the equation by 10^d , where d is the number of repeating digits in the repeating decimal.

STEP 4 Subtract equivalent expressions of the variable and the repeating decimal from each side of the equation.

STEP 5 Solve for the variable. Write an equivalent fraction so that the numerator and denominator are integers, if necessary.

Recurring Decimals to Fractions

1. Let x = recurring decimal.
2. Let n = the number of recurring digits.
3. Multiply the recurring decimal by 10^n .
4. Subtract (1) from (3) to eliminate the recurring part.
5. Solve for x , expressing your answer as a fraction in its simplest form.

Examples:

$$\begin{aligned}
 &0.\bar{7} \text{ (one recurring digit)} \\
 &x = 0.7777\dots \\
 &10x = 7.777\dots \\
 &10x - x = 7 \\
 &9x = 7 \\
 &x = \frac{7}{9}
 \end{aligned}$$

$$\begin{aligned}
 &1.2\bar{56} \text{ (two recurring digits)} \\
 &x = 1.25656\dots \\
 &100x = 125.6565\dots \\
 &100x - x = 125.6565\dots - 1.256565\dots \\
 &99x = 124.4 \\
 &x = \frac{124.4}{99} = \frac{1244}{990} = \frac{622}{495}
 \end{aligned}$$

Activity # 1:

1. Write $3.\bar{7}$ as a mixed number.

Let $x =$

$10x =$

$9x =$

$x =$

So $3.\bar{7}$ is equal to .

2. Write the number $0.212121\dots$ as a fraction.

Let $x =$

$100x =$

$100x - x =$ $-$

$99x =$

$x =$

So $0.2121\dots$ is equal to .

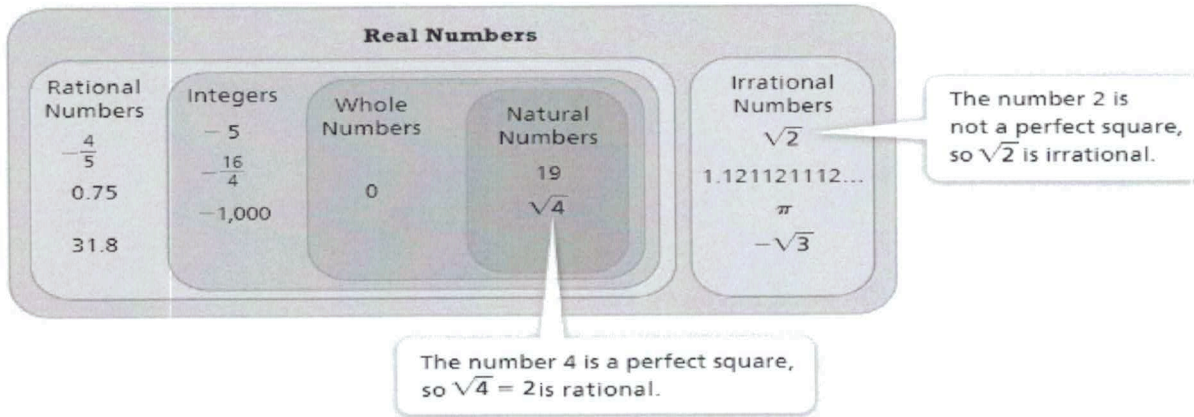
Write each fraction as a decimal. Use a bar as needed. Show your process.

3. $\frac{9}{20}$

4. $\frac{3}{10}$

5. $\frac{3}{7}$

Numbers that are not rational are called **irrational numbers**.



An **Irrational Number** is a real number that **cannot** be written as a simple fraction.
 Irrational means **not Rational**

Let's look at what makes a number rational or irrational ...

Rational Numbers

A **Rational** Number **can** be written as a **Ratio** of two integers (ie a simple fraction).

Example: **1.5** is rational, because it can be written as the ratio **3/2**

Example: **7** is rational, because it can be written as the ratio **7/1**

Example **0.333...** (3 repeating) is also rational, because it can be written as the ratio **1/3**

Irrational Numbers

But some numbers **cannot** be written as a ratio of two integers ...
 ...they are called **Irrational Numbers**.

Example: **π (Pi)** is a famous irrational number.

$\pi = 3.1415926535897932384626433832795\dots$ (and more)

We **cannot** write down a simple fraction that equals Pi.

The popular approximation of $\frac{22}{7} = 3.1428571428571\dots$ is close but **not accurate**.

NOTE: Numbers which are not a perfect square is an irrational number.

Classify each number if Rational or Irrational

1. $\sqrt{47}$

2. $\frac{15}{4}$

3. $\frac{11}{9}$

7. $\sqrt{84}$

4. $\frac{19}{4}$

5. -9

6. $\sqrt{84}$

Classify each number as rational or irrational.

4.27 0.375 0.232342345... $\sqrt{62}$ $-\frac{13}{1}$

Rational	Irrational
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

DAY 2: (April 14, 2020)

Topic: Square Roots and Cube Root of a Rational Number

Definition

Square Root A number, which when multiplied by itself, equals another number. Square roots can be written using a radical symbol or a rational exponent.

\sqrt{a} is a number such that $\sqrt{a} \cdot \sqrt{a} = a$.

If $\sqrt{a} = c$, then $c^2 = a$.

Square root of $a = \sqrt{a} = a^{\frac{1}{2}}$

Definition

Cube Root A number, which when multiplied by itself three times, equals another number. Cube roots can be written using a radical symbol or a rational exponent.

$\sqrt[3]{a}$ is a number such that $\sqrt[3]{a} \cdot \sqrt[3]{a} \cdot \sqrt[3]{a} = a$.

If $\sqrt[3]{a} = c$, then $c^3 = a$.

Cube root of $a = \sqrt[3]{a} = a^{\frac{1}{3}}$

The cube root of a number is a number whose cube is equal to that number.

$$\begin{aligned} \sqrt[3]{125} &= \sqrt[3]{5 \cdot 5 \cdot 5} \\ &= \sqrt[3]{5^3} \\ &= 5 \end{aligned}$$

Cubing a number and taking the cube root of the number are inverse operations.

Cube Roots Examples

$1^3 = 1$	$\sqrt[3]{1} = 1$
$2^3 = 8$	$\sqrt[3]{8} = 2$
$3^3 = 27$	$\sqrt[3]{27} = 3$
$4^3 = 64$	$\sqrt[3]{64} = 4$
$5^3 = 125$	$\sqrt[3]{125} = 5$
$6^3 = 216$	$\sqrt[3]{216} = 6$
$7^3 = 343$	$\sqrt[3]{343} = 7$
$8^3 = 512$	$\sqrt[3]{512} = 8$
$9^3 = 729$	$\sqrt[3]{729} = 9$
$10^3 = 1000$	$\sqrt[3]{1000} = 10$

The square root of a number is a number whose square is equal to that number.

$$\begin{aligned} \sqrt{4} &= \sqrt{2 \cdot 2} \\ &= \sqrt{2^2} \\ &= 2 \end{aligned}$$

Squaring a number and taking the square root of the number are inverse operations.

ACTIVITY # 1:

1. Relate the volume of the cube to the length of each edge.

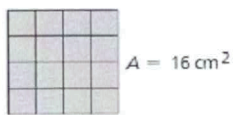


Edge length Edge length Edge length

cm × cm × cm

$\sqrt[3]{8} = \text{$

2. Relate the area of the square to the length of each side.



Side length Side length

cm × cm

$\sqrt{16} = \text{$

3. Which statements are true? Select all that apply.

- 49 is a perfect square.
- 9 is a perfect cube.
- 27 is a perfect cube.
- 14 is neither a perfect square nor a perfect cube.
- 1,000 is both a perfect square and a perfect cube.

4. A worker forgot his measuring tape when he went to a house. The Patio is a square with 121 square feet. The owner asked him how long the patio was. Explain how would you respond to the owner of the house.

ACTIVITY # 2

Squares, Cubes, and Roots

Squares, cubes, square roots, and cube roots may seem like difficult math problems at first, but once you learn how to solve them, you will find that they are both easy and fun!



- The **square** of a number is the number times itself.
- The **square root** of a number is a number that can be multiplied by itself to give the original number. It is the inverse operation of squaring a number.
- The **cube** of a number is the number multiplied by itself twice.
- The **cube root** of a number is, a value that when cubed, gives the original number. It is the inverse operation of cubing a number.

Examples

Square: $5^2 = 5 \times 5 = 25$

Square Root: $\sqrt{25} = 5^2(5 \times 5 = 25)$

Cube: $5^3 = 5 \times 5 \times 5 = 125$

Cube Root: $\sqrt[3]{125} = 5^3(5 \times 5 \times 5 = 125)$

Write the **square** or **cube** of each number.

1) $13^2 =$ _____ 4) $5^3 =$ _____ 7) $48^2 =$ _____

2) $4^3 =$ _____ 5) $2^2 =$ _____ 8) $3^3 =$ _____

3) $9^2 =$ _____ 6) $6^3 =$ _____ 9) $7^2 =$ _____

Write the **square root** of each number.

1) $\sqrt{16} =$ _____ 4) $\sqrt{81} =$ _____ 7) $\sqrt{49} =$ _____

2) $\sqrt{9} =$ _____ 5) $\sqrt{1} =$ _____ 8) $\sqrt{36} =$ _____

3) $\sqrt{25} =$ _____ 6) $\sqrt{4} =$ _____ 9) $\sqrt{100} =$ _____

Write the **cube root** of each number.

1) $\sqrt[3]{64} =$ _____ 4) $\sqrt[3]{216} =$ _____ 7) $\sqrt[3]{343} =$ _____

2) $\sqrt[3]{1} =$ _____ 5) $\sqrt[3]{8} =$ _____ 8) $\sqrt[3]{0} =$ _____

3) $\sqrt[3]{125} =$ _____ 6) $\sqrt[3]{1,728} =$ _____ 9) $\sqrt[3]{729} =$ _____

Topic: Exponential Expressions: Multiplication Properties of Exponent

Warm ups...

Write each expression using an exponent. (Example: $3 \cdot 3 \cdot a \cdot a \cdot a = 3^2 a^3$)

1. $2 \cdot 2 \cdot 2 =$

2. $x \cdot x \cdot x \cdot x \cdot x \cdot x =$

3. $4 \cdot 4 \cdot x \cdot x \cdot x \cdot y \cdot y \cdot y =$

Write each expression without using an exponent. (expand the expression, do not simplify) (Example: $6^3 = 6 \cdot 6 \cdot 6$)

4. $4^3 =$

5. $x^5 y^3 =$

6. $7^2 x^3 y^4 =$

You have seen that exponential expressions are useful when writing very small or very large numbers. To perform operations on these numbers, you can use properties of exponents. You can also use these properties to simplify your answer. In this lesson, you will learn some properties that will help you simplify exponential expressions containing multiplication.

$$a^n$$

The number a is the _____, and the number n is the _____. The expression a^n is called a power and is read "a to the n th power."

Product of Powers Property

WORDS	NUMBERS	ALGEBRA
The product of two powers with the same base equals that base raised to the sum of the exponents.	$6^7 \cdot 6^4 = 6^{7+4} = 6^{11}$	If a is any nonzero real number and m and n are integers, then $a^m \cdot a^n = a^{m+n}$.

Remember!

A number or variable written without an exponent actually has an exponent of 1.

$$10 = 10^1$$

$$y = y^1$$

$$3^2 \cdot 3^5$$

$$3^2 \cdot 3^5$$

$$3^{2+5}$$

$$3^7$$

Since the powers have the same base, keep the base and add the exponent.

Power of a Power Property

WORDS	NUMBERS	ALGEBRA
A power raised to another power equals that base raised to the product of the exponents.	$(6^7)^4 = 6^{7 \cdot 4} = 6^{28}$	If a is any nonzero real number and m and n are integers, then $(a^m)^n = a^{mn}$.



$$(5^2)^4$$

$$5^{2 \cdot 4}$$

$$5^8$$

MULTIPLICATION PROPERTIES OF EXPONENTS

- let a and b be numbers and let m and n be positive integers

<p style="text-align: center;"><u>PRODUCT OF POWERS PROPERTY</u></p> <p>- to multiply powers having the same base, add the exponents</p>	$a^m \cdot a^n = a^{m+n}$ $a^7 \cdot a^{12} = a^{19}$
<p style="text-align: center;"><u>POWER OF A POWER PROPERTY</u></p> <p>- to find a power of a power, multiply the exponents</p>	$(a^m)^n = a^{m \cdot n}$ $(x^3)^5 = x^{15}$

ACTIVITY # 1

Math is Exponentially Awesome!

Simplify each expression using properties of exponent. Evaluate when appropriate.

1. $x(x)$ _____ 2. $(-y)(y^2)$ _____ 3. $(n^5)(n^7)$ _____

4. $(n)(-n^3)$ _____ 5. $(-x^5)(-x^{19})$ _____ 6. $x^2(x^3)^4$ _____

7. $(y^9)^3$ _____ 8. $(n^2)(-n)^4$ _____ 9. $y^3(y^4)$ _____

10. $(-7y^8)^2$ _____ 11. $(-2x)^2(y^3)$ _____ 12. $(7xy)^2(5x^2)$ _____

13. $2(3xy)^3$ _____ 14. $m^2n^7m^3n^{-5}$ _____ 15. $(-4xy)^2$ _____

ACTIVITY # 2**Math is Fun**

1. $6x^6 \cdot x^9$

1. _____

2. $(2x^8)^4$

2. _____

3. $(-3x)^4$

3. _____

4. $(-5x^5)^3$

4. _____

5. $-7x^{10} \cdot -9x^9$

5. _____

6. $(-6x^{-3})^4$

6. _____

7. $(-7x^{-3})^{-2}$

7. _____

8. $\left(-\frac{4}{5}x^{10}\right)^2$

8. _____

9. $(-5x^{-6})^2$

9. _____

10. $(-2x^{-3}y)^5$

10. _____

Topic: Exponential Expressions: Division Properties of Exponent, Zero Exponent and Negative Exponent

- Quotient of Powers- to divide two powers that have the same base, subtract the exponents
 - Ex: $\frac{b^{15}}{b^7} = b^{15-7}$ or b^8
- Power of a Quotient- to find the power of a quotient, find the power of the numerator and the power of the denominator
 - Ex. $\left(\frac{c}{d}\right)^5 = \frac{c^5}{d^5}$
- Zero Exponent- any nonzero number raised to the zero power is 1.
 - Ex. $(-0.25)^0 = 1$
- Negative exponent- For an nonzero number a and any integer n, a^{-n} is the reciprocal of a^n . In addition the reciprocal of a^{-n} is a^n .
 - Ex. $\frac{1}{m^{-3}} = m^3$

Example 1: Finding Quotients of Powers

Simplify.

A. $\frac{2^7}{2^2}$

$$\frac{2^7}{2^2} = 2^{7-2}$$

$$= 2^5 = 32$$

B. $\frac{x^4}{x^3}$

$$\frac{x^4}{x^3} = x^{4-3}$$

$$= x^1 = x$$

Negative Exponents
(move the expression to a different part of the fraction)

$$8^{-2} = \frac{1}{8^2} = \frac{1}{64}$$

$$\frac{1}{9^{-2}} = \frac{9^2}{1} = \frac{81}{1} = 81$$

Zero Exponent Rule:

Any number raised to the zero power = 1

$$x^0 = 1$$

$$3^0 = 1$$

$$300^0 = 1$$

Zero and Negative Exponents

- Zero Exponent: any nonzero expression to the zero power is 1.

$$a^0 = 1, a \neq 0 \quad 5^0 = 1$$

- Negative Exponent: any term to a negative power is the reciprocal of that term with a positive power

$$a^{-n} = \frac{1}{a^n}, a \neq 0 \quad 2^{-3} = \frac{1}{2^3}$$

$$\frac{1}{a^{-n}} = a^n, a \neq 0 \quad \frac{1}{2^{-4}} = 2^4$$

ACTIVITY # 1

Simplify each expression. Assume that no denominator equals zero.

1. $\frac{6^5}{6^4}$

2. $\frac{9^{12}}{9^8}$

3. $\frac{x^4}{x^2}$

4. $\frac{r^3t^2}{r^3t^4}$

5. $\frac{m}{m^3}$

6. $\frac{9d^7}{3d^6}$

7. $\frac{12n^5}{36n}$

8. $\frac{w^4x^3}{w^4x}$

9. $\frac{a^3b^5}{ab^2}$

10. $\frac{m^7p^2}{m^3p^2}$

11. $\frac{-21w^5x^2}{7w^4x^5}$

12. $\frac{32x^3y^2z^5}{-8xyz^2}$

13. $\left(\frac{4p^7}{7r^2}\right)^2$

14. 4^{-4}

15. 8^{-2}

16. $\left(\frac{5}{3}\right)^{-2}$

ACTIVITY # 2

Solve the following exponents.

1. $10^{-3} =$ _____

2. $2^{-4} =$ _____

3. $1^{-1} =$ _____

4. $5^{-8} =$ _____

5. $5^{-4} =$ _____

6. $2^{-1} =$ _____

7. $3^{-2} =$ _____

8. $3^{-9} =$ _____

9. $7^{-8} =$ _____

10. $1^0 =$ _____

11. $9^0 =$ _____

12. $2^{-2} =$ _____

DAY 5: (April 17, 2020)

Topic: Scientific Notation

What is Scientific Notation?

Scientific notation is the way that scientists easily handle very large numbers or very small numbers. For example, instead of writing 0.0000000056, we write 5.6×10^{-9} .

How do you put a number in Scientific Notation?

Move the decimal place to the right or left to create a new number from 1 up to 10.

Determine the exponent, which is the number of times you moved the decimal. ...

Put the number in the correct form for scientific notation.

What are the rules for using a Scientific Number?

The exponent in scientific notation is equal to the number of times the decimal point must be moved to produce a number between 1 and 10.

A number in scientific notation form is in the form $A \cdot 10^b$ where A is a rational number in decimal form. To convert to a number in scientific notation form, move the decimal place by b places. If b is negative, move to the left. If b is positive, move to the right

EXAMPLE:

Decimal  Scientific Notation

Move decimal point **right** or **left** to arrange one digit to the left of decimal point.

- | | | | |
|----|-------------|---------------------|-----------------------|
| 1. | 52,314 | Move left 4 places | 5.2314×10^4 |
| 2. | 3.2 | No need to move | 3.2×10^0 |
| 3. | .0000428 | Move right 5 places | 4.28×10^{-5} |
| 4. | 602,000,000 | Move left 8 places | 6.02×10^8 |

Scientific Notation to Numbers

Scientific Notation involves moving decimals.

$$\begin{aligned} & 1.5 \times 10^4 \\ & = \underline{1.5000} \\ & = 15\,000 \quad \checkmark \end{aligned}$$

Because the exponent is **Positive** 4, move the decimal point 4 places **to the right**.
Add in Zeroes to fill the empty gaps.

$$\begin{aligned} & 5.8 \times 10^{-4} \\ & = \underline{00005.8} \\ & = 0.00058 \quad \checkmark \end{aligned}$$

Because the exponent is a **Negative** 4, move the decimal point 4 places **to the left**.
Add in Zeroes to fill the empty gaps.

ACTIVITY # 1

Example:

Write 3200 in scientific notation.

$$3 \overbrace{2} \overbrace{0} \overbrace{0}$$

We should move the decimal point 3 places to the left. So, the exponent will be 3.

$$3,200 = 3.2 \times 10^3$$

Express each number in scientific notation.

1) 625 = _____

2) 4,216 = _____

3) 49,603 = _____

4) 25 = _____

5) 18,569 = _____

6) 836 = _____

7) 9,364 = _____

8) 34,121 = _____

9) 22 = _____

10) 912 = _____

11) 7,350 = _____

12) 4,874 = _____

13) 62,503 = _____

14) 13,058 = _____

ACTIVITY # 2

Write each number in either standard form or scientific notation.

$2.71 \times 10^9 = \underline{\hspace{2cm}}$ $4.4296 \times 10^3 = \underline{\hspace{2cm}}$

$2.1 \times 10^6 = \underline{\hspace{2cm}}$ $1 \times 10^4 = \underline{\hspace{2cm}}$

$5.6 \times 10^{-5} = \underline{\hspace{2cm}}$ $2.68 \times 10^2 = \underline{\hspace{2cm}}$

$4.4 \times 10^{-9} = \underline{\hspace{2cm}}$ $8.26 \times 10^0 = \underline{\hspace{2cm}}$

$3.77185 \times 10^1 = \underline{\hspace{2cm}}$ $3.054 \times 10^{-9} = \underline{\hspace{2cm}}$

$7.8903 \times 10^{-1} = \underline{\hspace{2cm}}$ $5.73 \times 10^6 = \underline{\hspace{2cm}}$

$\underline{\hspace{2cm}} = 600$ $\underline{\hspace{2cm}} = 0.000000991$

$\underline{\hspace{2cm}} = 0.24$ $\underline{\hspace{2cm}} = 19,000$

$\underline{\hspace{2cm}} = 4.07369$ $\underline{\hspace{2cm}} = 2,399.1$

$\underline{\hspace{2cm}} = 816.3$ $\underline{\hspace{2cm}} = 36,683$

$\underline{\hspace{2cm}} = 0.077$ $\underline{\hspace{2cm}} = 0.000059$

$\underline{\hspace{2cm}} = 0.0033$ $\underline{\hspace{2cm}} = 0.63338$

Canyon Day Junior High Virtual Lesson Plan

Teacher: Curtis Clark__

Class__8th Social Studies__

Date: 4/7/20

Week of: 4/13-4/17	
Standards	<p>8.SP.4.1 Explain the multiple causes and effects of events and developments in the past</p> <p>8.SP1.4 Use questions generated about individuals and groups to analyze why they, and the developments they shaped, are historically significant.</p> <p>8.C3.2 Examine the origins and purpose of constitutions, laws, treaties, and international agreements.</p>
Learning Goal	The student will learn about the causes and effects of Genocide
Success Criteria	The Student will create questions, summarize an article, define academic vocabulary and complete reading comprehension to explain the causes and effects of the Cambodian Genocide.
Assignments that are to be completed for each day.	
Monday	Students will complete day 11 reading and define vocabulary and explain the importance of international law.
Tuesday	Students will complete the day 12 reading assignment and pose 5 questions a historian would ask using information from the timeline.
Wednesday	Students will complete day 13 reading and write a summary of the article while also explaining why the Cambodian Genocide would be considered a Genocide
Thursday	Students will complete day 14 of reading and write complete sentences to explain the effects of the Cambodian Genocide that can still be felt today.
Friday	Students will take the week 33 quiz

8th Grade Social Studies**Week 33 Packet****Holocaust and Genocide day 11**

Set Activity: How has life changed for you since the start of this virus? How do you feel about the changes? Are you listening to the rules the tribe has put in place?

Directions: Unfortunately the Holocaust was not the last Genocide that took place in History. We are going to learn about other Genocides that have occurred and what we can do to prevent such horrors in the future. Read the article and answer the corresponding questions.

What is Genocide?

After the Holocaust, the United Nations created a new term — genocide — and defined it as any of the following actions committed with intent to destroy a national, ethnic, racial or religious group:

Killing members of the group; Causing serious bodily or mental harm to members of the group; deliberately inflicting on the group conditions of life calculated to bring about its physical destruction in whole or in part; Imposing measures intended to prevent births within the group, or forcibly transferring children of the group to another group.

Raphael Lemkin and Creation of the word “Genocide”

In 1944, a Polish-Jewish lawyer named Raphael Lemkin sought to create a new term to describe Nazi policies of the systematic murder of Jewish people. Lemkin used the ancient Greek word *genos* (race, tribe) and the Latin *cide* (killing) to come up with the new word, “genocide.”

The United Nations Convention on the Prevention and Punishment of the Crime of Genocide

In 1946, the United Nations General Assembly adopted a resolution that “affirmed” that genocide was a crime under international law, but did not provide a legal definition of the crime. Two years later, the UN General Assembly adopted the Convention on the Prevention and Punishment of the Crime of Genocide which legally defined the crime of genocide for the first time.

Fifty years later, the UN Security Council took on further responsibilities around civilian protection against acts of genocide. Resolution 1674, adopted on April 28, 2006, “reaffirms the provisions of paragraphs 138 and 139 of the 2005 World Summit Outcome Document regarding the responsibility to protect populations from genocide, war crimes, ethnic cleansing and crimes against humanity”. With the adoption of the Resolution, Council committed itself to take action to protect civilians in armed conflict.

In 2008, the U.N. Security Council expanded the definition of genocide with the passage of Resolution 1820 noting that “rape and other forms of sexual violence can constitute war crimes, crimes against humanity or a constitutive act with respect to genocide”

Moving Beyond Definitions Into Action

The passage of the Convention changed the role of the international community in responding to genocide: state’s rights no longer superseded rights of individuals. This concept was declared in Article 1 stating that genocide “is a crime under international law which they undertake to prevent and to punish.”

While individuals and nations may debate whether a particular mass atrocity constitutes a true genocide, we believe the most important thing is that we remember past genocides and mass atrocities, we learn from them, and we strive to make a difference — by being aware and taking action together, we can stop and prevent mass atrocities, we can end genocide.

Learn more about past genocides and mass atrocities, and what we all can do to prevent future genocides.

<http://endgenocide.org/learn/what-is-genocide/>

The United Nations expanded the definition of what it meant to commit genocide. Read the expanded definition and then answer the questions.

1. Why would they add the following piece to the definition of genocide? *Imposing measures intended to prevent births within the group*
 - a. The U.N. wants to make sure that the population of Earth keeps rising
 - b. They wanted to stop the practice in China of allowing only 1 birth per family
 - c. If people of a group stop being born eventually that ethnic group will die out
 - d. None of the above
2. Why would they add the following piece to the definition of genocide? *or forcibly transferring children of the group to another group*
 - a. If you take away children you take away the future of a group.
 - b. If the children are taken away no one is there to learn the language
 - c. If the children are taken away no one is there to learn the culture
 - d. All of the answers are correct.
3. According to the Article what is **not** an important thing when it comes to preventing genocides
 - a. We must remember past genocides
 - b. We must learn from them
 - c. We must arrest all dictators
 - d. We can strive to make a difference
4. According to the article, who was responsible for coming up with the term genocide?
 - a. A Polish Banker
 - b. A Polish-Jewish Lawyer
 - c. A Swiss Lawyer
 - d. A Polish Judge
5. Why was it necessary for the United Nations instead of the United States to take this action?
 - a. The U.S. was not interested in preventing genocides
 - b. It takes more than one country to make international law
 - c. The United Nations had nothing else to do
 - d. None of the Above.

Holocaust and Genocide day 12

Set Activity: Where does Genocide rank among crimes, what is a lesser crime or a worse crime? What needs to be done to prevent genocide?

Directions: Read about these past Genocides and then come up with five total questions you could ask?

Past Genocides and Mass Atrocities

In the past 150 years, tens of millions of men, women and children have lost their lives in genocide or mass atrocities. Millions have been tortured, raped or forced from their homes.

The past genocides and mass atrocities described below represent just some of the historic examples that serve to remind us what's at stake if we let genocide happen again. We must learn, remember and take action to end genocide once and for all.

Armenia 1915

Beginning in 1915, ethnic Armenians living in the Ottoman Empire were rounded up, deported and executed on orders of the government.

The combination of massacres, forced deportation marches and deaths due to disease in concentration camps is estimated to have killed more than 1 million ethnic Armenians, Assyrians and Greeks between 1915 and 1923.

The Holocaust

After coming to power in 1933, Germany's Nazi Party implemented a highly organized strategy of persecution, murder and genocide aimed at ethnically "purifying" Germany, a plan Hitler called the "Final Solution".

Six million Jews and five million Slavs, Roma, disabled, Jehovah's Witnesses, homosexuals, and political and religious dissidents were killed during the Holocaust

Cambodia

When the Khmer Rouge took control of the Cambodian government in 1975 they began a "re-education" campaign targeting political dissidents.

These citizens, including doctors, teachers and students suspected of receiving education were singled out for torture at the notorious Tuol Sleng prison.

In the four years after they took power, between 1.7 and 2 million Cambodians died in the Khmer Rouge's "Killing Fields."

Rwanda

Civil war broke out in Rwanda in 1990, exacerbating tensions between the Tutsi minority and Hutu majority.

In 1994, returning from a round of talks, Rwandan President Juvenal Habyarimana was killed when his plane was shot down outside of the country's capital, Kigali.

Habyarimana's death provided the spark for an organized campaign of violence against Tutsi and moderate Hutu civilians across the country.

Bosnia

Beginning in 1991, Yugoslavia began to break up along ethnic lines.

When the republic of Bosnia and Herzegovina (Bosnia) declared independence in 1992 the region quickly became the central theater of fighting.

The Serbs targeted Bosniak and Croatian civilians in areas under their control in a campaign of ethnic cleansing. The war in Bosnia claimed the lives of an estimated 100,000 people.

Darfur

Over a decade ago the Government of Sudan carried out genocide against Darfuri civilians, murdering 300,000 & displacing over 2 million people.

In addition to the ongoing crisis in Darfur, forces under the command of Sudanese President Omar al-Bashir have carried out attacks against civilians in the disputed Abyei territory, and the states of South Kordofan and Blue Nile.

Directions: Choose five of the headings and ask a question that a historian would?

- 1.
- 2.
- 3.
- 4.
- 5.

Holocaust and Genocide day 13

Set Activity: Why do people commit genocides? What can be done to stop Genocides from happening?

Directions: Read the Article about the Cambodian Genocide and write a summary, also include an explanation of why this event should be considered a genocide.

Cambodian Genocide

The Khmer Rouge regime was extremely brutal. The regime generally singled out doctors, teachers, monks, journalists, the rich, artists, anyone with an education, and ethnic or religious minorities. But they also executed people who could no longer work or make the journey to the camps, those perceived to be in opposition to the party (whether or not this was true), as well as the families of those were deemed undesirable so that they could not be chased down for revenge.

Unlike in other genocides or conflicts, no one was immune from being branded an enemy of the state. Even if one was considered to be on the right side that could change the next day – many Khmer Rouge members were also killed during purges.

Children and babies were not exempt from their cruelty; it was often noted “to stop the weeds you must also pull up their roots.” Anyone affiliated with Lon Nol’s regime or military was also immediately killed.

No evidence was needed in order to send one to prison and people often fabricated their confessions of various crimes, with the belief that this would end their torment. In reality, they were more often than not executed once they gave up a list of names of new people to arrest.

In the beginning, executions were not necessary – starvation served as an effective tool to dispose of undesirable populations, but as more and more people were sent to prison, the Khmer Rouge moved over to a system of “killing fields,” establishing hundreds all over Cambodia.

As the genocide progressed, survival was determined by one’s ability to do work on the collective farms. This meant many of Cambodia’s elderly, handicapped, ill, and children became targets due to their inability to undertake harsh manual labor.

Money, free markets, schools, private property, foreign styles of clothing, religious practices, and other aspects of traditional Khmer culture were abolished, and buildings such as schools, pagodas, and government properties were turned into prisons, stables, camps, and granaries. Family relationships were heavily criticized, and the Khmer Rouge insisted that everyone consider “Angka” (translated to the Organization, referring to the top level of the regime) as their mother and father. Child soldiers were a huge tool of the Khmer Rouge, as they were easy to control and would follow orders without hesitation, to the point where many were forced to shoot their own parents.

International Response

The international community was largely silent during the course of the genocide. Neither the U.S. nor Europe called attention to the genocides as they were happening, although scholars and others in the West tried to bring attention to the atrocities being committed. At this time the U.S. had just lost the war in Vietnam, resulting in the government’s reluctance to involve itself in the region again. While their public stance against the killing gradually strengthened, it did not amount to action. It wasn’t until the regime was overthrown that the atrocities that had been committed gained the focus of the international media. However, this still did not lead to an international investigation.

In 1984, a movie entitled “The Killing Fields” was released. It documented the horrifying conditions that Cambodians were forced to live in through the stories of American journalist Sydney Schanberg and his Cambodian colleague Dith Pran. When the Khmer Rouge takes Phnom Penh, Schanberg is able to evacuate but Pran is not, and he is eventually arrested. The movie shows the ordeal he is put through and his harrowing escape. For many outside of the country, this was their first look at what the Khmer Rouge regime was like.

Clashes with Vietnam broke out in 1977 and on January 7, 1979 Vietnam invaded Cambodia, overthrowing the Khmer Rouge and installing a socialist regime comprised of Khmer Rouge defectors. The rest of the party fled west into the jungles along the Thai border, carrying out guerilla attacks against the Vietnamese.

Fall of Khmer Rouge

Many of the Khmer Rouge’s members escaped to Thailand, where they received aid from Western countries. Soviet-bloc countries also sought to keep Cambodia’s seat at the UN, and the U.S. voted in favor of this too. While they did not necessarily condone the Khmer Rouge’s actions, they also wanted to show their disapproval of Vietnam’s presence in Cambodia, one of many ways that Cold War politics fueled decision making.

For another decade, the Khmer Rouge fought the Vietnam-backed government with support from China and the Soviet Union. The violence and instability of this period result in the deaths of thousands of Cambodians, as well as a large influx of hundreds of thousands refugees into Thailand, still traumatized by their experiences under the Khmer Rouge and in search of food, medical care, and security.

In 1989, Vietnam withdrew their troops due to economic sanctions the U.S. had placed on Cambodia and a lack of aid from the Soviet Union (their main supporter). A temporary coalition government was formed and in 1991 a peace agreement was signed between opposing parties. Elections were set for 1993, and the former monarch, Prince Sihanouk, was elected.

Pol Pot led the Khmer Rouge as an insurgency until 1997 when he was arrested and placed under house arrest. The organization continued to exist until 1999, by which point most members had defected, been arrested, or died.

<http://endgenocide.org/learn/past-genocides/the-cambodian-genocide>

Summary

Holocaust and Genocide day 14

Set Activity: What would happen to education in America if the government decided to imprison or kills everyone that was a teacher or who had an education past high school?

Directions: Read the article about the effects of the Cambodian Genocide and answer a few questions using complete sentences.

Two weeks ago, high school students across Cambodia sat for their national exams. It has been four years since stringent anti-cheating reforms were introduced, which resulted that year in more than 70 percent of students failing their exams. This multifaceted push for reformation, spearheaded by Education Minister Hang Choun Naron, aims to improve an education system still recovering from the Cambodian genocide.

Four decades ago, from 1975-1978, the Khmer Rouge conducted a genocidal campaign, killing between approximately 1.2 to 2.8 million Cambodians — one-quarter of the country's population. During this senseless violence, more than 90 percent of the country's financial and educated elite were targeted and killed.

Before the civil war that began in 1970 and ended with the Khmer Rouge taking power, Cambodia had undergone a stunning educational transformation. After independence from France, Prince Sihanouk had made education a priority, spending more than 20 percent of all government expenditures on education. Taking inspiration from French and Buddhist education systems, Cambodia was the model of education in the region: education attainment rates grew steadily at a remarkable rate of more than 2 percent.

Prince Sihanouk was deposed in 1970, just 17 years after Cambodia gained independence, and the country was embroiled in conflict for the next two decades. A five-year civil war was followed by the Pol Pot-led genocide. Schools were shut down and were replaced by reeducation and ideology camps. Research by Thomas Clayton finds statistics from the Ministry of Education that 75 percent of all teachers and 96 percent of all tertiary students were killed.

While the Cambodian genocide ended on December 25, 1978 when Vietnamese soldiers and Cambodian rebels reentered the country, it was not until 1991 that peace accords were signed and reconstruction efforts could begin. While the new government initially attempted to allocate more than 15 percent of the national budget to education, this figure dropped to 8 percent within three years. According to a 2001 International Labor Organization report, only 25 percent of respondents reported the completion of secondary school or higher, and almost 20 percent responded that they had never received any schooling at all.

An immediate impact of the death of teachers is a high student to teacher ratio. Data on regional student to teacher ratios from the World Bank demonstrates the sharp increase in student to teacher ratios in Cambodia

starting in 1970. The increase continued until the early 2000s, at which point there was a relative turnaround. The rise, even after the peace accords in the early 1990s, is attributable to more children entering school rather than teachers leaving schools. It's emblematic of the difficulty of recreating institutions: the better the institutions become, the greater the public burden placed upon them.

What's remarkable about the student to teacher ratio is that the Cambodian government had the capacity and wherewithal to stop the educational decline from becoming truly disastrous. After the genocide, Cambodia had an enormous shortage of teachers, facilities, and funding while illiteracy rates skyrocketed to almost 40 percent.

Cambodia still has far to go to reach even pre-war education standards, but the recent reforms by the new Education Minister are steps in the right direction. His move to pay teachers more, bringing their monthly salary to an average of almost \$300 per month, might help address the high student to teacher ratio. Cambodia's current ratio, especially compared to regional averages, denotes a high level of inefficiency within the school system. Data from the World Bank on expenditures on education as a percentage of GDP visualizes the gap.

Although increasing funding is a seemingly requisite condition to increase the quality of education in the long run, purely increasing government expenditures may not be enough to immediately catalyze growth. High rates of students living in poverty decreases students' abilities to learn, but constitutes an entrenched problem reaching outside the classroom. Still, considering that the modern Cambodian education system arose out of a completely decimated system, the progress so far is surely commendable. So as more than 100,000 high school students across Cambodia await their test results, there is certainly reason for optimism about the education system.

<https://thediplomat.com/2018/09/the-lingering-effects-of-the-cambodian-genocide-on-education/>

1. According to the article what impact did the Cambodian Genocide have on education in Cambodia 4 decades later?
2. Do you agree something that happened 40 years before can still have an impact today? Explain your answer and give an example not found in the article?
3. The article talked about a high student to teacher ratio because of the death of teachers during the genocide? How do too many students in a class hurt a child's education?
4. Find the word "decimated" which is underlined in the last sentence, using context clues provide a synonym or definition for that word.