Grades 6-8

Dear SLPS Families,

As we work together to contain the spread of the Coronavirus (COVID 19), schools will be closed March 23 – April 3. In that time, leaders of Saint Louis Public Schools and our partner connections are committed to providing nutritious food (breakfast and lunch) and ensuring a Continuous Learning Experience for every child.

Attached please find a list of designated school sites where families may pick up meals and learning plans. In addition to lesson plans available on our website, we are making these Learning Kits available to each family to continue access to meaningful, hands on learning experiences.

While the internet allows us to keep the world at our children's fingertips, we also want our students to engage in work that allows them to draw upon the world around them, the resources they have at home, and the resources we are providing.

Your Learning Kit will include:

1) Suggested Daily Schedule

2) Learning Log to be Completed Daily

3) Continuous Learning Plans that Outline Suggested Learning Activities in each Subject

Families may access these materials and more on-line at www.slps.org/keeponlearning

Here is how you can help:

➔ Review the Suggested Daily Schedule and help your child select from the Learning Kit activities offered.

➔ Work through all core subjects with your child each day.

➔ Encourage your child to read a little every day!

➔ Encourage physical activity daily.

➔ Take advantage of meal opportunities provided by St. Louis Public Schools!

➔ Complete the Learning Log daily, and send these back to school when we return.

➔ Talk with them about what they are seeing and hearing on the news about the Coronavirus. Reinforce proper hand washing and coughing or sneezing into a tissue or elbow.

Any parent of a child who does not have access to the internet can contact Charter/Spectrum at 844-488-8395 to receive free access for 60 days.

If you have questions about anything in this packet, you can post your questions on "Let's Talk" via the SLPS website or contact Dr. Paula Knight, Deputy Superintendent for Academics / Chief Academic Officer via email at paula.knight@slps.org.

Thank you for your ongoing support of your child's education!

Saint Louis Schools' Pandemic Meal Plan

City of Saint Louis schools will provide free meals during the pandemic outbreak for children ages 18 and younger. Children can visit school sites (listed below) for meals and snacks.

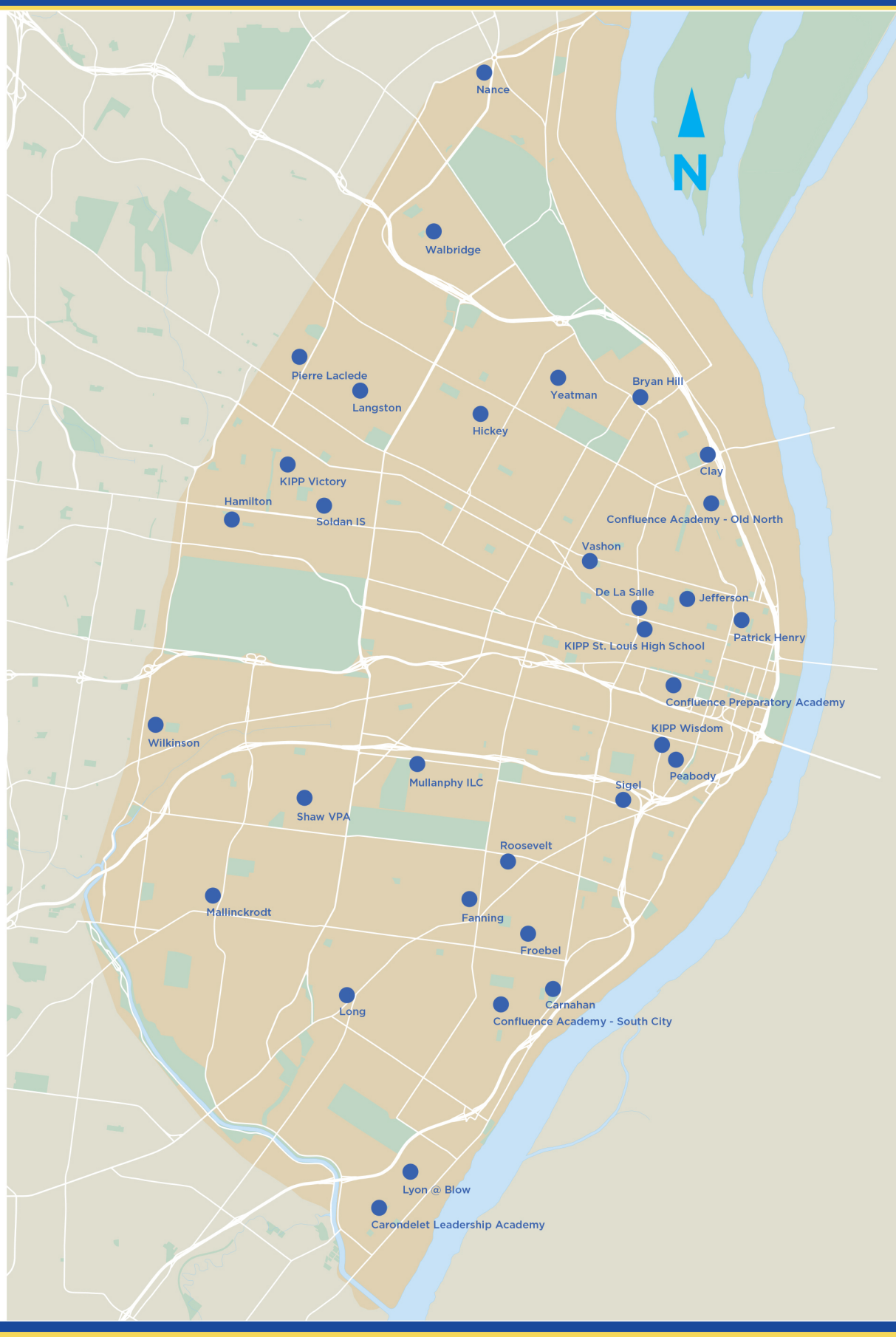
- Grab-and-go breakfast and lunch meals are provided at school sites
- No student ID required
- Students must be present to receive meal
- Free for children 18 and younger
- Meals served from **8:00 a.m. - 12:00 p.m.**

North City Schools:

School	Address	Dates
Bryan Hill	2128 E. Gano	3/23 - 4/3, M-F
Clay	3820 N. 14th	3/23 - 4/3, M-F
Confluence Academy - Old North	3017 N. 13th	3/23 - 4/3, M-F
Hamilton	5819 Westminster Place	3/23 - 4/3, M-F
Hickey	3111 Cora	3/23 - 4/3, M-F
Jefferson	1301 Hogan	3/23 - 4/3, M-F
KIPP Victory	955 Arcade	3/23 - 4/3, M-F
La Salle	1106 Jefferson	3/18 - 3/20, 3/30 - 4/3, M-F
Langston	5511 Wabada	3/23 - 4/3, M-F
Nance	8959 Riverview	3/23 - 4/3, M-F
Patrick Henry	1220 N. 10th	3/23 - 4/3, M-F
Pierre Laclede	5821 Kennerly	3/23 - 4/3, M-F
Soldan	918 Union	3/23 - 4/3, M-F
Vashon	3035 Cass	3/23 - 4/3, M-F
Walbridge	5000 Davison	3/23 - 4/3, M-F
Yeatman	4265 Athlone	3/23 - 4/3, M-F

Downtown/South City Schools:

School	Address	Dates
Carnahan	4041 S. Broadway	3/23 - 4/3, M-F
Carondelet Leadership Academy	7604 Michigan	3/18 - 4/3, M-F
Confluence Preparatory Academy	310 N. 15th	3/23-4/3, M-F
Confluence Academy - South City	3112 Meramec	3/23 - 4/3, M-F
Fanning	3417 Grace	3/23 - 4/3, M-F
Froebel	3709 Nebraska	3/23 - 4/3, M-F
KIPP St. Louis High School	706 N. Jefferson	3/23 - 4/3, M-F
KIPP Wisdom	1224 Grattan	3/23 - 4/3, M-F
Long	5028 Morganford	3/23 - 4/3, M-F
Lyon @ Blow	516 Loughborough	3/23 - 4/3, M-F
Mallinckrodt	6020 Pernod	3/23 - 4/3, M-F
Mullanphy	4221 Shaw	3/23 - 4/3, M-F
Peabody	1224 S. 14th	3/18 - 4/3, M-F
Roosevelt	3230 Hartford	3/23 - 4/3, M-F
Shaw	5329 Columbia	3/23 - 4/3, M-F
Sigel	2050 Allen	3/23 - 4/3, M-F
Wilkinson	1921 Prather	3/23 - 4/3, M-F



FOR MORE INFORMATION, DIRECTIONS AND UPDATES, PLEASE VISIT

WWW.SLPS.ORG/MEALS

Recommended Daily Schedule

Time	Suggested Activity	Details
Before 9 am	Wake Up & Breakfast	Get ready for the day Please remember that SLPS is providing breakfast and lunch.
9-10 am	Learning Time	Spring Break Packets; Continuous Learning Packets; Reading Work; **Complete Daily Log***
10-11 am	Academic Time	Reading books, doing puzzles, journaling Choose from the List of Possible Learning Activities; **Complete Daily Log***
11-12 pm	Morning Free Time	Take a walk, play outside, Go Noodle, physical activities of any sort
12-12:30 pm	Lunch	Please remember that SLPS is providing breakfast and lunch.
12:30-1 pm	Chore Time	Remember to use disinfectant around the house, on a frequent and regular basis during this time. Wipe down door handles, light switches, tabletops, etc.
1-2 pm	Afternoon Free Time	Take a walk, play outside, Go Noodle, physical activities of any sort Choose from the List of Possible Physical Activities
2-4 pm	Creative Time	Coloring, legos, crafting, music, cooking Choose from the List of Possible Creative Activities; **Complete Daily Log***
4-bedtime	Family Time	Enjoy time with family!

*Completed Daily Logs should be returned to your child's teacher upon return to school. Middle and High School logs will be submitted to their ELA teacher. Each completed week of the Daily Log will receive one entry into a raffle for prizes.

Learning Log Name_____

While you are learning at home, we want to know what is happening. You will bring this back to your teacher when we return to school. Each day, share about your learning experiences. This Learning Log will function as your conversation with your teacher about your learning while you were at home. Give them as much information as you can.

Sample Learning Activities
Make a list of what you learned/did today.

SAMPLES:

- ❑ Independent Reading
- ❑ Practice Math Facts
- ❑ Journaling Our Daily Experiences
- ❑ Virtual Field Trips
- ❑ Puzzles
- ❑ Legos

Sample Reflection (Sentence Starters)
Write a summary of your learning today.

SAMPLES:

- ❑ What did you like today vs. what did you not like?
- ❑ What was really fun?
- ❑ What was most interesting?
- ❑ What do you need more help with when you see your teacher again?

✓ Read Chapters 3-6 of All American Boys ✓ Journaled about my reading ✓ Took a virtual field trip to Ellis Island.	I am really getting into this book. I feel sad for Rashad because what is happening to him is unjust. Visiting Ellis Island reminded me of what this country means to people all over the world, and made me wonder if we're living up to the promises. I want to talk more about the justice system when I come back to class.

Learning Log

Name_____

Monday, March 23	
Learning Activity	**Reflection**

Tuesday, March 24	
Learning Activity	**Reflection**

Learning Log Name_____

Wednesday, March 25	
Learning Activity	**Reflection**

Thursday, March 26	
Learning Activity	**Reflection**

Learning Log Name_____

Friday, March 27	
Learning Activity	**Reflection**

Monday, March 30	
Learning Activity	**Reflection**

Learning Log Name_____

Tuesday, March 31	
Learning Activity	**Reflection**

Wednesday, April 1	
Learning Activity	**Reflection**

Learning Log Name_____

Thursday, April 2	
Learning Activity	**Reflection**

Friday, April 3	
Learning Activity	**Reflection**

Learning Log Name_____

Journal:
Here you can write about your learning experiences. Anything you want to share with your teacher(s), you can write here:

Middle School ELA

St. Louis Public Schools
Continuous Learning Plans
Middle School English Language Arts

WEEK 1	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment* *How will you show your teacher that you learned the material?*
Monday **March 23**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can determine the meaning of unfamiliar words using context clues.	RI.1.B Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings using context, affixes, or reference materials.	Read Article Identify Unfamiliar Vocabulary Words	"Are Graphic Novels Books?" *The article has an audio option.*	Select 3 highlighted vocabulary words from the article that were unfamiliar to you. What context clues help you understand the meaning of the words?
	I can draw conclusions from an infographic.	RI.1.C Interpret visual elements of a text and draw conclusions from them.	Read an Infographic *Learn more about the benefits of reading.* Respond to 1 Comprehension Question	Infographic	Based on this infographic, how does reading affect your health? Write a well-written paragraph of at least 7 sentences to answer this question. Be sure to use evidence from the infographic in your response.
Tuesday **March 24**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can cite textual evidence to analyze what a text says.	RI.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Read Article Respond to 2 Comprehension Questions After Reading	5 Big Questions About Coronavirus	Respond to the following questions after reading the article. Use complete sentences. Be sure to include evidence from the text to support your responses. 1. How are people trying to stop the spread of the new coronavirus? 2. Compare and contrast coronavirus and the flu. (You may create a Venn diagram for this assignment.)

For questions related to this instructional plan, please contact:

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WEEK 1	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment* *How will you show your teacher that you learned the material?*
Wednesday **March 25**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can cite textual evidence to support my inferences from the text.	RI.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Read: Citing Evidence to Make Inferences Complete Exercises	Citing Evidence to Make Inferences	Part 1: Read Introduction Part 2: On the lines provided, explain how the details you presented in the chart support your inference. Part 3: Answer the question. Explain how the evidence in your answer helped show that most scientists do not find value in investigating Bigfoot artifacts. Part 4: Answer the questions. Explain how the examples of recent scientific discoveries support the idea that Chupacabras may one day be found. Use details from the text in your explanation. Part 5: Some people firmly believe that the Loch Ness monster is actually a plesiosaur. Use at least **three** details from the account to explain why some people believe this.
Thursday **March 26**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can determine the meaning of words using affixes.	RI.1.B Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings using context, affixes, or reference materials.	Read: Greek & Latin Word Parts Complete Exercises	Greek & Latin Word Parts	Part 1: Circle the roots in the underlined words. Write the meaning of each. Part 2: Reach each sentence and answer the question that follows.
	I can use a variety of sentence types and structures.	W.3.A Review, revise, and edit writing with consideration for the task, purpose, and audience.	Varying Sentence Patterns Exercises	Varying Sentence Patterns	Part 1: Read the Introduction and rewrite each pair of sentences. Part 2: Read the paragraphs for numbers 1-4 and answer the questions that follow.
Friday **March 27**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum Reading / 20 min	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*

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WEEK 1	**Lesson Objective** *What will you know and be able to do at the conclusion of this lesson?*	**Missouri Learning Standard** *What content standard will this learning align to?*	**Instructional Activities** *What needs to be done in order to learn the material?*	**Resources** *What print and electronic resources are available to support your learning?*	**Assessment / Assignment*** *How will you show your teacher that you learned the material?*
	I can cite textual evidence to support my analysis of the text. I can make inferences after reading a text. I can summarize a text.	RL.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Complete Assessment	Reading Assessment	Reading Assessment #1-11

Please be prepared to submit these assignments to your teacher upon returning to school.

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St. Louis Public Schools
Alternate Instructional Plans
Middle School English Language Arts

WEEK 2	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment* *How will you show your teacher that you learned the material?*
Monday **March 30**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can cite textual evidence to support my analysis of the text.	RI.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Read Article Answer Writing Prompt	The Future of Zoos	Read the article and answer the writing prompt: Is it okay to keep animals in zoos? Find at least 3 pieces of evidence in the article or sidebars to support your opinion.
	I can determine the meaning of words and phrases using context clues.	RI.1.B Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings using context, affixes, or reference materials.	Read: Using Content Clues Complete Exercises	Using Context Clues	Part 1: Read Introduction Part 2: Read the paragraph. Identify context clues to help you figure out the meaning of the underlined words. Part 3: Read the short paragraph. Answer #1-4.
Tuesday **March 31**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can cite textual evidence to support my analysis of the text. I can craft an argumentative essay with a claim and relevant evidence.	RI.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. W.2.A.c Develop argumentative writing by introducing and supporting a claim with clear reasons and relevant evidence.	Read Article Answer Writing Prompt	Should Video Gaming Be A School Sport?	Read the article and answer the writing prompt: Write an essay explaining whether you think video gaming should be considered a school sport. Use evidence from the article, along with your own reasons, to support your claim. Your essay must be at least 3 paragraphs in length.

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WEEK 2	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment* *How will you show your teacher that you learned the material?*
Wednesday **April 1**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can cite textual evidence to support my analysis of the text.	RL.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Read Short Story: If I Were A Superhero	If I Were A Superhero	Read the short story and respond to the prompts: 1. What is the narrator's internal conflict? Find two lines from the story that reveal the internal conflict. 2. What is the narrator's external conflict? Find two lines from the story that reveal the external conflict.
Thursday **April 2**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can determine the meaning of words using reference materials.	RI.1.B Determine the meaning of words and phrases as they are used in the text, including figurative and connotative meanings using context, affixes, or reference materials.	Read: Using a Dictionary or Glossary Complete Exercises	Using a Dictionary or Glossary	Part 1: Read Introduction Part 2: Read the paragraph. Use the entries provided to find the meanings of the underlined words and phrases. Part 3: For #1-4, use the dictionary entries to determine the meaning of the words as they are used in the sentences.
	I can cite textual evidence to support my inferences from the text.	RL.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Read: Citing Evidence to Make Inferences Complete Exercises	Citing Evidence to Make Inferences	Part 1: Read Introduction Part 2: Complete the chart. Use details from the chart to support the inference that Athena is upset about Arachne's bragging. Part 3: Complete the close reading exercise. Look at the answer you selected. Explain how the details in the story helped you infer why Arachne was turned into a spider. Part 4: Read the short passage and answer questions #1-3. Part 5: Complete the assessment of the lesson. Read the passage and answer questions #1-5 and #12-16.

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WEEK 2	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment* *How will you show your teacher that you learned the material?*
Friday **April 3**	I can summarize a text.	RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options *(see attached list)*	Reader Response Journal *(See attached list of Reader Response prompts.)*
	I can cite textual evidence to support my analysis of the text. I can make inferences after reading a text. I can summarize a text.	RL.1.A Draw conclusions, infer, and analyze by citing textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. RL.1.D Using appropriate text, determine the theme(s) of a text and cite evidence of its development; summarize the text.	Complete Assessment	Reading Assessment	Reading Assessment #1-8

Please be prepared to submit these assignments to your teacher upon returning to school.

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St. Louis Public Schools
Alternate Instructional Plans
Middle School English Language Arts

READER RESPONSE JOURNAL PROMPTS

After completing a minimum of 20 minutes of independent reading, please select one of the following prompts. Choose a prompt that is appropriate for the text you are reading. Respond to the prompt thoroughly, crafting a well-written paragraph of at least 7 complete sentences. You may only use a prompt one time. Prompts may be typed or hand-written. Some sentence stems to help you begin your responses have been provided. Please be prepared to submit your completed Reader Response Journal Prompts to your teacher upon returning to school.

1. How does a character change in the story?
   (First the character _____. Then, the character _____.)
2. How do the illustrations help you understand the characters, setting or events in the story?
   (The illustrations in the story help me understand the _____ in the story because _____)
3. What does this text help you understand?
   (After reading _____, I now know _____.)
4. What do you already know about this topic? Where have you learned about this topic?
   (I already know _____ about _____. I learned this information from _____.)
5. What would you like to know more about after reading this text?
   (I am curious about _____.)
6. From what you've read so far, make predictions about what will happen next and explain what in the text makes you think it will happen.
   (Based on what I have read so far on _____, I think _____ will happen next. I think this because _____.)
7. Pick a scene in which you disagreed how a character handled a situation/person and rewrite it in the way you think it should have happened.
   (When _____ did _____, I disagreed because _____. I would have handled this differently by _____.)
8. Copy an interesting/confusing/important/enjoyable quote from the text and explain why you chose it.
   (I selected this quote because _____.)
9. Write a summary of what you read today.
   (Today I read _____. In the text, _____.)
10. What ideas might you have for turning this work of nonfiction into a work of fiction? Give a brief summary of what your story might be like.
11. Explain the basic information that is being presented in your article in terms of the 5W's: Who? What? When? Where? Why?
12. Find examples of figurative language (simile, metaphor, personification, alliteration, idiom, hyperbole, cliché, allusion, etc.) in the text. Write them down, label each by type of figurative language, and explain what the author means by each sentence.
13. Write down any allusions found in the reading. Explain how each helps the reader's understanding or message the author is trying to convey.
14. Describe the author's craft: What was good about the author's writing? What things might you try to do in your own writing that you learned from this author?
15. Describe how the author makes you feel through their writing. What about it makes you feel this way?

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St. Louis Public Schools
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Middle School English Language Arts

INDEPENDENT READING RESOURCES

Students may select any reading material of their choice for independent reading assignments. If a novel is not available at home, please consider the following free resources.

- St. Louis Public Library [slpl.org]
- International Children's Digital Library [en.childrenslibrary.org]
- Open Library [openlibrary.org]
- Storynory [storynory.com]
- Unite for Literacy [uniteforliteracy.com]
- Newsela [newsela.com]
- Dogo News [dogonews.com]
- Tween Tribune [tweentribune.com]
- ReadWorks [readworks.org]
- Google News [news.google.com]
- PBS News Hour Extra for Students in Grades 6-12 [pbs.org/newshour/extra]
- Newseum [newseum.org]
- New York Times Student Section [nytimes.com/section/learning
- Time for Kids [timeforkids.com]
- Science News for Students [sciencenewsforstudents.org]
- Youth Voices [yourcommonwealth.org]

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Are Graphic Novels Books?

Do you have a favorite type of book? Many young kids love picture or pop-up books. As they get older, they might enjoy short novels and chapter books. But there's one type of book that seems to be popular with kids of all ages—graphic novels!

Wait. Are graphic novels books? Well, yes, of course, they are! Think about the definition of a book: a set of printed sheets of paper that are held together inside a cover. Graphic novels have printed sheets of paper. They're covered in images that tell a story. They often include some words, too. And all those pages are held together inside a cover. That means graphic novels are books.

Still, many people try to argue the opposite. They think books with lots of pictures are just for young kids. They say older kids and adults should read books that have few pictures, if any. People have tried to give graphic novels a bad reputation, saying they're not as serious as "real" books.

Is any of that true? We'll let you decide for yourself. Everyone is entitled to their opinion, and it's normal to prefer one type of book over another. Do you enjoy graphic novels? Or have you been thinking of trying them out? Fans of graphic novels say they're just as good (or better!) as any other book.

Have you ever heard that reading exercises your brain? It's true! And people who study the brain have found that it's true whether you're reading graphic novels or other books. As you interpret the images and text in a graphic novel, your brain comprehends the story in the same way it does text-based books.

It's no WONDER that many teachers have found graphic novels help students improve their ability to comprehend what they read. Kids who read graphic novels also see many other benefits. In some cases, it strengthens their memory and ability to make inferences. It also helps them understand language and the order of events when they read.

Many people enjoy graphic novels just because they find them fun to read. For some people, following a series of images is more fun than reading words on the page. And that's great! Reading should be a fun activity, and people should always try to read books they enjoy.

Graphic novels come in a wide variety of genres. Some are based on other books, like To Kill a Mockingbird or The Giver. Some of the most popular are about superheroes or historical fiction. There are even nonfiction graphic novels. Many kids enjoy Japanese-style graphic novels, called Manga.

Are you interested in reading graphic novels? Or would you rather stick with another type of book? Whatever your preference is, it can be fun to branch out from time to time. You never know what new book you might enjoy until you give it a try.

For questions related to this instructional plan, please contact:

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7 SCIENCE-BACKED WAYS READING *Makes You Healthy*

1 *Increases longevity by 23%*

Study:

A 2016 study observed the reading habits of 3635 people. Study participants were classified into those who:

- Read books for **3.5 hours or more** per week
- Read books for **up to 3.5 hours** a week
- Did not read at all.

The result:

When followed up over 12 years, it was found that those who:

- Read books for more than 3.5 hours a week were **23% less likely to die** when compared to those who did not read books
- Read books for up to 3.5 hours a week were **17% less likely to die** when compared to those who did not read books.

Why do book readers live longer?

Reading books provides a higher survival advantage than reading newspapers or magazines because book readers undergo "deep reading".

This means readers:

- Draw connections to other parts of the material
- Find applications to the outside world
- Ask questions about the content

Deep reading aids survival because:

1. Engaging the brain throughout your life in mentally stimulating activities such as deep reading reduces cognitive decline.

2. Deep reading promotes:
   - Empathy
   - Social perception
   - Emotional intelligence

These lead to better relationships and a good social network.

A good social network has been shown to be associated with a higher survival rate.

- Friends can provide support and a source of comfort, shielding from the **harmful impacts of stress.**
- Friends can also bring **purpose** and **meaning** into people's lives.

For questions related to this instructional plan, please contact:

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2 Reduces stress

Reading reduces stress levels **by 68%**, more than any other activity.

READING	LISTENING TO MUSIC	DRINKING TEA OR COFFEE	WALKING
68%	61%	54%	42%

Just **6 minutes** of reading:

- Slows your heart rate
- Eases muscle tension
- Alters your state of mind

3 Promotes relaxation and sleep

Reading can help you sleep if you make it a part of your bedtime ritual.

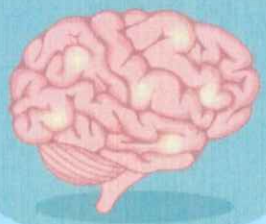
Why?

- It helps relax your body and mind
- It provides a signal that it is almost time to go to bed.

Make sure it's a print book.

It's best to be reading a print book in the evening if you are about to go to sleep as evening use of e-readers and smartphones can disrupt your circadian rhythm and disturb sleep.

4 Staves off Alzheimers disease, dementia and mental decline

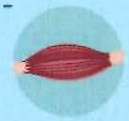


- Readers are **2.5 times** less likely to develop Alzheimers disease.
- Frequent brain exercises, like reading, decreases mental decline in the elderly by **32%**.

Why?

Reading is mentally stimulating and helps keep the brain active.

- When you read you have to remember a lot of things, like:
  - Characters
  - Main plot
  - Sub-plots
- All the developments throughout a story are a new memory in your brain and therefore new neural pathways are created and existing ones strengthened.
- The brain operates very much **like a muscle** – you have to exercise it to keep it healthy and strong.



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5 Helps with depression

Reading can be an important non-medical intervention for people with depression.

Reading groups, conducted at a mental health drop-in centre and at a GP surgery centre, for people diagnosed with depression, have been shown to reduce the symptoms of depression in participants.

The participants in the reading group reported feeling more:

- Confident
- Talkative
- Willing to listen
- Willing to interact with the other group participants

6 Boosts happiness

Life experiences make you happier than material things.

A recent study showed that experiential products designed to create or enhance life experiences, like books, are total **happiness boosters.**

Other experiential products include:

SPORTING GOODS | VIDEO GAMES | MUSICAL INSTRUMENTS

Reading can also help fill up your fulfillment tank.

- A study found that older adults who continue to read and learn are much more satisfied with their lives.

- Another study has shown that those who read books reported better social connections and more happiness with their life.

7 Increases social connection

Reading develops theory of mind, which leads to better social connections.

***Definition:** Theory of Mind is the ability to ascribe mental states, such as feelings, beliefs, thoughts and goals, to yourself and others. It is the capacity to understand that other people's feelings and beliefs may be different from your own.*

Social connections increase life expectancy

A meta-analysis done across 148 studies showed that people who have a good social network tended to live longer.

The absence of social connections is just as bad as smoking up to 15 cigarettes a day.

Loneliness and social isolation have been shown to be associated with early death.

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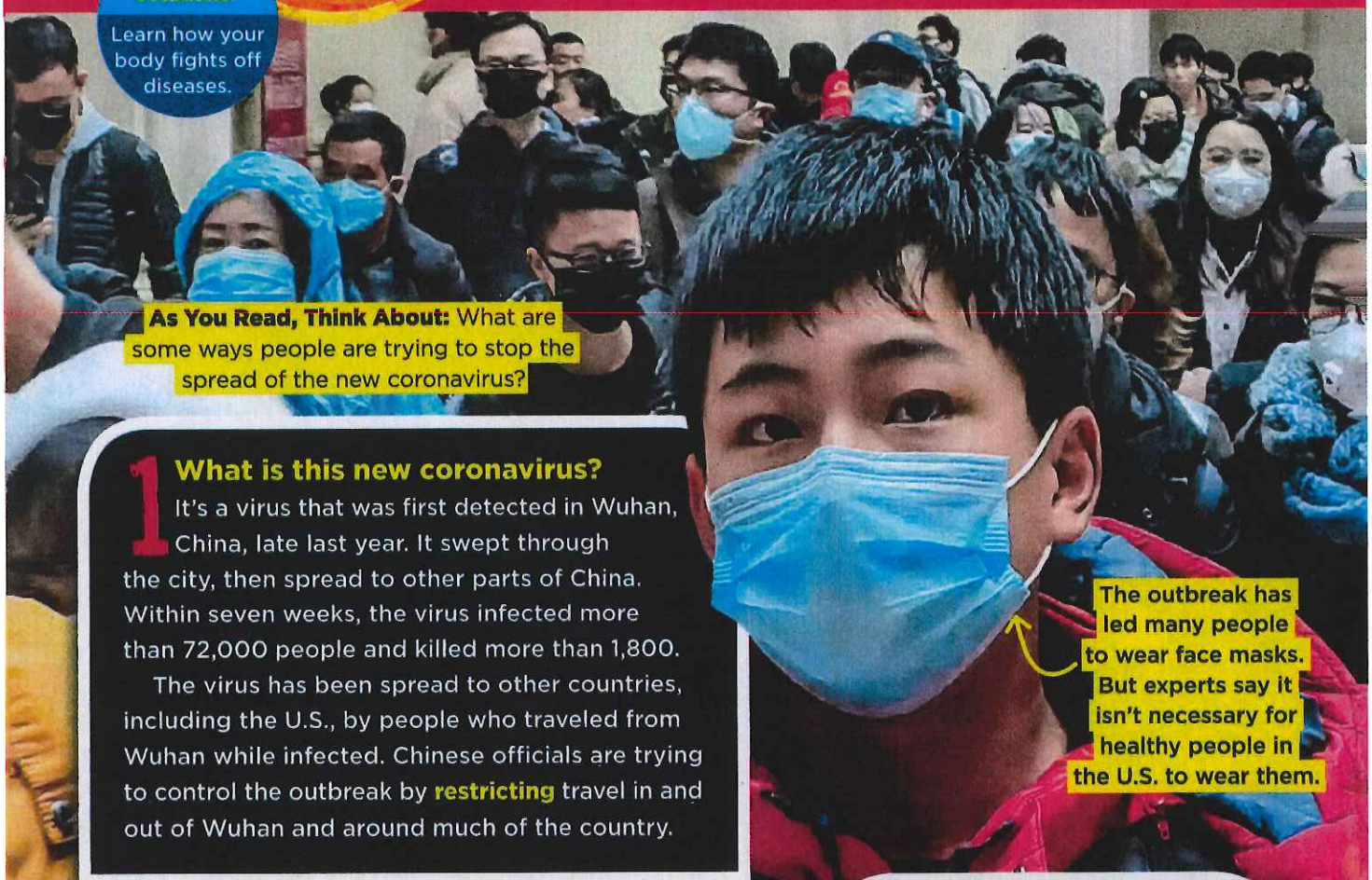
5 BIG QUESTIONS ABOUT CORON

Here's what you need to know about the

GO ONLINE! Learn how your body fights off diseases.



As You Read, Think About: What are some ways people are trying to stop the spread of the new coronavirus?

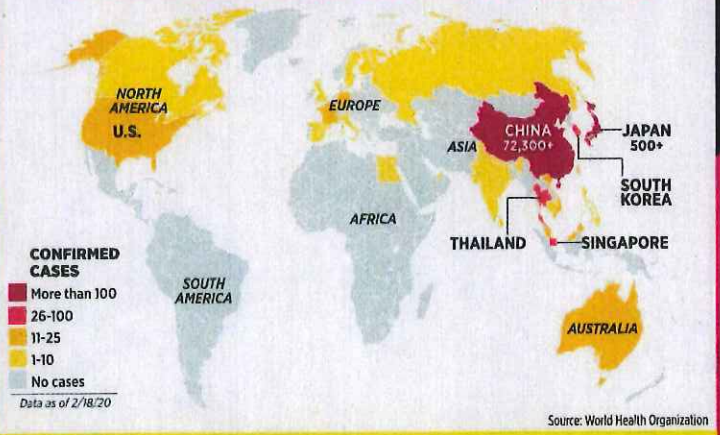
The outbreak has led many people to wear face masks. But experts say it isn't necessary for healthy people in the U.S. to wear them.

1 What is this new coronavirus?

It's a virus that was first detected in Wuhan, China, late last year. It swept through the city, then spread to other parts of China. Within seven weeks, the virus infected more than 72,000 people and killed more than 1,800.

The virus has been spread to other countries, including the U.S., by people who traveled from Wuhan while infected. Chinese officials are trying to control the outbreak by **restricting** travel in and out of Wuhan and around much of the country.

THE CORONAVIRUS OUTBREAK



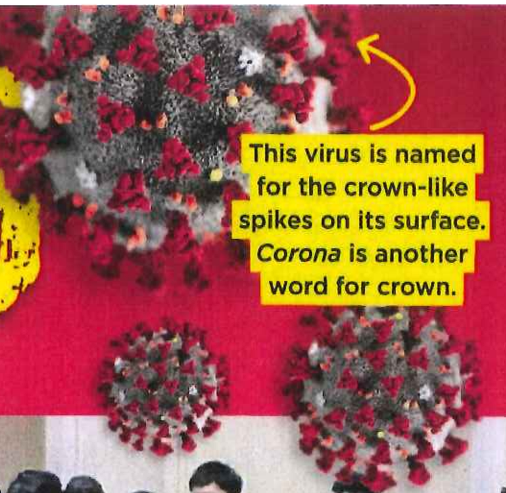
Source: World Health Organization

According to the map, which country has had the second most cases of the new coronavirus?

2 Let's back up. What exactly is a virus?

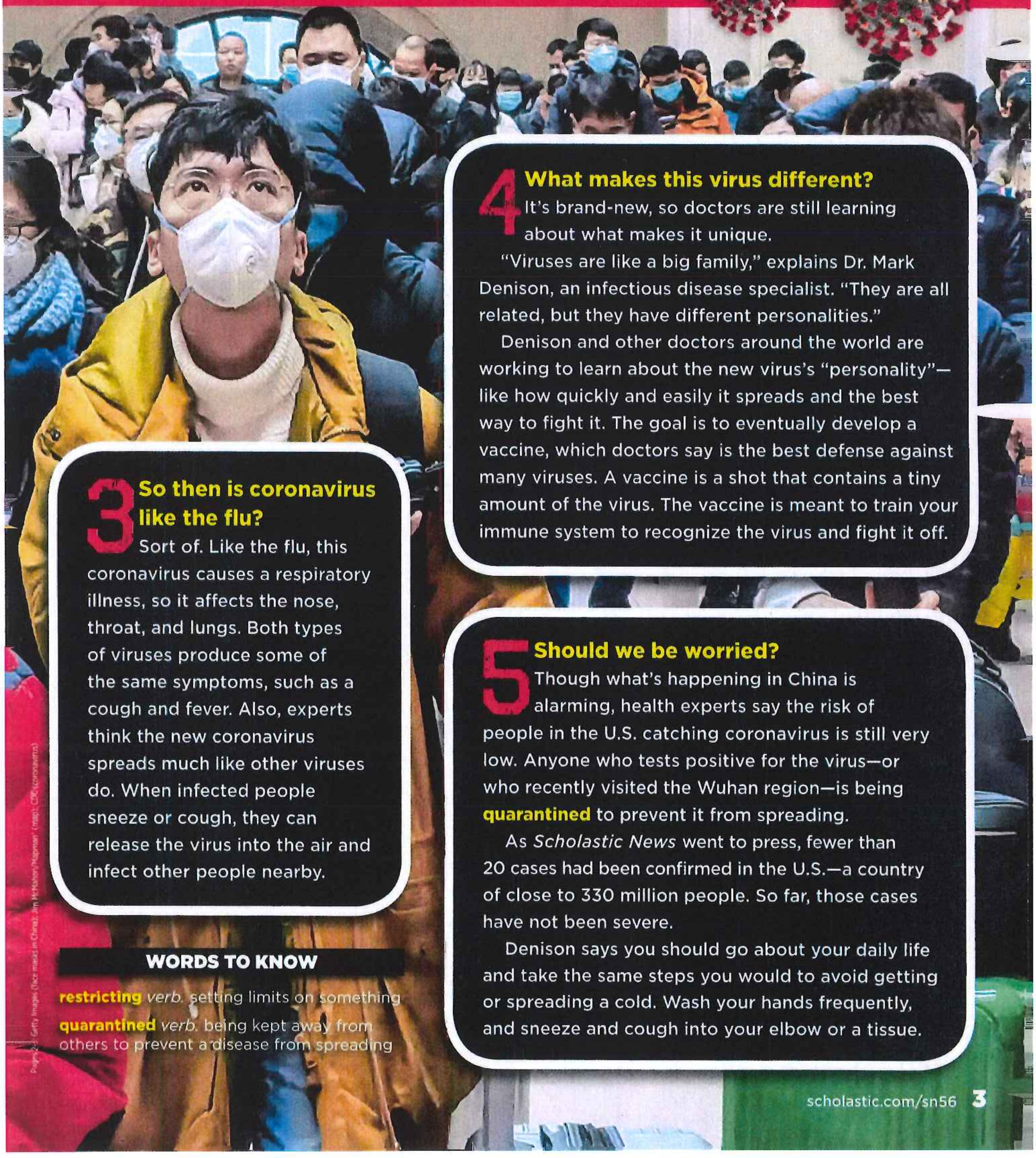
A virus is a type of microscopic germ that can cause an illness. There are hundreds of thousands of different viruses. If you've ever had a runny or stuffy nose, there's a good chance you caught a virus that causes the common cold. A more severe virus we hear about a lot each winter is the influenza (in-floo-EN-zuh) virus, or the flu.

AVIRUS



This virus is named for the crown-like spikes on its surface. *Corona* is another word for crown.

-new illness—and how to stay healthy.



4 What makes this virus different?

It's brand-new, so doctors are still learning about what makes it unique.

"Viruses are like a big family," explains Dr. Mark Denison, an infectious disease specialist. "They are all related, but they have different personalities."

Denison and other doctors around the world are working to learn about the new virus's "personality"—like how quickly and easily it spreads and the best way to fight it. The goal is to eventually develop a vaccine, which doctors say is the best defense against many viruses. A vaccine is a shot that contains a tiny amount of the virus. The vaccine is meant to train your immune system to recognize the virus and fight it off.

3 So then is coronavirus like the flu?

Sort of. Like the flu, this coronavirus causes a respiratory illness, so it affects the nose, throat, and lungs. Both types of viruses produce some of the same symptoms, such as a cough and fever. Also, experts think the new coronavirus spreads much like other viruses do. When infected people sneeze or cough, they can release the virus into the air and infect other people nearby.

5 Should we be worried?

Though what's happening in China is alarming, health experts say the risk of people in the U.S. catching coronavirus is still very low. Anyone who tests positive for the virus—or who recently visited the Wuhan region—is being **quarantined** to prevent it from spreading.

As *Scholastic News* went to press, fewer than 20 cases had been confirmed in the U.S.—a country of close to 330 million people. So far, those cases have not been severe.

Denison says you should go about your daily life and take the same steps you would to avoid getting or spreading a cold. Wash your hands frequently, and sneeze and cough into your elbow or a tissue.

WORDS TO KNOW

restricting *verb.* setting limits on something

quarantined *verb.* being kept away from others to prevent a disease from spreading

Pages 2-3: Getty Images (face masks in China); Jim McMahon/Mapman (map); CDC (coronavirus)

Citing Evidence to Make Inferences

Writers don't always tell you exactly what's on their minds. Sometimes you need to make a reasonable guess about what the writer thinks. A reasonable guess, which is based on both evidence and your prior knowledge of a topic, is called an **inference**.

The passage below is about a creature known as the giant squid. You will read it twice.

> For many years, both sailors and scientists suspected that a creature they called the giant squid lived in the ocean depths. Over the years, the evidence mounted, and in 2012 came solid proof: They filmed giant squids swimming in the ocean.
>
> Before the 2012 video, nobody had answers to several significant questions about giant squids. How did they act in the wild? Were they hunters? Or did they just float in the water, eating what came their way? What purpose did their huge eyes serve? Thanks to the video, we have some answers. We know that the squid is a hunter that uses its large eyes to spot prey and avoid being eaten. But many fascinating mysteries about the creature still need solving. Will this important research continue?

Read the passage again. This time, underline any evidence suggesting whether the writer feels scientists should keep researching the giant squid.

So, does the writer think that scientists should keep researching the giant squid? You can use evidence from the text to make and support an inference about what she thinks.

Study the chart. It shows how you can support an inference using textual evidence.

What You Know +	What the Text Says =	Inference
A person with positive feelings about a type of work usually wants that work to continue.	• "Before the 2012 video, nobody had answers to several significant questions about giant squids." • "But many fascinating mysteries about the creature still need solving." • "Will this important research continue?"	The author thinks that scientists should keep researching the giant squid.

By using text evidence and what you already know, you can make and support inferences. In a way, you make the same kinds of educated guesses that scientists do when they study mysterious creatures of the deep!

Read the first part of a scientific account about Bigfoot.

Genre: **Scientific Account**

A Scientist's Search for Bigfoot

by Tetsuo Fujii

Dr. Jeffrey Meldrum is an Associate Professor of Anatomy and Anthropology at Idaho State University. He specializes in primate foot structure—a category that includes apes, monkeys, and humans. His interests also include evaluating footprints that some claim are left by a mythical North American ape known as Bigfoot.

Meldrum's laboratory houses more than 200 casts and artifacts relating to Bigfoot. Although he believes that some samples are hoaxes, others interest him, such as unidentified hair and unique casts of muscle and foot-bone anatomy.

(continued)

Explore how to answer this question: *"Dr. Meldrum thinks that some samples are hoaxes, but others interest him. Why is he most likely interested in those other samples?"*

Reread the second paragraph. It suggests what Dr. Meldrum thinks, but does not state it directly.

Look for details suggesting why Meldrum is interested in the other samples. One detail is listed in the second column; write another detail there. Then complete the inference statement.

What You Know	+	What the Text Says	=	Inference
• If a scientist is interested in something, he or she might think it has scientific value. • A scientist might keep samples that could lead to a discovery.		• "Meldrum's laboratory houses more than 200 casts and artifacts relating to Bigfoot." •		Dr. Meldrum is most likely interested in those other samples because . . .

On the lines below, explain how the details you presented in the chart support your inference.

Continue reading the account about Meldrum's research. Use the Close Reading and the Hint to help you answer the question.

Close Reading

What do most other scientists think about Meldrum's work? **Underline** the sentence that tells how they feel about it.

(continued from page 20)

Many anthropologists criticize Meldrum's work. They feel he is trying to find an imaginary creature that exists only in folklore. Meldrum tells critics he is not saying that Bigfoot exists. He just believes there is enough evidence to justify scientific investigation.

Unsurprisingly, most anthropologists reject Meldrum's evidence. Dr. David J. Daegling, a University of Florida anthropologist who thinks Meldrum's methods of analyzing data are unscientific, sums up this feeling: "Meldrum's evidence doesn't look better on deeper analysis; it looks worse."

Hint

Which choice gives evidence of what most scientists think of Bigfoot research?

Circle the correct answer.

Which sentence from the account best supports the idea that most scientists do not find value in investigating Bigfoot artifacts?

A "Many anthropologists criticize Meldrum's work."

B "They feel he is trying to find an imaginary creature that exists only in folklore."

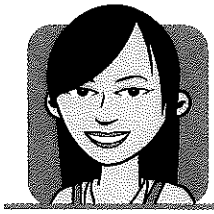
C "Meldrum tells critics he is not saying that Bigfoot exists."

D "He just believes there is enough evidence to justify scientific investigation."

Show Your Thinking

Look at the answer you chose above. Explain how the evidence in your answer helped show that most scientists do not find value in investigating Bigfoot artifacts.

Read the scientific account. Use the Study Buddy and Close Reading to guide your reading.



As I read, I'm going to underline clues that help me infer the author's viewpoint about chupacabras.

Close Reading

According to the author, why do people hope that chupacabras are real? **Underline** a sentence that shows the author's explanation.

What examples of new discoveries does the author give? **Underline** the evidence that new creatures have been discovered.

Genre **Scientific Account**

Tales of Chupacabras

by Cynthia Burnham

1 Legend tells of the chupacabra, a monster that sucks the blood of livestock. *Chupacabra* means "goat sucker" in Spanish. For many in the southwestern United States and Mexico, these tales are more than just stories; they have been accepted as fact. In Puerto Rico in 1995, hundreds of livestock fatalities were blamed on the chupacabra.

2 Some describe chupacabras as two-legged, lizard-like creatures with claws, spikes, and piercing red eyes. Others insist they are hairless, four-legged creatures that are part kangaroo, part dog, and part rat. Many similar beasts have been brought to labs for DNA testing, but most have been coyotes with mange, a disease that strips animals of fur.

3 Why do we want these mythical beasts to be real? Surely not because we want livestock to fall prey to vampires! Perhaps it is because of our natural desire to shed light on the unknown. Scientists constantly identify new life-forms. According to the World Wildlife Federation, more than 1,200 species of plants and vertebrates were discovered in the Amazon rain forest between 1999 and 2009. Given this fact, the idea that undiscovered species could exist empowers our imaginations and gives us hope.

4 Although we have explored much of this planet, there are still creatures that lurk in the underbrush, evading recognition. That is a thrilling concept. So even as evidence mounts against the existence of chupacabras, a part of us hopes that one will creep from the shadows and boggle our minds.

Hints

Think about the word choice in each sentence. Which choice helps you infer what the author actually thinks about chupacabras?

Which sentence offers support for why people hope chupacabras are real?

What kinds of life-forms were discovered between 1999 and 2009? What is the author's purpose for including this evidence?

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

1 A student makes the following claim about the author of "Tales of Chupacabras."

The author believes that chupacabras are imaginary even though she would like to think they exist.

Which sentence from the text best supports this claim?

A "*Chupacabra* means 'goat sucker' in Spanish."

B "Some describe chupacabras as two-legged, lizard-like creatures with claws, spikes, and piercing red eyes."

C "Why do we want these mythical beasts to be real?"

D "Scientists constantly identify new life-forms."

2 Which sentence from the text explains why the author thinks people want to believe in chupacabras?

A "For many in the southwestern United States and Mexico, these tales are more than just stories: they have been accepted as fact."

B "Legend tells of the chupacabra, a monster that sucks the blood of livestock."

C "Others insist they are hairless four-legged creatures that are part kangaroo, part dog, and part rat."

D "Perhaps it is because of our natural desire to shed light on the unknown."

3 Explain how the examples of recent scientific discoveries support the idea that chupacabras may one day be found. Use details from the text in your explanation.

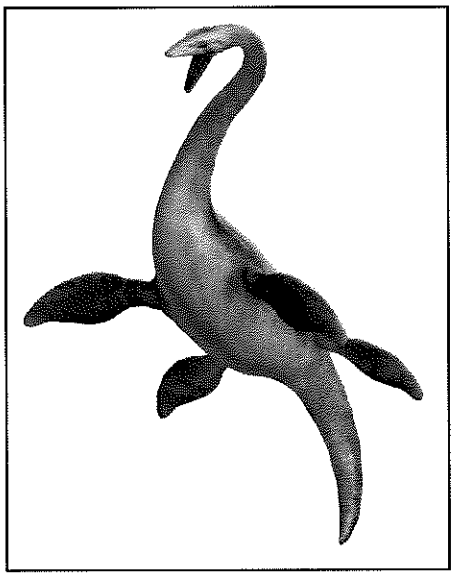
Read the scientific account. Then answer the questions that follow.

Looking for the Loch Ness Monster

by Stuart Clyburn

1 The word *loch* is a Scottish Gaelic word for *lake*. And there are a whole lot of lochs in Scotland—more than 500 of them! But one loch, Loch Ness in the Scottish Highlands, is known around the world. The reason for its fame is not its great size or beauty. People know the name *Loch Ness* because it is said to be the home of a mysterious, giant creature known as "the Loch Ness monster." Whether the creature really exists or not has been a matter of great debate for decades.

2 What does "Nessie," the popular nickname for the monster, supposedly look like? By most accounts, she has a small head on a very long neck. Her body is broad and rounded, with four flippers and a long tail. If you know your prehistoric creatures, you might be thinking: Nessie sounds like a *plesiosaur*, a giant sea reptile that lived hundreds of millions of years ago. One common theory about Nessie is that she actually *is* a plesiosaur. Other explanations for Nessie are far less dramatic. Some people think that the "mysterious" creature people have mistaken for a monster may have been nothing more than a walrus, seal, or eel.



an artist's depiction of a plesiosaur

3 How could a creature as big as a plesiosaur hide in a lake? Well, Loch Ness is a huge body of water. It's the second largest loch in Scotland, based on the surface area of its water. Loch Ness covers more than 21 square miles, and only Loch Lomond is bigger. But if you look at the volume of water, Loch Ness is the biggest. And that's because it's deep—about 755 feet at its deepest point. This single loch contains more water than all the freshwater lakes in England. In other words, it's one big place to hide.

4 Some people who believe in Nessie say that she's made her home in the region for more than a thousand years. A book written in the seventh century tells about an Irish monk who saw a giant "water beast" in the River Ness in 565 C.E. No one thought much about that story until 1933. A couple was driving home along the loch late one night. They said they were forced to stop when a giant, dragon-like creature crossed the road and slid into the water. Their story appeared in newspapers. Soon, many more people claimed to have seen the monster. The following year, in 1934, a doctor from England took a photo that became famous worldwide. The poorly lit, grainy photo shows what looks like the head and long neck of a plesiosaur-like creature rising from the water. The photo served as "proof" of the monster until 60 years later—when it was revealed to be a fake.

5 Since the 1930s, dozens of serious, scientific searches have been undertaken to find the Loch Ness monster. One early effort involved placing scouts with cameras and binoculars around the loch for five weeks. Later searches relied on the use of sonar. This method involves bouncing sound waves through the deep

waters of the loch to detect moving objects. In 2003, the famous British Broadcasting Corporation (BBC) sponsored one of the most thorough searches ever. Scientists used 600 sonar beams and satellite tracking. What did they find? Nothing of note, really. They concluded that Nessie was a myth.

6 After so many attempts, you have to wonder why people keep looking for the Loch Ness monster. It may just be that there's something exciting about the idea of mysterious creatures living so close to us, always just out of view. There's a word for such creatures: *cryptids*. It comes from a Greek word meaning "to hide." The Loch Ness monster is one of many cryptids that have captured the public imagination. Others include Bigfoot in North America, the Yeti in the Himalaya Mountains, and the chupacabra in the southwestern United States and Mexico.

7 Many animals whose existence we take for granted today might once have been considered cryptids. Komodo dragons and giant squids were once thought to be tall tales. Until 1902, people regarded stories of "giant ape-men" living in Africa as just a myth. Today, we know them as mountain gorillas. The odds of "Nessie" turning out to be real may not be quite as good. But if it were true, we'd all love it, wouldn't we? It's exciting to think that a real live monster lives deep in a loch in Scotland.

Answer Form

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ

Number Correct ___/4

1 According to the account, what is one reason many people believe the Loch Ness monster does not exist?

A The earliest sighting of the Loch Ness monster occurred in 565 C.E.

B The photo taken in 1934 has been proven to be a fake.

C Plesiosaurs, like the dinosaurs, lived hundreds of millions of years ago.

D Sonar beams and satellite tracking found no evidence in the loch.

2 Which detail provides evidence that a creature as huge as a plesiosaur could really hide in Loch Ness?

A Loch Ness has a surface area of 21 square miles and is 755 feet deep.

B The Loch Ness monster might actually be an ordinary walrus, seal, or eel.

C Dozens of scientific searches of Loch Ness have been conducted.

D The Loch Ness monster is known as a cryptid, a word whose root word means "to hide."

3 Which statement is **best** supported by the account?

A It is illogical to think that a plesiosaur could still be living in Loch Ness today.

B Someday, scientists will prove that no giant creatures live in Loch Ness.

C Some people want to believe in the Loch Ness monster and ignore scientific evidence showing it does not exist.

D People have always been fascinated by the idea of strange creatures such as Bigfoot and the Loch Ness monster.

4 Despite the great interest in the Loch Ness monster, it is highly unlikely that such an animal actually exists. Which sentence from the passage **best** supports this conclusion?

A "Whether the creature really exists or not has been a matter of great debate for decades."

B "Some people who believe in Nessie say that she's made her home in the region for more than a thousand years."

C "Since the 1930s, dozens of serious, scientific searches have been undertaken to find the Loch Ness monster."

D "Many animals whose existence we take for granted today might once have been considered cryptids."

5 Some people firmly believe that the Loch Ness monster is actually a plesiosaur. Use at least **three** details from the account to explain why some people believe this.

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

Lesson 12
Greek and Latin Word Parts

Introduction Many English words have Greek and Latin roots and affixes. By becoming familiar with them, you will be able to unlock the meaning of many words.

- **Roots** are word parts that have meanings but usually cannot stand alone. Sometimes roots combine with other roots to form words, such as *audiovisual.*

Root	Meaning	Root	Meaning
aud	"hear"	*mot, mov*	"move"
cycle	"circle, wheel"	*vis, vid*	"see"
therm	"heat"	*meter*	"measure"

- **Affixes**, such as prefixes and suffixes, can also be added to roots to form words, such as *interject.*

Prefix	Meaning	Suffix	Meaning
uni-	"one"	*-ance, -ence*	"state of"
bi-	"two"	*-ion, -al*	"action, process"
tri-	"three"	*-or*	"state" or "quality of"

Guided Practice **Circle the roots in the underlined words. Write the meaning of each root. Then tell a partner the meaning of the underlined words.**

Hint

A suffix adds meaning to a root or word. Suffixes often give clues that indicate part of speech (noun, adjective, etc.). The suffix *-ence* usually signals a noun; the suffix *-al* usually signals an adjective.

1. Inez sat in the audience at a cooking show.

_____

2. The motor of the cake mixer broke. The chef needed help.

_____

3. He made a hand motion for Inez to come up on stage.

_____

4. As he worked, she kept an eye on the oven thermometer.

_____

5. Because she had great vision, this was an easy task.

_____

Independent Practice

For items 1–4, read each sentence. Then answer the question.

Answer Form

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4	Ⓐ	Ⓑ	Ⓒ	Ⓓ

Number Correct ___/4

1 "Watch how I extend the dough with my hands," said the chef.

The prefix *ex-* means "out," and the root *tend* means "stretch." What does the word extend mean in the sentence?

A pull it in different directions

B form it into small balls

C loosen it with water

D cut it into small pieces

2 "Next, I add the equivalent of a teaspoon of spice," explained the chef.

The prefix *equi-* means "equal," and the root *vale* means "worth." What does the word equivalent mean in the sentence?

A half portion

B cost

C same measure

D double the amount

3 "Are my directions audible?" asked the chef.

The root *aud* means "hear," and the suffix *-ible* means "able." What does the word audible mean in the sentence?

A necessary

B too complicated

C realistic

D loud enough

4 Inez told the chef she was grateful for the cooking lesson.

The root *grat* means "pleasing," and the suffix *-ful* means "having or giving." What does the word grateful mean in the sentence?

A eager

B thankful

C greatly impatient

D responsible

Lesson 9

Varying Sentence Patterns

Introduction Good writers use a variety of sentence types. They mix short and long sentences, and they find different ways to start sentences. Here are ways to improve your writing:

- Use different sentence types: statements, questions, imperatives, and exclamations.
- Use different sentence structures: simple, compound, complex, and compound-complex.
- Sometimes begin a sentence with a prepositional phrase or a dependent clause.

Draft

We went on an impressive field trip. We went to the science museum. The building was huge. It had many exhibits. I especially liked the laser exhibit. You should make sure to visit the museum.

Revision

Our field trip to the science museum really impressed me. The building itself was huge, and it was filled with exhibits. Do you dream of seeing actual lasers? At some point, then, be sure to visit the museum. You won't be sorry!

Guided Practice **Follow the directions to rewrite each sentence or pair of sentences.**

Hint

When a sentence begins with a dependent clause, use a comma to separate it from the main clause. When a sentence begins with a prepositional phrase, usually use a comma after the phrase.

1 Change this sentence to a question: It is fun to learn about insect colonies.

_____

2 Use the word *when* to combine these sentences: I looked at the museum map. I noticed a new insect exhibit.

_____

_____

3 Combine these sentences so that the new sentence begins with a prepositional phrase: It was near the entrance to the exhibit. The first thing I saw was a giant grasshopper.

_____

_____

Read the paragraphs for numbers 1–4. Then answer the questions that follow in each column.

Answer Form

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4	Ⓐ	Ⓑ	Ⓒ	Ⓓ

Number Correct ___/4

(1) Many of the insects were robots. (2) I almost thought they were real. (3) They moved like real insects. (4) They were much larger than real insects.

1 Which is the best way to revise sentence 1?

A For me, the insects were robots.

B When looking, many of the insects were robots.

C To my surprise, many of the insects were robots.

D Surprised, many of the insects were robots.

2 Which best combines sentences 3 and 4?

A They moved like real insects, or they were much larger.

B They moved like real insects, so they were much larger.

C They moved like real insects, but they were much larger.

D They moved like real insects, because they were much larger.

(5) The tour guide told us that the robots show insect behavior. (6) A wolf spider seemed to rush toward me. (7) I was scared. (8) I remembered it was a robot spider.

3 Which is the best way to revise sentence 6?

A After a long time, a wolf spider seemed to rush toward me.

B At that moment, a wolf spider seemed to rush toward me.

C After the trip, a wolf spider seemed to rush toward me.

D Along with others, a wolf spider seemed to rush toward me.

4 Which is the best way to combine sentences 7 and 8?

A Remembering it was a robot spider, I was scared.

B I looked scared, but the robot looked like a spider.

C I was scared until I remembered it was a robot spider.

D I was scared when I remembered it was a robot spider.

Reading

Read the passage. Then answer the questions that follow.

Worth More Than Gold

by Amy Charles

1 Every summer, millions of acres of America are green with growing crops. American farmers grow wheat, soybeans, corn, and other foodstuffs, and it's an impressive sight. There's also something eerie about it, though. Each field grows an army of identical plants. Every cornstalk in the cornfield is exactly like its neighbors, with the same DNA. That means it has the same instructions for building itself. This kind of field is called a monoculture, *mono* meaning "one."

2 This is of some benefit to the farmer because each plant grows about as well as the next. The farmer is in trouble, however, if a pest or disease strikes. If one cornstalk in the field can be killed easily by an attacker, so can all the rest. This was a serious problem in Ireland long ago. The Irish potato famine in 1845 was caused by a fungus that is extremely harmful to potatoes. Because all the potatoes in Ireland at the time were so similar, most of the potato crop died. And because potatoes were the main food in Ireland at the time, people began to starve. The situation became even worse because the fungus stayed in the ground. When new potatoes were planted, the fungus killed them, too. Within 25 years, nearly half of Ireland's people had starved or moved away.

3 Why was the famine so destructive in Ireland? One problem was that we didn't have the science to know what had gone wrong; people didn't know about DNA. DNA tells the cell how to take atoms, the smallest pieces of matter, and make from them the smallest pieces of the body. These pieces, called molecules, are too small for us to see, but once they're made, the molecules work together to grow the body and keep it alive.

4 Some molecules are great at fighting disease. Unfortunately for those desperate farmers in Ireland, none of the potatoes they planted, year after year, could make the right molecules. Because of this, the potatoes weren't protected from the fungus.

5 Scientists now know how to solve that problem, and the answer lies in how DNA works. DNA is a molecule, too—a long molecule at the center of the cell. The cell can read DNA like a cookbook, finding recipes that tell how to make other molecules that it needs. We call the recipe for each molecule a gene. If you want molecules that will fight potato fungus, you need the genes for making those molecules. If a potato doesn't have those genes, that potato can't fight the fungus. One way to solve the problem is to give the potato the right genes. To find those genes, we look in other strains, or kinds, of potatoes. We look for a potato that can fight off the fungus. That potato has the genes for making the right molecules. Then all we have to do is put that plant's genes into the unprotected potato plants. And, roughly speaking, we know how to do that.

Go On

6 Here's the big question, though: Where do you find that super-strong potato when a fungus is attacking? The answer comes from scientists and farmers around the world who have built gene banks to keep our food supply safe. All over the world, scientists and farmers collect seeds from different crop plants—corn, potatoes, alfalfa, wheat, oats, rice, and every other grain, fruit, and vegetable; they collect them all. They record what diseases and pests each plant can fight off, and they record which plants can live well in certain conditions, such as limited water, high heat, floods, or poor soil. Then they store seeds from each plant in a safe place, a gene bank.

7 Now, when a pest attacks a wheat crop in Oklahoma, scientists don't wait. They look in gene banks for a strain of wheat that fights that pest well. They can use that wheat's genes to create a new wheat plant that will grow well in Oklahoma and will also fight off the pest.

8 There are more than 1,600 plant gene banks around the world, and one of the most famous gene banks is in Norway. It's an abandoned coal mine north of the Arctic Circle, in a group of islands called Svalbard. This bank stores backup copies of seeds that are in other banks around the world. The Svalbard bank now has copies of over half a million seeds. If crops are in trouble, what's in those vaults is worth more than gold.

9 That's the extent to which scientists and farmers around the world go to protect those crops growing all across the Midwest—and Brazil, and Russia, and China. Thanks to their work, the food supply for seven billion people is safer than it ever was before.

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1 Which sentence from the passage **best** supports the idea that growing monocultures can be risky?

A "American farmers grow wheat, soybeans, corn, and other foodstuffs, and it's an impressive sight."

B "Every cornstalk in the cornfield is exactly like its neighbors, with the same DNA."

C "If one cornstalk in the field can be killed easily by an attacker, so can all the rest."

D "One problem was that we didn't have the science to know what had gone wrong; people didn't know about DNA."

E "The cell can read DNA like a cookbook, finding recipes that tell how to make other molecules that it needs."

F "They look in gene banks for a strain of wheat that fights that pest well."

2 The following question has two parts. First, answer part A. Then, answer part B.

Part A

What is one main idea of "Worth More Than Gold"?

A Gene banks protect the world's food supply.

B People have studied DNA for hundreds of years.

C Monocultures are often destroyed by pests.

D The Irish potato famine began in 1845.

Part B

Which sentence from the article **best** supports the answer to part A?

A "That means it has the same instructions for building itself."

B "Because all the potatoes in Ireland at the time were so similar, most of the potato crop died."

C "If you want molecules that will fight potato fungus, you need the genes for making those molecules."

D "If crops are in trouble, what's in those vaults is worth more than gold."

3 Which of the following would **not** belong in a summary of the passage?

A The Irish potato famine in the 1800s was made worse because people at the time did not know about DNA.

B To get molecules that will fight a potato fungus, you need to have the right materials.

C One solution to possible problems caused by monocultures lies in the field of genetics, in plant DNA.

D To protect the world's crops, a gene bank in Svalbard, Norway, has backup copies of more than half a million seeds.

Go On

4 What is the **main** purpose of paragraph 5?

A It introduces the topic of worldwide famine.

B It provides a definition of the key term "fungus."

C It shows how genes can solve the problem of crop disease.

D It poses and answers logical questions about DNA and genes.

5 Read the statement below.

> The author of this passage has great respect for the scientists and farmers who have made gene banks possible.

How can you tell this statement is true? Use **two** details from the text to support your answer.

Read the passage. Then answer the questions that follow.

The Scent of Memory

by Christopher Ford

1 Scientists say that, more than sight, sound, touch, or taste, the sense of smell can trigger memory. For me, the smell of wood smoke always makes me think of autumn. One whiff, and I am twelve, at home on my family's farm, snuggled in bed as the smell of wood smoke snakes through my slightly-open bedroom window.

2 It is early autumn, and all around us, our neighbors are harvesting apples. We have been eating apple pie, applesauce, apple cakes, even apple stew. My family does not own an orchard, but we rejoice in the benefits of the harvest and our special neighbors.

3 It's Saturday morning. My father wakes me gently, saying, "Let's go, Chris, it's time." I stand up stiffly, shivering, the chill draft hurrying me over to pull on jeans and a shirt, my favorite old sweatshirt, and my warmest socks.

4 My mom is already up and at the stove, coffee cup in one hand, stirring a huge pot of oatmeal with the other. It's not my favorite breakfast in the world, but on a morning like this, with hard work ahead of me, I know I'll appreciate it later.

5 "Good stuff, Lynn," my dad says as he gives my mom a kiss on one cheek. He spoons out a huge bowl for himself and then one for me. Even with raisins and brown sugar, it's hard to swallow.

6 "Eat up, Chris," my dad teases. "It'll stick to your ribs!"

7 He and my mom talk as they drink their coffee and eat their breakfast. It's all bills and money talk, so I tune out, watching the leaves swirl outside. My little sister pads in after a while, all pink fluff and fuzzy curls. Even I have to admit she's kind of adorable. She crawls silently into my dad's lap and he nestles her right into the crook of his arm, as if the shape of his arm was made to fit the curve of her back. He manages this maneuver while continuing to sip his coffee and talk to my mom. After we finish breakfast, we say goodbye to the two of them and head out.

8 It is just past dawn, and in the east, a smattering of lacy clouds drifts slowly across the streaks of pink, orange, and red that forecast a cold day. The air smells lightly of wood smoke from the farmers who are burning brush in the nearby orchards. Crunch, crunch, crunch, my feet push easily through the carpet of fallen leaves on the way to the barn. The colors are outrageous: orange, red, yellow, and even greens that are bright and playful. I can't resist kicking a few piles into the air to watch them swirl.

9 In the barn, it's warmer, with animal breath and body heat creating a hazy fog. I scratch our old goat, Ginger, behind her ears, pat the orange tabby, Huck, and say good morning to Jessie and her three pups. They are still squirmy and warm, snuggling in for breakfast.

10 We feed the animals and then load up the truck with everything we need: axes, clippers, small saw, twine, gloves. Our neighbor has trees down and has offered the wood to anyone who wants to come and chop it up. With the winter weather we're expecting, we can use all the firewood he can spare. The more we can get by on fireplace heat this winter, the better.

Go On

11 "Woo-hoo, you feel that, Chris? Fall is here for sure!" my dad rubs his hands together and starts the truck.

12 I nod in agreement and reach up to tuck my nose into my sweatshirt collar, then my hands go into my sweatshirt pocket.

13 Dad laughs. "Don't worry. In no time at all, you'll be sweating."

14 At Mr. Arnold's place, there are three trees down: two apple trees and one huge old oak that got dragged down when the apples blew down in our first storm of the season. The holes their roots left behind are enormous, and I want to crawl into them and explore, but Dad has other plans for me.

15 "Okay, Chris, we're going to start with the lower branches, here. We'll strip the branches and work our way up the tree, then we can chop up the trunk." We dig in, Dad correcting my axe strokes from time to time, interrupting my swing to show me where to hit the branch just right so that I'll get a cleaner cut. He was right: in no time I'm sweating enough to take my sweatshirt off, but my breath comes out of my mouth steaming in the frosty air.

16 By noon we've stripped off the lower branches and have the truck full of wood, about a cord's worth. We'll need about four more to get through the winter, but we thank Mr. Arnold and promise to be back tomorrow.

17 On the ride home, I nearly fall asleep, so my dad reaches over and gives me a playful punch in the arm. "That went twice as fast today with your help, son. You're getting pretty strong," he says and I feel positively mighty.

18 I watch the orchards as we pass. There are so many shades of orange and red that I can't possibly record them all, so I breathe deep and flood my nose to best recall the memories of this day.

6 The following question has two parts. First, answer part A. Then, answer part B.

Part A

What is one theme of "The Scent of Memory"?

A Scientists have proven that smell is an important scent.

B The harvest is an unpleasant time with big rewards.

C Life on a farm is better than life elsewhere.

D Thinking about the past is a powerful source of emotion.

Part B

Which sentence from the "The Scent of Memory" **best** supports the answer to part A?

A "Scientists say that, more than sight, sound, touch, or taste, the sense of smell can trigger memory."

B "For me, the smell of wood smoke always makes me think of autumn."

C "On the ride home, I nearly fall asleep, so my dad reaches over and gives me a playful punch in the arm."

D "There are so many shades of orange and red that I can't possibly record them all, so I breathe deep and flood my nose to best recall the memories of this day."

7 Select **three** sentences that should be included in a summary of "The Scent of Memory."

A A boy describes the many pleasures in his life on a farm.

B Thinking about the smell of wood smoke, a man recalls an autumn day in his youth.

C His best memories are of the barn, the goat, the cat, the dog, and chopping wood.

D His mother and sister stay at home, while he and his father share a harvest with neighbors.

E He wakes up early and has breakfast with his family before heading out with his father.

F He and his father feed the animals in the barn and then chop wood on a neighbor's farm.

G He sweats from working so hard, but his breath still looks like steam in the cold air.

Go On

8 Read this sentence from paragraph 5 of "The Scent of Memory."

Even with raisins and brown sugar, it's hard to swallow.

What does the phrase "hard to swallow" suggest about the narrator?

A He has a sore throat.

B He does not like oatmeal.

C He prefers plain oatmeal.

D He is not hungry.

9 In paragraph 17 of "The Scent of Memory," why does the narrator **most likely** say that he feels "positively mighty"?

A He recognizes that he has grown taller in the past year.

B He believes that his father would not have been able to do the work himself.

C He is pleased that his father recognizes his helpfulness and ability.

D He has accomplished something he thought was impossible.

10 How does the author develop the narrator's point of view in "The Scent of Memory"?

A by having the narrator recall a specific day from his childhood

B by having the narrator use only the sense of smell to describe a memory

C by having the narrator alternate between past and present to show the past's influence

D by having the narrator reflect on how his life has changed a great deal since his youth

11 Read the following poem about October:

> October is the lovely girl who draws her sisters' envy:
> Mild in temper, fair of heart, and much admired by many.
> Her sisters dress more modestly, but she is always bold,
> clothed in red and violet, crowned with green and gold.

One theme of "The Scent of Memory" is that autumn is a special time of year with plentiful harvests and beautiful colors. The poem also shares this theme. Compare and contrast how "The Scent of Memory" and the poem present the theme stated above. Use details from the texts to support your answer.

Go On

Online Extra!
Check out our guided-writing template for help crafting an essay on whether it is OK to keep animals in zoos.

ANIMAL RIGHTS

THE FUTURE OF ZOOS

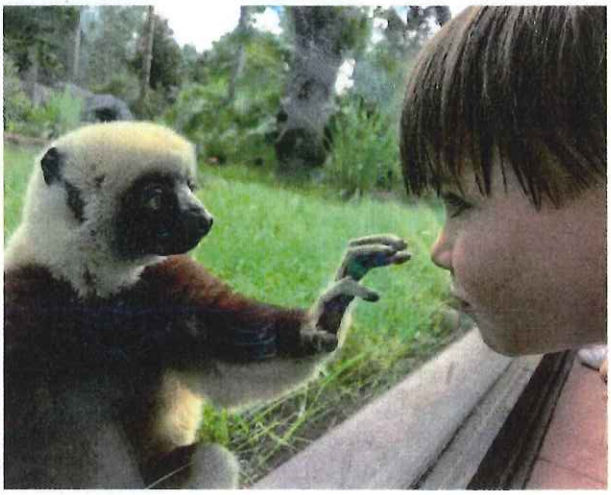
People have kept animals in cages for thousands of years. But new understanding about the lives of creatures in captivity is transforming how zoos treat and exhibit animals. Are the changes enough?

BY LAURA ANASTASIA

As You Read, Think About: Is it our responsibility to protect animals from becoming extinct?

YOUNG GORILLAS wrestle together playfully. Monkeys scale a 50-foot tree. Bonobos shriek and swing on vines. Around them, massive rock formations, tropical plants, and long grasses fill the landscape.

The animals are **native** to Africa's forests, and this **habitat** reflects that. But these primates actually live in Jacksonville Zoo and Gardens in Florida.



Every year, nearly 1 million people visit the zoo to watch the apes and monkeys run overhead through tunnels, to film them climbing, and even to touch hands with them—through the glass.

The primates' expansive enclosure is a far cry from the metal cages that were once standard in zoos, and that's no accident. Zoos used to be almost entirely focused on entertaining humans. But destruction of habitats, illegal hunting, and research about how captivity affects animals' well-being have prompted zoos to embrace **conservation** and transform how they treat wildlife.

Some changes are easy to spot: Enclosures have been expanded. Natural **vegetation** has replaced concrete. Other changes are more behind-the-scenes: Zoos are →

teaming up to save endangered species. They're also devoting millions of dollars to research and focusing on teaching visitors about challenges animals face in the wild.

Such efforts have won praise from many people. But zoo critics say that enclosures are still cages, no matter how many trees are in them. They argue that zoos are **inhumane**, pointing to studies that have shown that animals in captivity suffer from anxiety, boredom, and stress. Wild animals, the critics say, should be free.

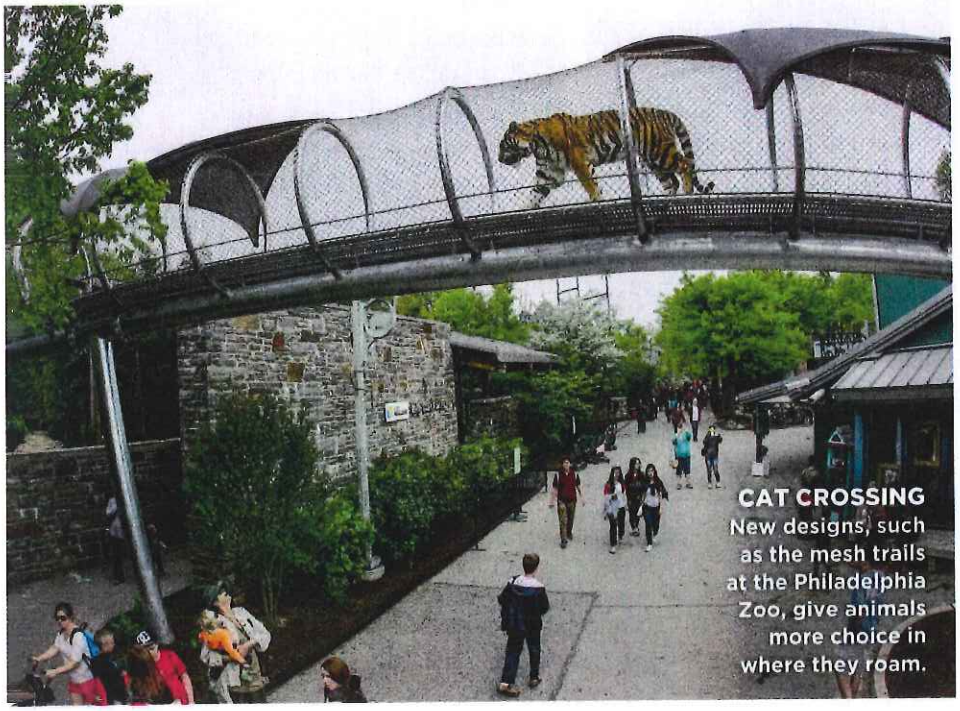
Recently, the debate over keeping wildlife in captivity has grown even more heated. This past February, the London Zoo in the United Kingdom tried to mate two Sumatran tigers, a species that is critically endangered. But the male mauled the female to death before zookeepers could intervene. The incident shocked people around the world and caused many to ask: Have zoos transformed enough to truly benefit animals?

Zoos of the Past

The earliest known **menagerie** existed in ancient Egypt more than 5,000 years ago *(see sidebar, p. 13)*. Modern zoos, which became popular in the early 1800s in Europe, have continued to capture humans' fascination. That's because zoos let people connect with wild animals in ways that just aren't possible through books or YouTube videos, supporters say.

"Most people won't have the opportunity to travel to Asia or Africa to see orangutans or elephants. But they can visit a zoo and see them up close," says Rob Vernon of the Association of Zoos & Aquariums (AZA). That group officially certifies zoos that meet strict standards for animal care, conservation, and education.

Just making eye contact with a tiger can leave a lasting impression. "People are much more likely to want to help conserve an animal if they learn about it and see it up close," Vernon explains.



CAT CROSSING New designs, such as the mesh trails at the Philadelphia Zoo, give animals more choice in where they roam.

195 million

Number of visitors U.S. zoos receive annually—equal to more than half the U.S. population

SOURCES: Association of Zoos & Aquariums, U.S. Census Bureau

Saving Species

Many of the nation's best zoos have made it their mission to protect animals, particularly endangered ones. They do that in part by studying the species they house. At the National Zoo in Washington, D.C., research on elephants is helping scientists develop a **vaccine** for a potentially fatal virus that affects herds in zoos and in the wild.

In addition, the AZA helps coordinate zoos' efforts to protect more than 500 species. Those efforts include breeding endangered animals and, when possible, releasing them into the wild to help restore dwindling populations. Zoos have helped the black-footed ferret, the red wolf, and a handful of other species recover from the brink of extinction this way, says Ben A. Minteer, a conservation expert at Arizona State University.

Not a Simple Solution

Such efforts may sound noble, but zoo critics argue that many breeding programs focus more on **sustaining** zoo populations than saving species—and that many animals being bred aren't endangered. Zoos, critics say, are more concerned with

PAGES 10-11: BOB SELF/THE FLORIDA TIMES-UNION VIA AP IMAGES (GORILLA); COURTESY OF JACKSONVILLE ZOO (LEMUR); PAGE 12: TOM MIHALEK/EPA/SHUTTERSTOCK; PAGE 13: LEAVECTOR/SHUTTERSTOCK.COM (BACKGROUND);

having baby animals, which bring people—and therefore more money—into the parks.

Plus, success stories like the red wolf's are rare, Minteer says. "Each one of these cases takes an enormous effort—multiple zoos, government agencies, scientists, volunteers. It can take many millions of dollars. Once it's back in the wild, the animal has to be monitored. It's a never-ending process," he explains.

Efforts to breed certain endangered species, such as giant pandas and lowland gorillas, have proven difficult—and, as in the case of the Sumatran tigers at the London Zoo, sometimes deadly. And many animals that zoos can breed successfully, including otters and even songbirds, lack the skills they need to survive in the wild.

Plus, some endangered animals don't have a natural habitat to return to, says Lori Marino, a scientist who studies animal behavior in Kanab, Utah. "If their natural **ecosystem** is destroyed, then those animals must remain in captivity their entire lives," Marino says. "That is not conservation."

Bad for Animals' Health?

Life in captivity is often difficult for animals, Marino says. Many show signs of stress and boredom. Big cats walk in endless loops. Polar bears rock their heads. Elephants sway. Such repetitive behaviors aren't seen in the wild, Marino explains: "When you see a tiger pacing, that means it is very stressed."

One study found that **carnivores** with naturally large ranges, such as polar bears, lions, and tigers, show

(continued on p. 14)

KEY MOMENTS

Wild History of Zoos

3500 B.C.

Rulers in ancient Egypt kept a menagerie of baboons, elephants, hippos, and wildcats—possibly for amusement or as a sign of power. An archaeological dig in 2009 uncovered the remains of more than 100 of these animals.

1874

The Zoological Society of Philadelphia opened the first U.S. zoo. The collection had more than 800 animals. Adults paid a quarter to get in. Kids paid a dime. More than 220,000 people streamed through the zoo's gates that year.

1970s

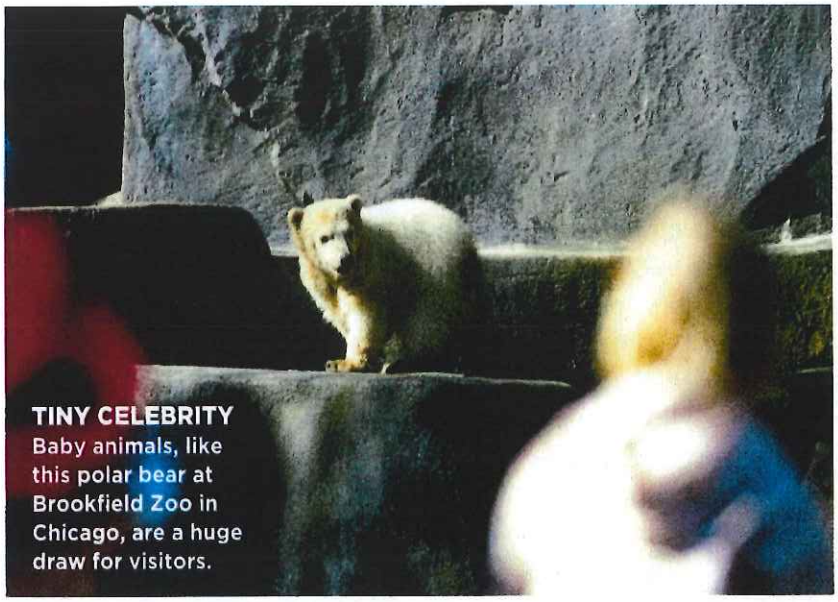
Woodland Park Zoo in Seattle, Washington, debuted new gorilla and African savanna exhibits—becoming the first zoo to make both the enclosures and the surrounding visitor areas resemble the animals' natural habitat.

2005

The Detroit Zoo in Michigan became the first major U.S. zoo to close its elephant exhibit for **ethical** reasons. The zoo sent its elephants to a **sanctuary** in California, saying they deserved more space and socialization with other elephants.

the most stress in captivity. Wild polar bears' home ranges can span 31,000 square miles—about a million times the size of a zoo's typical polar bear enclosure.

Other research has shown that many animals are intelligent and experience a wide range of emotions. Elephants, for example, can recognize themselves in mirrors. They comfort other elephants that are distressed and grieve when a member of their herd dies. Critics say that knowing animals have such complex feelings should stop zoos from keeping them captive, with little control over their lives.



TINY CELEBRITY Baby animals, like this polar bear at Brookfield Zoo in Chicago, are a huge draw for visitors.

A New Kind of Zoo

Elephant research has prompted more than 25 zoos in North America to close their elephant exhibits in recent years, sending their herds to sanctuaries with more room to roam.

Sanctuaries resemble animals' natural environment and range more than zoos do, Marino says. In sanctuaries, "the animals' health and well-being are a priority. People aren't getting close to them. They're getting back as much of their freedom as possible," she says.

Meanwhile, zoos are exploring new ways to prioritize animals' needs. In 2011, the Philadelphia Zoo in Pennsylvania introduced a trail system for its animals. Tigers, red pandas, and other creatures cross the zoo overhead in mesh bridges and tunnels that give them more choice in where and when they roam. About 20 zoos worldwide have followed this approach.

And Jacksonville Zoo's year-old great ape exhibit features several computerized learning stations that allow gorillas to communicate with zookeepers by pressing certain symbols, shapes, and colors. The technology helps reduce boredom and gives the gorillas a chance to have a say in their care. A massive tree at the exhibit's center houses an area from which the zoo's staff can study the apes—without intruding into their space.

Finding the Right Balance

Are such changes enough to make life in zoos positive for animals? The debate over whether zoos are ethical continues. But the upgrades have attracted visitors. U.S. zoo attendance has risen by 20 percent over the past 15 years.

Still, even supporters know that zoos must maintain a delicate balance of keeping their animals happy, giving visitors access to them, and protecting animals from extinction in the wild.

Says Vernon, "Zoos today must exist for a higher purpose." ◆

Signs of a Good Zoo

Seal of Approval
The logo of the Association of Zoos & Aquariums indicates that a zoo treats animals well and devotes money to education and conservation.

Creature Comforts
Look closely at the animals' living conditions. Do the animals have enough space? Do their enclosures have enough elements to occupy and stimulate them?

Teaching Tools
Zoos should have signs posted about animals' conservation status and life in the wild. They may also have staff available to answer visitors' questions.

WRITE ABOUT IT!
Is it OK to keep animals in zoos? Find at least three pieces of evidence in the article or sidebars to support your opinion. Then use that evidence and additional research to write an argument essay.

LEAVECTOR/SHUTTERSTOCK.COM (BACKGROUND); CHUCK ECKERT/ALAMY STOCK PHOTO (POLAR BEAR)

Lesson 11
Using Context Clues

Introduction When you come across a word you do not know in your reading, look for clues. **Context clues** are words and phrases in the text that give hints to a word's meaning.

Context Clue	Signal Words	Example
Definition	*are, is, means, or*	Larger animals often treat smaller animals as prey, or something to be killed and eaten.
Example	*like, such as, for example*	Predators, such as hawks, wolves, and coyotes, hunt rabbits.
Cause and Effect	*as a result of, because, and thanks to*	Because many animals eat rabbits, the number of wild rabbits has decreased.
Comparison and Contrast	*like, too, similarly, but, unlike, although*	Although wolves eat both plants and animals, hawks are completely carnivorous.

A word's position and function in the sentence can also be a clue to its meaning. For example, read the sentence below:

Brown bears are solitary animals and are often found alone.

You can tell that *solitary* is an adjective in this sentence. The adjective describes the bears. Then the word *solitary* is defined in the sentence. Since the bears *are often found alone*, this gives a good clue to what the word *solitary* means.

Guided Practice **Read the paragraph below. Circle context clues to help you figure out the meaning of the underlined words. Then tell a partner the meaning of the underlined words.**

Hint

Think about the different types of context clues. Look for words that signal examples, cause and effect, and contrasts. Then use the clues to help you figure out the meanings of the underlined words.

Marsupials are mammals that carry their young in pouches. The American opossum is a marsupial. Thanks to its defense mechanisms, the opossum keeps itself safe from predators. When threatened, it hisses, growls, and bites. If this doesn't work, the opossum reacts in an unusual way. Although many animals move quickly to escape danger, the opossum collapses and pretends to be dead. This is an unconscious response to stress that is similar to jerking your hand away from a hot object before thinking.

Independent Practice

Read the paragraph. Then answer the questions that follow for numbers 1–4.

Answer Form

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ

Number Correct ___/4

Pangolins have a physical resemblance, or likeness, to an armadillo, with claws and armored bodies. When attacked, pangolins thwart combat by rolling into a hard ball and hiding. Like bats and other animals that sleep all day, pangolins are nocturnal. Because they lack teeth, eating tiny stones with their food is critical for digestion.

1 Which phrase from the paragraph best helps you understand the meaning of the word resemblance?

A have a physical
B or likeness
C with claws
D armored bodies

2 What does the phrase thwart combat mean in the paragraph?

A get attacked
B attack others
C avoid a fight
D start a fight

3 What does the word nocturnal suggest about the pangolins?

A They roll into hard balls.
B They are awake at night.
C They are like all other animals.
D They lack teeth.

4 What does the word critical mean in the paragraph?

A safe
B possible
C necessary
D imaginable

WE WRITE IT, YOU DECIDE

Should Video Gaming Be a School Sport?

Video gaming has pro teams, star players, and millions of fans. But should it be considered a sport, like basketball or track? BY ANNA STARECHESKI & KATHY WILMORE

EXCITEMENT BUILDS as a huge crowd waits for the tournament to begin. The bleachers are filled with friends and family wearing school colors and holding signs. When the teams enter and take their places, the crowd goes wild, stomping their feet and shouting out the names of their favorite players.

But this isn't a varsity football or basketball game—and the players aren't on a field or a court. They're teams of students sitting in front of computer monitors, clicking mice and tapping away at keyboards.

At a growing number of schools around the country, video gaming has become a varsity team sport. From 2018 to 2019, the number of schools participating in the High School Esports League grew from about 200 to more than 1,200.

Video game competitions, known as esports (for electronic sports), are even bigger on the world stage. Nearly 100 million people around the globe watched the 2018 *League of Legends*

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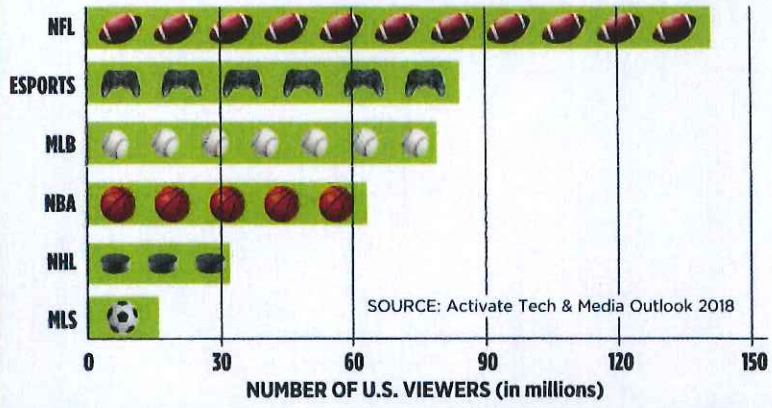
World Championship finals. That's about the same number of people as watched the 2018 Super Bowl.

As esports have become more popular, some people are pushing for gaming to be considered a school sport. After all, they say, games like *Fortnite*, *Counter-Strike: Global Offensive*, and *NBA 2K20* require skills and focus and can be intensely competitive.

But other people point out that gaming requires very little physical activity—one of the main aspects of traditional sports.

Video Gaming Goes Big League

By 2021, more Americans are expected to watch esports on TV, phones, and other devices than any pro sport except football.



Serious Skills

People in favor of treating esports like conventional athletics say that gaming often requires kids to work together as a team, focus and plan their strategy, and stay calm under pressure. Students also have to be dedicated enough to spend hours perfecting their skills.

Video game competitions require teamwork, strategy, and skills—like traditional sports.

That's why some schools are already calling video gaming a sport. At Robert Morris University in Illinois, the esports team is part of the athletic department. College and high school gaming teams train hard at regular practice sessions and even wear team jerseys on game days.

Christopher Turner, who coaches esports at Southern Lab, a K-12 school in Baton Rouge, Louisiana, says gaming can provide a big payoff for students. "They can learn teamwork and strategy and . . . about computer codes and game development," he explains.

Plus, top-level gamers can earn college scholarships worth tens of thousands of dollars, just like players of traditional sports.

Sitting Isn't a Sport

Still, many people say that one key factor is required to make something a sport: physical activity. And *Fortnite* just doesn't get your heart pumping and your muscles working the same way soccer and track do.

Calling gaming a sport also might encourage kids to trade in their tennis rackets for computer keyboards—and that switch could have dangerous long-term effects, health experts say. Being active helps control weight and reduces anxiety, stress, and depression. Experts recommend that kids ages 6 to 17 do *at least* 60 minutes of moderate to vigorous physical activity daily—and playing video games just doesn't cut it.

"I want to see kids up and moving," says Michael Cring, the athletic director at Arlington High School in LaGrangeville, New York. Cring doesn't consider gaming a sport. But, he says, "that doesn't mean it couldn't be a good activity."

After all, schools have all sorts of competitive activities we don't call sports, from math tournaments to glee club championships to science fairs. If we're going to consider video gaming a school sport, why not chess clubs and spelling bees?

If video gaming counts as a sport, why not chess clubs and spelling bees?

Think It Over

Should video gaming be recognized as a school sport? Consider how it compares with traditional athletics, such as soccer, and with other kinds of after-school activities that don't require physical activity, like chess clubs. Then ask yourself: Which category is the best fit for video gaming? ◆

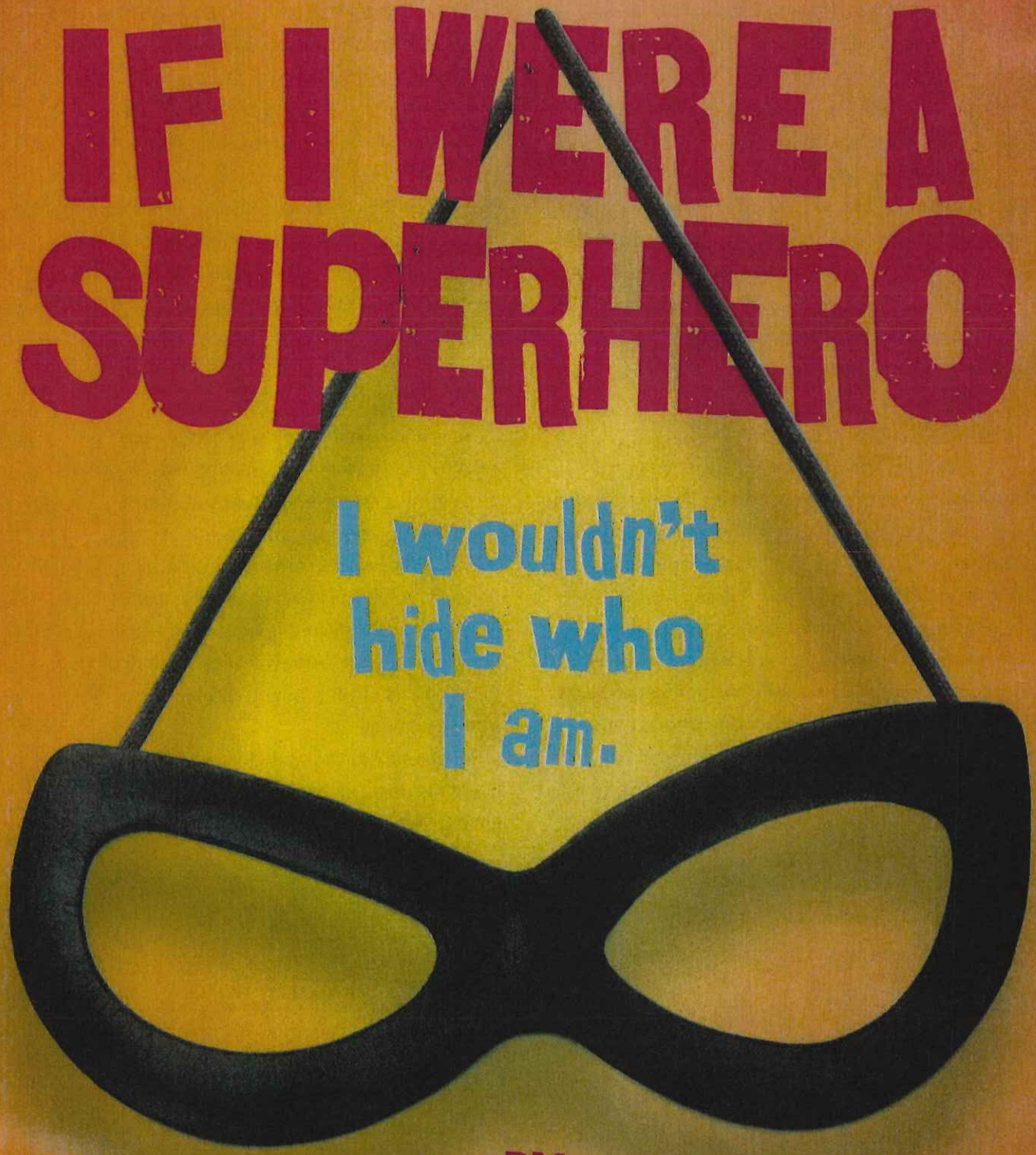
Write About It! Write an essay explaining whether you think video gaming should be considered a school sport. Include evidence from this article, along with your own reasons, to support your claim.

ILLUSTRATION BY JAMES YAMASAKI; SHUTTERSTOCK.COM (GRAPH IMAGES)

FICTION IN A FLASH
a super-short story to make you think

IF I WERE A SUPERHERO

I wouldn't hide who I am.



BY KRISTIN LEWIS

SPOTLIGHT ON

CONFLICT

Internal conflict is a struggle that takes place within a character's mind.
External conflict is a struggle between a character and someone or something else.

Directions:

1. What is the narrator's internal conflict? How about her external conflict? Answer both questions in the margins.
2. Underline two lines that reveal the internal conflict.
3. Circle two lines that reveal the external conflict.

If I were a superhero, I wouldn't wear shiny suits and silly masks. I'd wear jeans and my favorite hoodie and my hair in a ponytail. I don't understand when superheroes just let their long hair flow free. Doesn't it get in the way? My hair would be stuck to my face in five seconds, what with all the jumping and kicking and flying and sweating.

If I were a superhero, I wouldn't have a scary name like Red Scorpion or Poison Oak either. I'd have a name that made people feel safe, made them feel like they weren't alone. And I definitely wouldn't hide my identity. I'd tell the entire world who I was. I know there is that whole protecting-your-loved-ones-from-supervillains thing, but I think that's hyped-up drama for the movies.

In truth, I don't think the world has many supervillains. I think most of the terrible stuff in the world is just regular people forgetting themselves.

Like how yesterday, my dad and I were in line at the grocery store, and when he went to pay, he **fumbled** with the money. He couldn't grasp the bills in his wallet because he has a **degenerative** disease that makes it hard for his fingers to bend and straighten sometimes. It's as if his fingers decide to go on **strike**. When it happens, he gets deeply frustrated.

But he is also proud. I know not to help him. That only frustrates him more. So I stand there and watch, and I get this strange feeling in my gut, as if I woke up to find that everyone in the world had vanished but me.

Well anyway, this woman in line behind us was apparently in some kind of rush. She only had a banana and a carton of chocolate ice cream, which was starting to sweat all over the conveyor belt. This woman began sighing loudly and muttering to herself about how people should hurry up or get out of the way. She pulled out her phone and started texting someone, her fingers jabbing at the screen—as if that would help **convey** Just How Irritated she was.

The lady at the cash register gave my dad a sympathetic look and offered to help, but he said, "No, I've got it." And he kept digging in his wallet with his **gnarled** fingers.

Finally the woman in line behind us exploded. "C'mon!" she wailed. "Some of us have lives to live!"

Lives to live. What a thing to say.

If I were a superhero, I would use my superpowers to zap that woman into my dad's body. Then she could experience what it feels like to have your fingers go on strike. But I don't have superpowers.

So I turned to her. "Are you having an emergency?" I asked, my voice shaking. "Because if not, well, we are doing the best we can." I took a deep breath. "I just . . . wanted to say that," I added.

The woman's face **contorted** into shock, as if she hadn't realized we could actually hear her. Then she got quiet. I don't know if she was still mad; I didn't look back to find out. Instead, I watched my dad as he finally handed the bills to the cashier.

"Have a nice day," the cashier said.

As we walked out, I turned back to look at the woman. Our eyes met. She gave me a timid smile, and I thought maybe I have superpowers after all. ●

Narrative Writing Contest

Write your own story with the title "If I Were a Superhero." Give your central character an internal conflict. Your story should be no more than 800 words. Send it to Superhero Contest. Three winners will get *The Benefits of Being an Octopus* by Ann Braden.

Go to Scope Online for a great activity.

Lesson 13
Using a Dictionary or Glossary

Introduction Many words have more than one definition and can serve as more than one part of speech. When you are reading or writing, use a dictionary to check the precise meaning of a word or phrase.

- Words in a **dictionary** appear in alphabetical order. Each entry provides the pronunciation, the part of speech, and the meanings of the word. Sample sentences are often included to clarify meaning.

account (ə kount') *n.* 1. a record of events or time period 2. money in a bank 3. worth, importance **account for** *v.* 1. to be the main reason for: *Heavy rain accounted for the flooding.* 2. to explain: *I can't account for the dog's barking.*

When there is more than one meaning, each definition is numbered.

The abbreviations show the part of speech: *n.* stands for *noun* and *v.* stands for *verb*.

extract (ĭk străkt') *v.* 1. to pull out 2. to obtain or get meaning, pleasure, or information from something **extract** (ĕk' străkt) *n.* 3. an excerpt or part of a text 4. a flavoring

The pronunciation of the word is in parentheses. For some words, the pronunciation depends on the part of speech.

- A **glossary** is similar to a dictionary. It is an alphabetical list of special words that are used in a book. Each entry defines the word as it is used in that book.

Guided Practice **Read the paragraph. Use the entries above to find the meanings of the underlined words and phrases. Write the number of the correct meaning above each word or phrase.**

Hint

Identify how a word is used in a sentence before you use the dictionary. If the word is used as a noun, then you should read the definitions given for a noun.

Our museum has an exhibit on Chinese art. The catalog includes extracts from books about the landscape paintings. Many people extract pleasure from viewing these paintings. However, various accounts suggest that these paintings were also used to teach life lessons. If the paintings were used to teach morals, then scholars could account for the wide use of symbols that stand for character traits.

Independent Practice

For numbers 1–4, use the dictionary entries to answer the questions.

Answer Form

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4	Ⓐ	Ⓑ	Ⓒ	Ⓓ

Number Correct ___/4

express (ĭk sprĕs') *v.* **1.** to say or state **2.** to communicate ideas or feelings **3.** to squeeze or press something out *n.* **4.** type of transportation that moves with few or no stops *adj.* **5.** specific: *I bought these apples for the express purpose of baking a pie.* **6.** stated **7.** moving with few or no stops

1 What part of speech is express as used in this sentence?

My mother and I took the express train to the museum.

A noun

B adjective

C verb

D adverb

2 Which definition of express best fits this sentence?

One artist painted a gloomy landscape to express the theme of grief and loss.

A Definition 2

B Definition 3

C Definition 5

D Definition 6

reflect (rĭ flĕkt') *v.* **1.** to bend back light **2.** to show an image, to mirror **3.** to show clearly or reveal: *The novel reflects the writer's unhappiness.* **4.** to consider seriously: *You need to reflect on your actions.* **5.** to bring negative attention to: *The team's rowdiness reflected on the school.*

3 Which definition best fits reflect as used in this sentence?

Many landscape paintings reflected the artist's mood.

A Definition 1

B Definition 3

C Definition 4

D Definition 5

4 Which definition best fits the way reflect is used in this sentence?

When you view a Chinese landscape painting, reflect on the artist's message.

A Definition 2

B Definition 3

C Definition 4

D Definition 5

Lesson 5 Part 1: Introduction

Citing Evidence to Make Inferences

Theme: *Passing Wisdom Down Through the Ages*

Have you heard the story of Pinocchio, the wooden boy who came to life? Each time he lies, his nose grows. Later in the story, Pinocchio says he has been to school, and—*zoink!*—his nose grows. Now, the author doesn't say at this particular point in the story that Pinocchio lied. But you can make an **inference**—a conclusion based on what you already know and text evidence—that he did.

Good inferences are supported with textual evidence. You can practice this right now.

Read the paragraph below. Then use the chart to support an inference about the narrator.

> Abraham Lincoln once said, "Whatever you are, be a good one." Easy for him to say—he was good at *everything*. It's nice advice, I guess. Still . . . you can say that you're going to be good at playing the piano. You can even say that you'll perform beautifully at the big recital. You can say that all you want, and you can still forget the notes to your song halfway through and run off the stage in tears. I wonder what Lincoln would have said about that! He probably wouldn't have felt as miserable as I do right now, at the very least.

The chart below states an inference about the narrator. Complete the chart by writing one more phrase from the paragraph that directly supports the inference.

What You Know	+	What the Narrator Says	=	Inference
People sometimes feel bad when embarrassed.		• "Still . . . you can say that you're going to be good at playing the piano." •		The narrator has just had a bad experience performing in a piano recital.

When reading, always support your inferences with textual evidence. An unsupported inference won't make your nose grow an inch, but you won't be on your way to a better understanding of the story, either!

Read the first two paragraphs of an ancient Greek myth.

Genre: Myth

Athena, Arachne, and the Weaving Contest

by Sofia Lillios

Athena, the goddess of wisdom, was an exceptional weaver. She shared her knowledge with humans, as long as they consistently showed her their deepest gratitude. Athena's most talented student was a young woman named Arachne.

Each day, Athena and Arachne sold their creations at a country market, and everyone said Arachne's cloth was incredible. Athena overheard Arachne tell customers she taught herself to weave. Athena cringed as she listened to Arachne's lies. Then, on one fateful day, Arachne kept bragging to customers that she was the greatest weaver in the world, and that her creations were more beautiful than all the others at the market.

(continued)

Explore how to answer this question: *"How does Athena feel about Arachne's bragging? Make an inference about how Athena feels. Support your inference with two details from the text."*

Look for details from the text that hint at how Athena feels about Arachne. One detail is shown in the chart below. Write a second detail next to the second bullet point. Then write down your inference.

What You Know	+	Details from the Text	=	Your Inference
Someone who expects gratitude would likely be upset if she did not receive it.		• She shared her knowledge with humans, as long as they consistently showed her their deepest gratitude." •		

Use details from the chart to support the inference that Athena is upset about Arachne's bragging.

Continue reading "Athena, Arachne, and the Weaving Contest." Use the Close Reading and the Hint to help you answer the question.

Close Reading

On page 46, the author says that Athena shares her skills with humans on one condition. **Circle** the phrase stating this condition.

(continued from page 46)

An old woman in a cloak smiled and challenged Arachne to a weaving contest, which Arachne gladly accepted. The rules were simple: each would weave one complete tapestry by nightfall, and customers would judge the winner.

Throughout the day, the two sat at looms, weaving furiously. Just before sunset, they finished. Both tapestries were marvelous to behold, but the crowd chose the old woman, for her creation was flawless. "Spin and weave forever without my help, fool," the old woman suddenly said, and pointing one finger at Arachne, turned her into a spider.

Hint

The question asks *why* Arachne was turned into a spider, not how.

Circle the correct answer.

Which sentence best explains why Arachne was turned into a spider?

A The old woman had special powers.

B Arachne did not show her thanks to Athena.

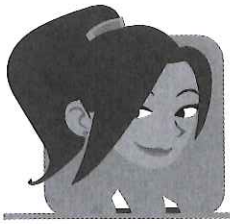
C Athena was disguised as the old woman.

D Like Arachne, spiders are good at weaving.

Show Your Thinking

Look at the answer you chose above. Explain how the details in the story helped you infer why Arachne was turned into a spider.

Read the Native American story. Use the Study Buddy and the Close Reading to guide your reading.



Based on the first paragraph, I think Young Man is a patient and determined person. I'll underline the phrase that tells me about Young Man's character.

Close Reading

What does Young Man learn on his journey? **Underline** the sentences that explain the lesson of his journey.

The willow tree is kind and wise. **Circle** words and phrases that describe the tree.

Genre: Native American Legend/Myth

The Wisdom of the Willow Tree

by Wilson Mekashone

1 Young Man often felt lost and pondered questions about the purpose of his life. He decided to journey far away, seeking wisdom. He hiked tirelessly for several days.

2 One day, the sun blazed down and he was hot, thirsty, and desperate for shade. In the distance, he saw a willow tree and crawled to it. Exhausted, he lay between its roots and had a vivid dream. In the dream, the tree had a wise old face that smiled at him and looked strangely familiar.

3 Young Man said to the tree, "I have failed on my journey. I still don't understand how to live my life. I'm thirsty and weary, and I cannot summon the strength to return home."

4 The tree then reached down its oldest branch, stroked Young Man gently on the cheek, and said, "Sleep in my shade. I am old and know the value of rest. When you wake up, follow my roots. They are wrinkled but know the way."

5 Young Man awoke and followed the tree's enormous roots to a burbling stream. As he drank, he saw his reflection and was shocked when he realized that the face he had seen in the willow's trunk had been his own, only much older.

6 He smiled as he now understood that he must age like the wise tree and help others find their way when they feel lost and defeated. Over time, he would gradually become Wise Man, whom people would seek out for help, shelter, and advice. This, he knew, would take much strength and patience.

Hints

Which choice describes what it takes for Young Man to become Wise Man?

Read each answer choice carefully. Which answer contains a word that describes something people do when they are happy?

How does Young Man feel when he approaches the willow tree? How does the willow tree encounter change Young Man's feelings?

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

1 A student makes the following claim about Young Man in "The Wisdom of the Willow Tree."

Young Man has to develop skills if he wants to become Wise Man.

Which sentence from the text best supports this claim?

A "He decided to journey far away, seeking wisdom."

B "This, he knew, would take much strength and patience."

C "I am old and know the value of rest."

D "In the distance, he saw a willow tree and crawled to it."

2 Which sentence from the text best shows that Young Man is happy about his encounter with the willow tree?

A "Young Man awoke and followed the tree's enormous roots to a burbling stream."

B "As he drank, he saw his reflection and was shocked when he realized that the face he had seen in the willow's trunk had been his own, only much older."

C "I'm thirsty and weary, and I cannot summon the strength to return home."

D "He smiled as he now understood that he must age like the wise tree and help others find their way when they feel lost and defeated."

3 Explain how the willow tree's kindness and wisdom help Young Man. Include at least one detail from the story to support your explanation.

Read the story. Then answer the questions that follow.

A Sewing Sensation

by William Rivera

1 Juan sat on the floor of Mom's sewing room with one eye on his soccer magazine and one eye on his mother. His mother was making a wedding dress for their neighbor's daughter, and Juan could see that the dress was going to be beautiful. Juan's mother had designed and sewn dresses for many of the girls in his town, and Juan felt proud that people wanted to wear his mother's creations on their special days.

2 Juan glanced up again from his magazine and asked, "Is your machine running okay, Mom? I think it's making a weird noise."

3 Mom hardly looked up and said, "I think it's working just fine. It's whirring and humming away, just as always."

4 Juan looked disappointed, but he went back to pretending to read his magazine. A few minutes later, he asked, "Do you want me to sew the hem of the dress so that you can rest your fingers? I've watched you do it millions of times, so I could do it if you are really tired." This time, Juan's mother studied Juan's face carefully.

5 "You know, I could use a break," she said, "and we need some new pillowcases. I've got the pattern cut out, and all you'd have to do is stitch up the sides." Juan dropped his magazine and was sitting in Mom's sewing chair in no time. Juan's mom carefully removed the dress she was working on, showed Juan how to thread the sewing machine, and brought him some pillowcases to sew.

6 In his enthusiasm, Juan stomped on the foot pedal and almost sewed over his finger. Then he remembered the patience that his mother always showed, and he slowed down. His seams were straight and even. Juan had a huge smile on his face when he looked over his shoulder at his mom.

7 "I can't believe you sewed that so perfectly on your first try," Mom said, patting Juan on the back. "It took me years of practice to perfect my technique, and you're already a sensation. Why don't you try making a pillow for your room? You can design it, and I'll show you how to make the pattern and cut it out."

8 Juan's face lit up, but then a dark shadow seemed to pass over it. "I think I should probably just go outside and kick the ball with my friends." To himself, he muttered, "What would Anthony think if he saw me at a sewing machine?" as he headed outdoors.

9 Mom didn't say anything as she watched Juan's reaction, but that night at dinner, she and Juan's dad began talking about a local fashion designer who had moved to Dallas and become a very successful clothing designer. Juan pretended he wasn't listening, but the scowl slowly vanished from his face. "Many of the best fashion designers are men," Juan's dad continued. "They can make a lot of money for their designs."

10 After dinner, Juan got out his notebook and began sketching. Then he showed his notebook to his mother, and she nodded approvingly. Together, they headed to the sewing room for pattern tracing paper and scissors.

11 Juan cut out two large round pieces of cloth and began stitching them together, leaving one section open. He turned the cloth inside out, stuffed the opening with cotton batting, and then sewed up the open section. Finally, he used fabric markers to add details. He placed his finished creation on his bed.

12 The next day, Anthony came over to kick the ball with Juan, but it started to rain. The two headed to Juan's room to watch soccer videos instead. When Anthony saw the new oversized soccer ball on Juan's bed, he asked Juan where he got it. Juan grinned at his friend and said, "Mine is one-of-a-kind, but I think I know how to get you one that's almost like it."

Answer the questions. Mark your answers to questions 1–4 on the Answer Form to the right.

Answer Form

1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ

Number Correct ___/4

1 Juan does not have a lot of experience with sewing. Which sentence from the passage is the **best** evidence of this claim?

A "Juan glanced up again from his magazine and asked, 'Is your machine running okay, Mom? I think it's making a weird noise.'"

B "'I can't believe you sewed that so perfectly on your first try,' Mom said, patting Juan on the back."

C "To himself, he muttered, 'What would Anthony think if he saw me at a sewing machine?' as he headed outdoors."

D "'Many of the best fashion designers are men,' Juan's dad continued."

2 Juan is very excited about learning to sew. Which of the following sentences from the passage **best** supports this statement?

A "Juan felt proud that people wanted to wear his mother's creations on their special days."

B "Juan sat on the floor of Mom's sewing room with one eye on his soccer magazine and one eye on his mother."

C "Juan had a huge smile on his face when he looked over his shoulder at his mom."

D "Then he remembered the patience that his mother always showed, and he slowed down."

3 Which detail **best** supports the idea that Juan's mother encourages her son's interests?

A She tells him that her sewing machine doesn't require fixing.

B She gives him some pillowcases to sew on his own.

C She sends him outside to play ball instead of sewing.

D She gives him a notebook for sketching and drawing.

4 What is one reason Juan chooses to play soccer with his friends instead of continuing to sew?

A He knew that he needed to practice if he wanted to improve his soccer skills.

B He did not want his friends to think he was rude for keeping them waiting.

C He thought that his father would not approve of his interest in sewing.

D He was concerned that his friends might make fun of his sewing talent.

5 Juan seems somewhat embarrassed about his strong interest in sewing. Write a paragraph in which you agree or disagree with that statement. Use at least **two** details from the story to support your answer.

✓ Self Check *Go back and see what you can check off on the Self Check on page 43.*

Read this account of important moments in the history of science. Then answer the questions that follow.

Luck Favors the Prepared

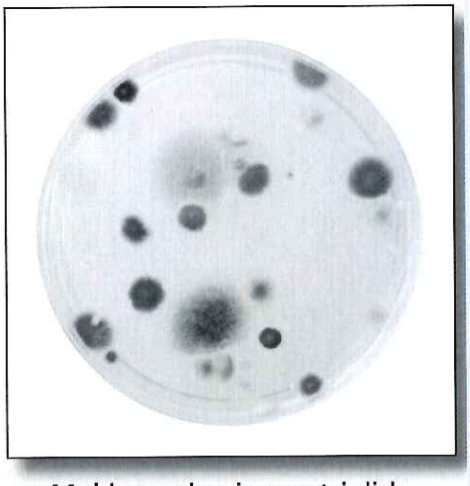
by Maria Malzone

1 Making a great discovery generally requires hard work, years of study, and experiment after experiment. However, people sometimes accidentally stumble upon amazing discoveries. Some of the things we use in everyday life—such as sticky notes, microwaves, and artificial sweeteners—were all chance discoveries that changed the way we live. The inventor of the sticky note just happened to stumble on a type of glue that could be reused. The scientist who discovered microwaves wasn't looking for them. He was doing experiments with a new type of vacuum tube. Then one day the chocolate bar in his pocket began to melt, and he realized the machine in front of him could change the way people cooked. A scientist who was trying to find new uses for coal tar happened by chance to notice that it tasted sweet, thus discovering the first artificial sweetener.

2 It is exciting to think that anyone could discover something important, such as sticky notes or microwave ovens. However, most of the accidental discoveries you hear about required more than just luck. While the discoverers may have been lucky, they were also prepared. Some of the most famous "accidental" discoveries were made by scientists who had been working to solve problems for a long time.

3 The discovery of penicillin, which is a medicine used to kill bacteria, is one of the most famous stories of accidental discovery. In the early 1900s, a scientist named Alexander Fleming was trying to find ways to cure diseases and infections. While doing his research, Fleming grew bacteria on special plates called petri dishes.

4 One day he noticed a type of mold, called penicillin, growing on the plate. To Fleming's amazement, the mold killed the bacteria. He discovered that the mold could be used as an antibiotic, which is a medicine that fights bacterial infections. The penicillin antibiotic was used to treat cuts, infections, and diseases that made many people seriously ill. Because of this, it was called a "miracle drug." It is still used today to help save lives.



Mold growing in a petri dish. Alexander Fleming's chance observation of how a type of mold killed bacteria led to the development of modern antibiotics.

5 X-rays were another accidental discovery. A scientist named Wilhelm Röntgen, who had studied physics and engineering, was working as a professor in the late 1800s. At that time, Röntgen was performing experiments by passing an electric current through gas. His experiments sometimes produced sparks in the gas. Röntgen noticed that every time the gas sparked, a plate treated with a special chemical lit up. Röntgen thought that perhaps the sparks were producing some sort of rays. These rays were not like anything known at the time, however. For this reason, Röntgen called them X-rays.

6 After making this discovery, Röntgen decided to investigate the rays further. For example, he placed different objects in front of the rays. He tested whether the X-rays would pass through the objects or be blocked by them. Röntgen's most famous image is the X-ray shadow of his wife Bertha's hand. This image shows that the rays do not pass through bone. Doctors quickly realized that they could use X-ray images to look at broken bones.

the first X-ray photograph, showing Bertha Röntgen's hand

7 Another scientist who made an accidental discovery was Charles Goodyear. Goodyear was experimenting with natural rubber because he hoped to find a way to make it more useful. Natural rubber, which comes from the sap of rubber trees, is too soft and sticky to be used in many products. Goodyear was determined to find a way to change the rubber so that it would be more durable but also remain elastic, or stretchy. He tried to change the rubber in countless ways, but each attempt disappointed him. Goodyear even patented one method of changing the rubber, but he was still unhappy with the results.

8 One day, Goodyear spilled a mixture containing natural rubber onto a hot stove. The result was the hard, strong rubber he had been seeking. The process resulted in what we now call vulcanized rubber. Goodyear patented a process for making vulcanized rubber in 1844 and then sold his product to manufacturers. Today vulcanized rubber is used in everything from bowling balls to car tires to shoe soles.

9 These scientists and inventors are all known for their accidental discoveries. Could these discoveries have been made by anyone else? Perhaps. But Fleming, Röntgen, and Goodyear all studied and worked hard for many years. When their lucky accidents happened, they had learned enough to understand what they saw. They then worked hard to make their observations useful. Lucky accidents can happen to anybody, but great discoveries are almost always the result of hard work.

Answer Form

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2A	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5	Ⓐ	Ⓑ	Ⓒ	Ⓓ
6	Ⓐ	Ⓑ	Ⓒ	Ⓓ

Number Correct ___/6

1 Which sentence from the article **best** supports the idea that the discovery of X-rays helped to improve people's health?

A "After making this discovery, Röntgen decided to investigate the rays further."

B "He tested whether the X-rays would pass through the objects or would be blocked by them."

C "Röntgen's most famous image is the X-ray shadow of his wife Bertha's hand."

D "Doctors quickly realized that they could use X-ray images to look at broken bones."

2 Answer Parts A and B below.

Part A

Which statement is true about Alexander Fleming's initial understanding of penicillin?

A He hoped that penicillin would cure certain diseases.

B He was unaware that penicillin would have any effect.

C He was sure penicillin would be a helpful medicine.

D He knew penicillin was deadly to some bacteria.

Part B

Select **two** pieces of evidence from "Luck Favors the Prepared" that support the answer to Part A.

- ☐ "one of the most famous stories of accidental discovery"
- ☐ "a medicine used to kill bacteria"
- ☐ "trying to find ways to cure diseases and infections"
- ☐ "To Fleming's amazement"
- ☐ "the mold could be used as an antibiotic"
- ☐ "it was called a 'miracle drug'"

3 The author believes that Charles Goodyear was a dedicated scientist who kept improving on his work. Which sentence from the article **best** supports this statement?

A "Another scientist who made an accidental discovery was Charles Goodyear."

B "He tried to change the rubber in countless ways, but each attempt disappointed him."

C "One day, Goodyear spilled a mixture containing natural rubber onto a hot stove."

D "Goodyear patented a process for making vulcanized rubber in 1844 and then sold his product to manufacturers."

4 Which of the following **best** matches a central idea from the text with a detail that supports it?

A Central idea: Many important discoveries are made during experiments.
Supporting detail: Doctors began using X-rays to examine injured patients.

B Central idea: Some important discoveries are not well understood at first.
Supporting detail: Artificial sweetener was based on a kind of coal tar.

C Central idea: Some scientists make accidental discoveries that help people.
Supporting detail: Penicillin is still used in modern times to save lives.

D Central idea: Dedicated scientists may accidentally become great inventors.
Supporting detail: Fleming used plates called petri dishes to grow bacteria.

5 Vulcanized rubber continues to be an important part of modern products. How does the author illustrate this idea in the passage?

A She lists examples of different uses for vulcanized rubber.

B She tells the story of the invention of vulcanized rubber.

C She compares vulcanized rubber with natural rubber.

D She notes the year in which vulcanized rubber was patented.

6 Which of the following **best** summarizes the article?

A Sticky notes, microwaves, and artificial sweeteners all have something in common. Each of these useful things was discovered by accident. The same is true of a number of other discoveries, including penicillin, X-rays, and vulcanized rubber.

B Many important scientific discoveries have been made by accident. These include the discoveries of penicillin, X-rays, and vulcanized rubber. In each case, the scientist making the discovery had the experience to see the usefulness in what others might have considered a mere "accident."

C Alexander Fleming may be the person who made the most important accidental discovery of all time. He was working in his lab when he noticed a type of bread mold that killed bacteria. This led to the invention of penicillin, an antibiotic that has saved countless lives.

D When a good scientist discovers something by accident, the discovery involves more than just luck. Microwaves, penicillin, and X-rays are all examples of useful things discovered by scientists who knew how to turn a mistake into something good. Their "lucky accidents" had more to do with hard work than good luck.

7 Explain how the author uses anecdotes, or stories, to illustrate key ideas of the passage. Use details from the passage to support your answer.

8 Below is information from paragraphs 5 and 6 of the passage "Luck Favors the Prepared." Organize the information by writing each phrase from the passage into the proper section of the table: central idea, supporting detail, and example used to make a point.

Röntgen was performing experiments by passing an electric current through gas.

Röngten's image of his wife's hand showed that X-rays do not pass through bone.

X-rays were another accidental discovery.

Every time the gas sparked, a plate treated with a special chemical lit up.

Central idea	
Supporting detail	
Supporting detail	
Example used to make a point	

Middle School Math

Secondary Math Continuous Learning Plan Schedule

Digital Resources

- www.ixl.com
- www.khanacademy.com
- www.prodigygame.com
- https://www.amstat.org/ASA/Whats-Going-on-in-this-Graph.aspx

  What is going on in the graph is a free resource from ASA and New York times. Grades 7-12 students answer the following questions about timely graphs in which they see themselves
  - What do you notice?
  - What do you wonder?
  - What is the story this graph is telling? Write a catch headline that captures the main idea.

Grade 6 and 7 Math Learning Plan		
Date	**Standard**	**Practice**
March 23, 2020	6.NSA.1: Compute and interpret quotients of positive fractions	Students can practice questions from the following resources • Performance task 6.NSA.1
March 24, 2020	6.NSB.2: Demonstrate fluency with division of multi-digit whole numbers	Students can practice questions from the following resources • Performance task 6.NSB.2
March 25, 2020	6.NSB.4: Find common factors and multiples.	Students can practice questions from the following resources • 6th grade Practice Question NSB.4 • Performance task 6.NSB.4
March 26, 2020	6.NSC.5: Use positive and negative numbers to represent quantities. 6.NSC.6: Locate a rational number as a point on the number line.	Students can practice questions from the following resources • 6th grade Practice Question NSC.5 • Performance task 6.NSC.6
March 27, 2020	6.RPA.1: Understand a ratio as a comparison of two quantities and represent these comparisons.	Students can practice questions from the following resources • Performance task 6.RPA.1

Secondary Math Continuous Learning Plan Schedule

March 30, 2020	6.RPA.2: Understand the concept of a unit rate associated with a ratio, and describe the meaning of unit rate.	Students can practice questions from the following resources • Performance task 6.RPA.2
March 31, 2020	6.RPA.3: Solve problems involving ratios and rates.	Students can practice questions from the following resources • Performance task 6.RPA.3 • 6th grade Practice Question RPA3
April 1, 2020	6.EEI.A.2: Create and evaluate expressions involving variables and whole number exponents. 6.EEI.B.4: Use substitution to determine whether a given number in a specified set makes a one-variable equation or inequality true.	Students can practice questions from the following resources • 6th grade Practice Question EEI.A.2 • Performance task 6.EEI.B.4
April 2, 2020	6.EEI.C.9: Identify and describe relationships between two variables that change in relationship to one another.	Students can practice questions from the following resources • Performance task 6.EEI.C.9
April 3, 2020	6.GMA.3 Solve problems by graphing points in all four quadrants of the Cartesian coordinate plane.	Students can practice questions from the following resources • 6th grade Practice Question GMA3 • Performance task 6.GMA.3

Name_____ Date_____

CCSS 6.NS.1

Amusement Park

The table shows the portions of time you spent on several activities during a day at an amusement park.

	Portion of your time
Going on rides	$\frac{1}{6}$
Waiting in line for rides	$\frac{3}{10}$
Playing games	$\frac{1}{12}$
Swimming in wave pool	$\frac{3}{10}$

1. How many times more is the portion of time spent going on rides than the portion of time spent playing games? Justify your answer.

2. How many times more is the portion of time spent waiting in line for rides than the portion of time going on rides? Justify your answer.

3. The portion of time spent swimming in the wave pool is two times more than the portion of time spent having lunch. What portion of your time at the amusement park was spent having lunch?

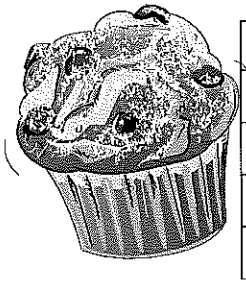
4. If "having lunch" is the only other activity not listed in the table, what other method could you have used to find the answer in Exercise 3?

Name_____ Date_____

CCSS 6.NS.2

Festival Treats

A bakery is making desserts for a festival. The table shows how many desserts were made and how many will fit in a box.



Dessert	Number made	Number per box
Cannolis	475	15
Cream puffs	350	12
Cupcakes	450	24
Muffins	400	24

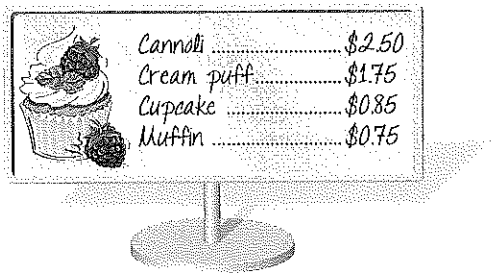
1. What is the least number of boxes the bakery will need to transport all the cannolis? How do you know your answer is reasonable?

2. What is the least number of boxes the bakery will need to transport all the cream puffs? How do you know your answer is reasonable?

3. What is the least number of boxes the bakery will need to transport all the cupcakes? How do you know your answer is reasonable?

4. What is the least number of boxes the bakery will need to transport all the muffins? How do you know your answer is reasonable?

5. The festival prices for each dessert are shown in the banner. At the end of the festival, there are 24 cannolis, 30 cream puffs, and 62 muffins left over. How much money did the bakery collect from selling desserts? How much more would the bakery have collected if they sold all the desserts?



6th Grade Practice Questions

6.NSB.4:
Find common factors and multiples.
a. Find the greatest common factor (GCF) and the least common multiple (LCM).
b. Use the distributive property to express a sum of two whole numbers with a common factor as a multiple of a sum of two whole numbers.

Sample Practice Questions

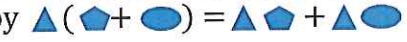
For Halloween Ms. Kinder purchased 98 Kit Kats and 56 Almond Joys. Each student will receive an equal number of Kit Kats and Almond Joys. There will be no Kit Kats and Almond Joys leftover.
Based on this information, what is the greatest number of students Ms. Kinder can have in her class?

A. 28 Students
B. 26 Students
C. 14 Students
D. 16 Students

Which expression correctly represents the GCF being factored out of the expression $48+72$

A. $2(24+36)$
B. $4(12+18)$
C. $6(4+12)$
D. $8(6+9)$

Chef Williams buys eggs in 18-egg cartons and biscuits in packages of 20 biscuits. What is the smallest number of egg cartons and biscuit packages should he buy to have the same number of eggs and biscuits?

Which property is illustrated by  ?

A. Distributive
B. Associative
C. Commutative
D. Identity

There are 12 boys and 18 girls in the after school robotics club. Mr. Barnes want to form teams with same number of girls and boys on each team. What is the greatest number of teams that can be formed?

A. 12
B. 3
C. 18
D. 6

Which property is illustrated by $3(5x+3)=15x+9$?

A. Associative property of Addition
B. Additive Identity
C. Distributive Property
D. Commutative property of Addition

Name_____ Date_____

CCSS 6.NS.4

Fruit

You are buying fruit to make fruit baskets. Apples come in bags of 20. Oranges come in bags of 16, and bananas come in bags of 32.

1. You have one bag of each fruit. Each fruit basket must be identical.
   a. What is the greatest number of fruit baskets that you can make using all of the fruit?

   b. How many of each type of fruit are in each fruit basket in part (a)?

2. You decide that not only must the fruit baskets be identical, but each one must have the same numbers of apples, oranges, and bananas.
   a. What is the least number of bags of each fruit you need to have the same number of apples, oranges, and bananas?

   b. How many of each type of fruit do you have?

   c. There must be at least 5 but no more than 10 of each type of fruit in each basket. How many different ways can you arrange the fruit baskets when using all of the fruit? Explain your reasoning.

6th Grade Practice Questions

6.NSC.5
Use positive and negative numbers to represent quantities.

Sample Practice Questions

Neveah is comparing average minimum temperatures of North Pole and South Pole for her science research project. The table below describes the data she has collected.

Average Temperature	November	December	January	February
North Pole	- 3	- 17	- 19	- 16
South Pole	-40	-20	-22	-45

Which place has a temperature closer to zero in December? _____

LaShonda keeps a track of her credit card balance. The chart below shows the monthly balance on her credit card.

March	April	May	June	July
-34	-42	-35	-45	-15

Select the option that represents the monthly balance closest to zero.

A. June, April, May, March, July
B. July, March, May, April, June
C. March, April, May, June, July
D. July, June, May, April, March

The change in yards in a football team's position on the field for each of their last four plays is given below.

-3, 6, -6, 0

Which lists correctly compares the changes in yards in the football team's position on the field?

A. $-6 < -3 < 0 < 6$
B. $-3 < -6 < 0 < 6$
C. $0 < -6 < -3 < 6$
D. $0 < -3 < -6 < 6$

6th Grade Practice Questions

The table shows the lowest recorded temperature for each of the four cities.

City	Temperature
Detroit	-19
Miami	58
Fairbanks	-56
Seattle	9

Which of the following shows the numbers from least to greatest?

A. -19, -56, 9, 58
B. -56, -19, 9, 58
C. 9, -19, -56, 58
D. 58, -56, -19, 9

Name_____ Date_____

CCSS 6.NS.6

Temperature

The table shows daily high and low temperatures in two cities for a given week.

Bangor, Maine							
Day	M	Tu	W	Th	F	Sa	Su
High temperature (°F)	14	3	1	8	15	0	–2
Low temperature (°F)	–3	–9	–10	–10	–2	–4	–12

Vienna, Austria							
Day	M	Tu	W	Th	F	Sa	Su
High temperature (°C)	8	9	4.5	9	8.5	1	5
Low temperature (°C)	0	–4.5	–12	4.5	–6	–10	–14

1. In Bangor, were more of the high and low temperatures above or below 0°F? Justify your answer using a horizontal number line.

2. In Vienna, were more of the high and low temperatures above or below 0°C? Justify your answer using a vertical number line.

3. Use the number lines in Exercises 1 and 2 to identify any days in which the temperatures were *opposites* in each city. Explain how you found your answers.

4. For each city, plot the data in a coordinate plane. Let x be the daily high temperature and let y be the daily low temperature.

5. Find two ordered pairs for Vienna whose coordinates differ only by signs. What do you notice about the locations of the points in relation to the axes?

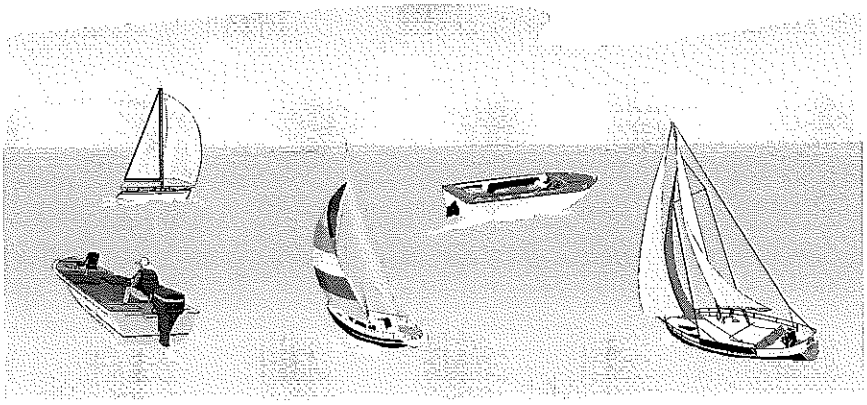
6. In which quadrant are there no points plotted for either city? Explain why this occurs.

Name_____ Date_____

CCSS 6.RP.1

Ships

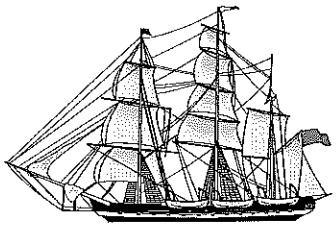
1. The numbers of sailboats and motorboats in a bay are shown.



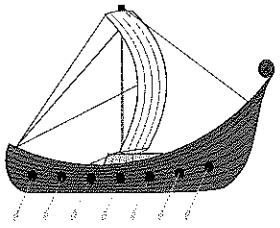
a. Write the ratio of motorboats to sailboats in three ways. Explain what the ratios mean.

b. Four additional motorboats enter the bay. How many additional sailboats must also enter the bay for the ratio to remain the same?

2. The ratio of the number of galleons to the number of galleys in the Spanish Armada was 5 : 1. What missing information could be used to find the total number of galleons and galleys in the Spanish Armada? Explain.



Galleon: propelled by sails



Galley: propelled by rowing

Name_____ Date_____

CCSS 6.RP.2

Factory Production

The table shows the production results for three factories.

	Production
Factory A	10,000 cars and 2500 trucks manufactured in 10 months.
Factory B	6000 cars and 1200 trucks manufactured in 9 months.
Factory C	9000 cars and 1800 trucks manufactured in 8 months.

1. Write a unit rate that represents the total vehicle production at each factory.

2. Which factory has the fastest rate of production?

3. How many vehicles are manufactured at each factory in one year? How many more vehicles does Factory C produce than Factory A in one year?

4. Suppose Factory A manufactures 500 more cars in their 10-month time period. How many more trucks would Factory A need to manufacture in those 10 months to equal the rate of total vehicle production at Factory C?

6th Grade Practice Questions

6.RPA.3
Solve problems involving ratios and rates.
a. Create tables of equivalent ratios, find-missing values in the tables and plot the pairs of values on the Cartesian coordinate plane.
b. Solve unit rate problems.
c. Solve percent problems.
d. Convert measurement units within and between two systems of measurement.

Sample Practice Questions

Sheba showed Judy the following table of the amounts of money that Sheba earned by walking dogs.

Money earned by walking dogs	
Hours worked	**Amount earned (dollars)**
3	$24
4	$32
5	$40

How should Judy determine how much money Sheba earned each hour?

A. Add the number of hours worked to the amount earned.
B. Divide the amount earned by the number of hours worked.
C. Subtract the number of hours worked from the amount earned.
D. Multiply the amount earned by the number of hours worked.

Jackie bought a game that had a marked price of $32. If there was a discount of 5% on the marked price, how much does Jackie save?

A. $1.60
B. $16.00
C. $30.40
D. $31.95

Carly's Vacation

Miles Travelled	Gallons of Gas
600	20
450	15
300	10
960	x

What is the value of x in gallons of gasoline?

A. 41
B. 55

6th Grade Practice Questions

C. 80
D. 32

Kesha had a recipe that required 1/3 pound of beef
1 pound = 453.6 grams
About how many grams of beef does she need?

A. 5
B. 151
C. 454
D. 1361

Tara bought four different vegetables at the store.

Potatoes	1 Kilogram
Carrots	800 grams
Tomatoes	2.5 pounds
Cucumber	60 ounces

Which vegetable did she buy the greatest weight of?

A. Carrots
B. Cucumber
C. Tomatoes
D. Potatoes

For every 4 hours of babysitting, Sharon charges $ 32.

a. Complete the table

Number of hours, x	1	2	4	8
Total Cost, y			32	

b. Graph the relationship between the number of hours x and the cost y.
c. Is the relationship between the number of hours and the cost proportional?
d. Use your graph to find how much Sharon should charge for 6 hours of babysitting.

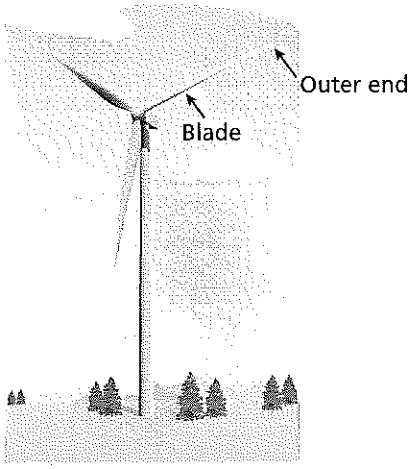
Name_____ Date_____

CCSS 6.RP.3

Windmills

A blade of a windmill completes 1 rotation every 5 seconds. The outer end of the blade travels 700 feet in 1 rotation.

1. What is the speed of the outer end of the blade in feet per second?



2. How far does the outer end of the blade travel in 3 seconds?

3. What is the speed of the outer end of the blade in feet per minute?

4. An engineer adjusts the speed of the blade so that it is 150% of the original speed. To the nearest tenth of a mile, how far does the outer end of the blade travel in 1 hour?

6th Grade Practice Questions

6.EEI.A.2
Create and evaluate expressions involving variables and whole number exponents.
a. Identify parts of an expression using mathematical terminology.
b. Evaluate expressions at specific values of the variables.
c. Evaluate non-negative rational number expressions.
d. Write and evaluate algebraic expressions.
e. Understand the meaning of the variable in the context of the situation.

Sample Practice Questions 6.EEI.A.2

From the expression below select two statements about the expression that are true.
$5 - 3n^2 + 10n$

A. The expression has 5 terms
B. One of the terms is a constant.
C. The coefficient of one of the terms is -3.
D. 10 is the variable in the expression
E. The exponent in the term is 3

The admission to the local zoo is $10 and the cost of special exhibits s at $4 each.

a. Write an expression
   $10 + 4s$
b. Evaluate your expression when $s = 3$
   $10 + 4x3$
   $10 + 12$
   $22

The high school marching band has 15 drummers this year. The band director insists that there are to be 5 more trumpet players than drummers at all times.

a. How many trumpet players are in the marching band this year?
   $15 + 5 = 20$ trumpet players
b. Write an expression that describes the relationship of the number of trumpet players (t) and the number of drummers (d).
   $t = d + 5$ or $d = t - 5$
c. If there are only 14 trumpet players interested in joining the marching band next year, how many drummers will the band director want in the band?
   $d = t - 5 = 14 - 5 = 9$ drummers

An expression is shown

$$\frac{5}{2(2+3)^2}$$

What is the value of the expression?

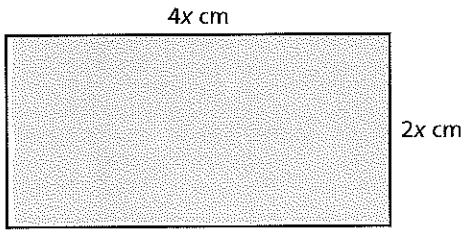
A. $\frac{1}{4}$
B. 10
C. 4
D. $\frac{1}{10}$

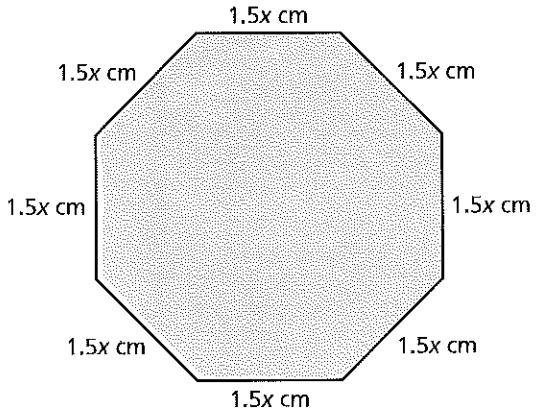
Name_____ Date_____

CCSS 6.EE.4

Perimeter of Geometric Figures

Use the rectangle and octagon below.





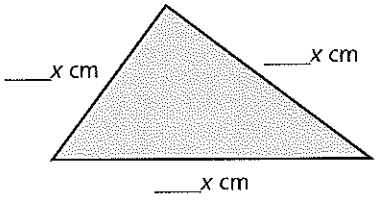
1. Write an expression for the perimeter of each figure.

2. Complete the table. What do you notice?

x	Perimeter of rectangle	Perimeter of octagon
1		
2		
3		
4		
5		
6		
7		
8		

3. What can you say about the expressions in Exercise 1?

4. What numbers could you fill in for the side lengths of the triangle so that it has the same perimeter as the rectangle and octagon for every value of x?



Name_____ Date_____

CCSS 6.EE.9

Hiking

The table shows the distance traveled by two hikers on a mountain trail.

Time (hours)	1	2	3	4	5
Distance (miles)	2.5	5	7.5	10	12.5

1. Graph the data. How far did the hikers travel after 7 hours?

2. Find a function to describe the data. Use the function to check your answer in Exercise 1.

3. Two park rangers hike the trail 0.5 mile per hour faster than the hikers.

   a. Make an input-output table where the input is time (in hours) and the output is distance (in miles). Use the inputs 1, 2, 3, 4, and 5.

   b. Find a function to describe the data. Without graphing, which graph do you think is steeper, the graph representing the park rangers or the graph representing the hikers in Exercise 1? Explain your reasoning.

   c. The park rangers start hiking at the same time as the hikers, but the groups start from opposite ends of the 22-mile trail. How many hours will it take them to meet? Explain how you found your answer.

trekandshoot/Shutterstock.com

6th Grade Practice Questions

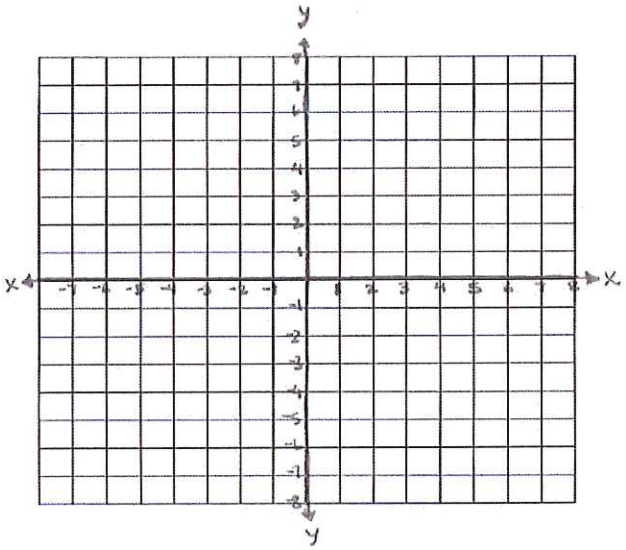
6.GMA.3 Solve problems by graphing points in all four quadrants of the Cartesian coordinate plane.
a. Understand signs of numbers in ordered pairs as indicating locations in quadrants of the Cartesian coordinate plane
b. Recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes.
c. Find distances between points with the same first coordinate or the same second coordinate.
d. Construct polygons in the Cartesian coordinate plane.

Sample Practice Questions 6.GMA.3

What is the distance, in units, between the points (3, -5) and (3, 4) on a coordinate plane?

A. 3
B. 5
C. 9
D. 11

The point (4, -2) is plotted on the coordinate plane.

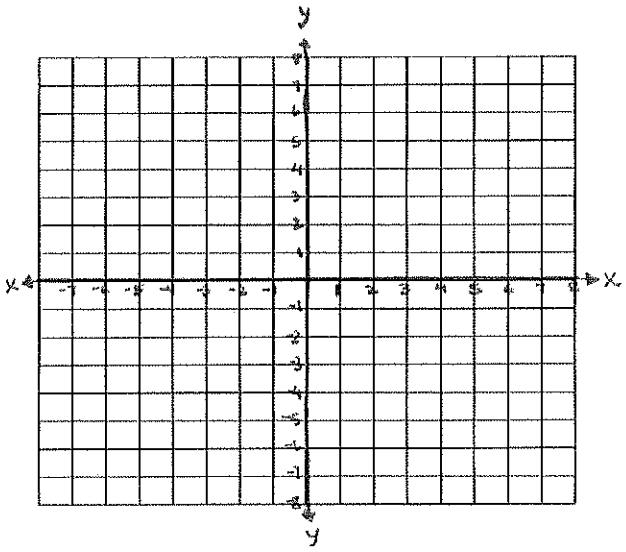


The point is reflected across the x axis. What are the coordinates of the reflected point?

A. (-4, 2)
B. (4, 2)
C. (4, -2)
D. (-4, -2)

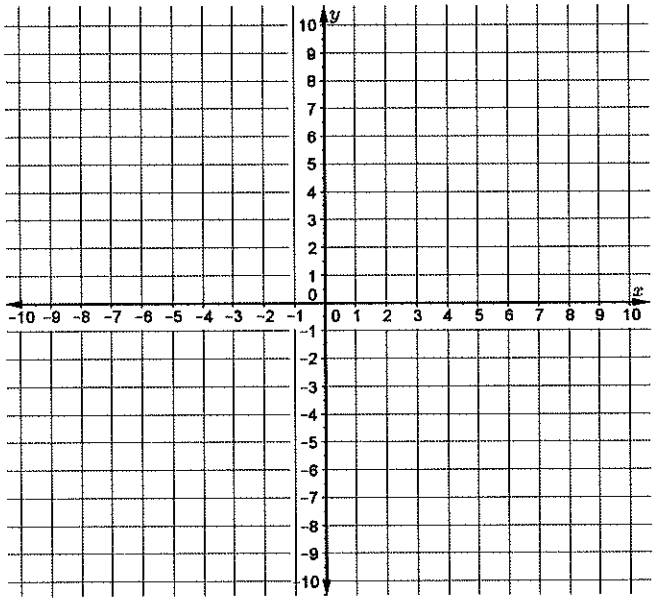
Chris has the map of the Saint Louis Zoo. The Red rocks entrance is at (-5, -3). The River edge entrance is a reflection across the y-axis. What are the coordinates of River edge entrance?

6th Grade Practice Questions



The coordinates of River edge entrance are _____

Plot and connect the points P (0, 4), Q (-6, 1), R(-3,-6), S(6,1) and T(3, -6). Name the polygon.



The polygon is _____

Name_____ Date_____

CCSS 6.G.3

Facial Recognition

A computer with facial recognizing capabilities scans a female face in an attempt to identify her. Features of her face are assigned points on a coordinate grid and compared to existing data. Each unit represents 1 centimeter. The origin is the tip of her nose.

1. A scan reveals that the centers of her pupils and the corners of her lips form a polygon whose vertices are $(-3.2, 3.4)$, $(3.2, 3.4)$, $(3.2, -3)$ and $(-3.2, -3)$.

   a. Draw the polygon in a coordinate plane. What type of shape is the polygon?

   b. A computer file contains information on a person whose features described above form a polygon with an area of 40.96 square centimeters. Could it be the same person? Explain your reasoning.

2. The scan also reveals that the outer corner of her eyes are at $(-4.3, 3.4)$ and $(4.3, 3.4)$.

   a. Draw the polygon formed by the outer corners of her eyes and corners of her lips in a coordinate plane. What type of shape is the polygon?

   b. The features described above for the person in part (b) of Exercise 1 form a polygon with an area of 47.36 square centimeters. Could it be the same person? Explain your reasoning.

Secondary Math Continuous Learning Plan Schedule

Grade 8 Math Learning Plan		
Date	**Standard**	**Practice**
March 23, 2020	7.NSA.1: Apply and extend previous understandings of numbers to add and subtract rational numbers.	Students can practice questions from the following resources • Performance task 7.NSA.1 • 7th grade Practice Question 7.NSA.1
March 24, 2020	7.NSA.2: Apply and extend previous understandings of numbers to multiply and divide rational numbers.	Students can practice questions from the following resources • Performance task 7.NSA.2 • 7th grade Practice Question 7.NSA.2
March 25, 2020	7.NSA.3: Solve problems involving the four arithmetic operations with rational numbers.	Students can practice questions from the following resources • Performance task 7.NSA.3
March 26, 2020	7.RPA.1: Compute unit rates, including those that involve complex fractions, with like or different units.	Students can practice questions from the following resources • Performance task 7.RPA.1
March 27, 2020	7.RPA.2: Recognize and represent proportional relationships between quantities.	Students can practice questions from the following resources • Performance task 7.RPA.2 • 7th grade Practice Question 7.RPA.2
March 30, 2020	7.RPA.3: Solve problems involving ratios, rates, percentages and proportional relationships.	Students can practice questions from the following resources • Performance task 7.RPA.3
March 31, 2020	7.EEI.A.1: Apply properties of operations to simplify and to factor linear algebraic expressions with rational coefficients.	Students can practice questions from the following resources • Performance task 7.EEI.A.1

Secondary Math Continuous Learning Plan Schedule

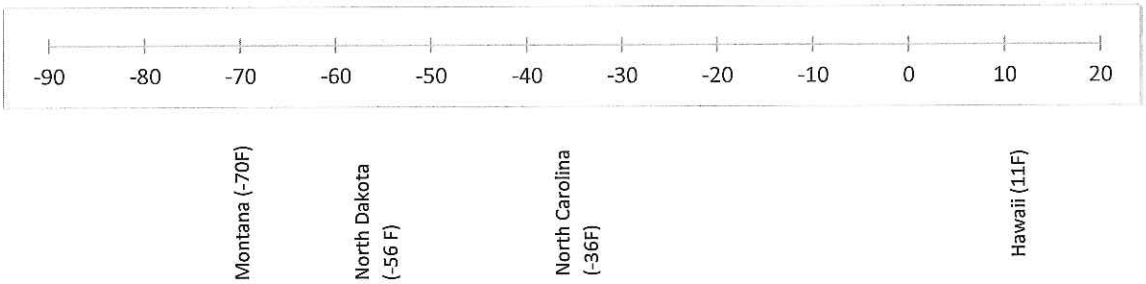
April 1, 2020	7.EEI.B.3: Solve multi-step problems posed with rational numbers	Students can practice questions from the following resources • Performance task 7.EEI.B.3 • 7th grade Practice Question 7.EEI.B.3
April 2, 2020	7.EEI.B.4: Write and/or solve linear equations and inequalities in one variable.	Students can practice questions from the following resources • Performance task 7.EEI.B.4 • 7th grade Practice Question 7.EEI.B.4
April 3, 2020	7.DSP.C.5: Investigate the probability of chance events.	Students can practice questions from the following resources • Performance task 7.DSP.C.5

7th Grade Practice Questions

7.NSA.1 Apply and extend previous understandings of numbers to add and subtract rational numbers.
a. Add and subtract rational numbers.
b. Represent addition and subtraction on a horizontal or vertical number line.
c. Describe situations and show that a number and its opposite have a sum of 0 (additive inverses).
d. Understand subtraction of rational numbers as adding the additive inverse.
e. Determine the distance between two rational numbers on the number line is the absolute value of their difference.
f. Interpret sums and differences of rational numbers.

Sample Practice Questions

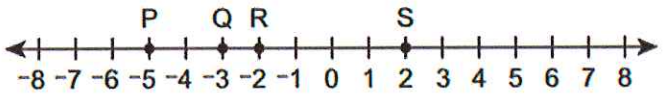
The number line shows record low temperature for four states.



What is the difference, in degrees, between the low record temperatures in Hawaii and North Dakota?

A. -45
B. 45
C. 67
D. -67

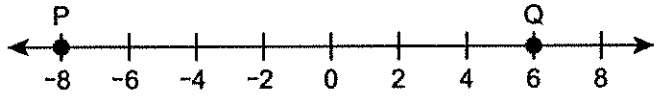
The number line shows the locations of points P, Q, R, and S



Which points have a distance of 5 units between them?
A. point P and point S
B. point Q and point R
C. point Q and point S
D. point R and point S

7th Grade Practice Questions

Points P and Q are plotted on the number line.



Which expression represents the distance between points P and Q?

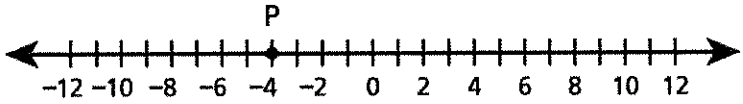
A. | 8–(6)|

B. | 8 – 6|

C. |8 – 6|

D. |6 – 8|

Point P is shown on the number line below.



The distance between point P and Q is $6\frac{1}{2}$ units. Which number could represent point Q?

A. $-9\frac{1}{2}$

B. $1\frac{1}{2}$

C. $2\frac{1}{2}$

D. $10\frac{1}{2}$

Which expression has the same value as 59.2 – 84.7?

A. 84.7- 59.2

B. -84.7 + (-59.2)

C. 59.2 – (-84.7)

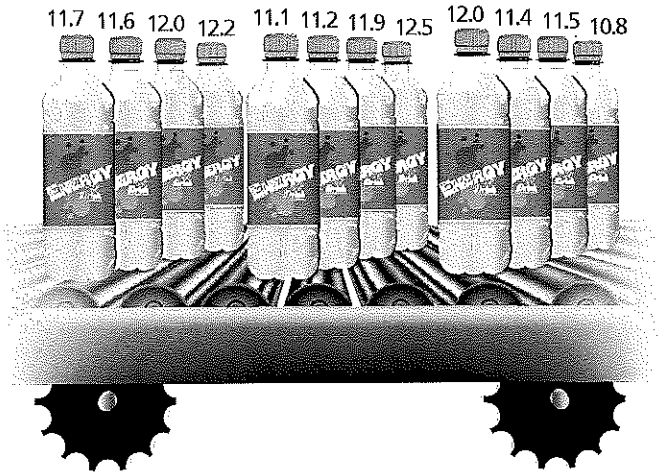
D. 59.2 + (-84.7)

Name_____ Date_____

CCSS 7.NS.1

Bottling

The diagram shows the amounts of liquid (in fluid ounces) in 12 bottles of energy drinks that just exited the filling and capping machine.



1. Labels indicate that the bottles contain 12 fluid ounces. Express the contents of each bottle as its amount above (positive) or below (negative) 12 fluid ounces.

2. Of the 10 bottles that were inaccurately filled, which two have a collective error of 0 fluid ounces? Use the values in Exercise 1 to justify your answer.

3. A worker discards bottles that are not within $\frac{1}{2}$ fluid ounce. What percent of these 12 bottles are discarded?

4. Do you think the filling mechanism should be adjusted? If so, how? Use the values in Exercise 1 to justify your answer.

hypedesign/Shutterstock.com, Scott Richardson/Shutterstock.com

7th Grade Practice Questions

7.NSA.2 Apply and extend previous understandings of numbers to multiply and divide rational numbers.
a. Multiply and divide rational numbers.
b. Determine that a number and its reciprocal have a product of 1 (multiplicative inverse).
c. Understand that every quotient of integers (with non-zero divisor) is a rational number.
d. Convert a rational number to a decimal.
e. Understand that all rational numbers can be written as fractions or decimal numbers that terminate or repeat.
f. Interpret products and quotients of rational numbers by describing real-world contexts.

Sample Practice Questions

An expression is shown.
3(-5.26)
What is the value of the expression?

Maya wants to divide a $2\frac{2}{5}$-pound box of trail mix into small bags. Each bag will hold $\frac{3}{10}$ pound of trail mix. How many bags of trail mix can Maya fill?

A. 8 bags
B. 120 bags
C. 15 bags
D. 3 bags

Evaluate the expression. Express your answer in the simplest form
$(-\frac{3}{8}) \times (-\frac{8}{3})$

A. 0
B. 1
C. -1
D. None of the above

7th Grade Practice Questions

Karen babysat for $\frac{1}{3}$ of an hour on Friday, $\frac{2}{3}$ of an hour on Saturday and $\frac{1}{5}$ of an hour on Sunday. She gets paid $8 per 30 minutes that she babysits (If she works a portion of a half-hour, she will still get paid for that half hour). Approximately how much money did she earn between Friday and Sunday?

A recipe for a cake requires 1.25 cups of milk, 0.4 cups of oil, and 0.75 cups of water. How much liquid is in the mixing bowl? Select one or more correct answers.

A. 2.04 cups
B. $2\frac{2}{5}$ cups
C. 2.40 cups
D. $2\frac{1}{25}$ cups
E. None of the above

What is $12 \div (-2.4)$?

Crystal bought a box of ribbons. In the box $\frac{5}{9}$ of the ribbons are burgundy. Which number could represent the portion of the ribbons in the box that are burgundy?

A. 0.55
B. 1.8
C. $0.\overline{55}$
D. $0.5\overline{5}$

Which decimal is equivalent to $\frac{4}{15}$?

A. 0.26
B. 0.2626
C. $0.\overline{26}$
D. $0.2\overline{6}$

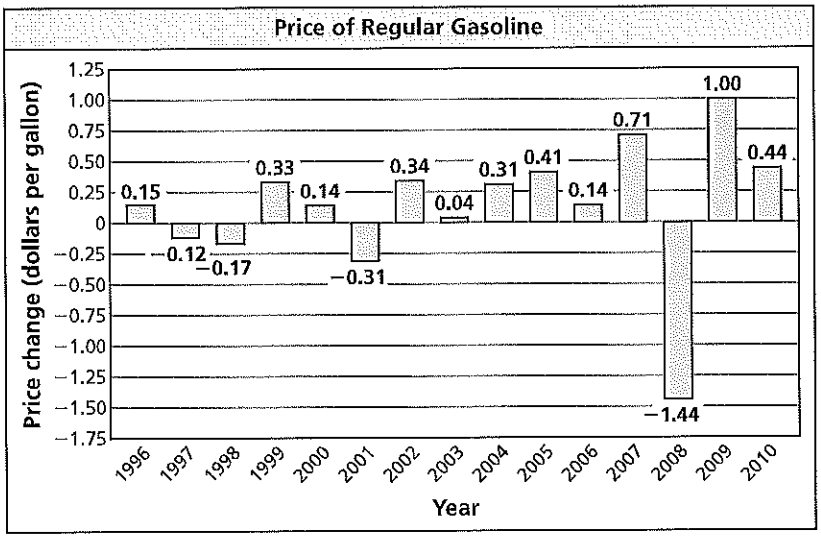
Name_____ Date_____

CCSS 7.NS.2

Gasoline Prices

The bar graph shows changes in price of regular gasoline from 1996–2010.

For example, at the end of 1996, the price per gallon for regular gasoline was \$0.15 more than the price per gallon at the end of 1995, the price at the end of 1997 was \$0.12 less than the price at the end of 1996, and so on.



1. Find the average change in the price of regular gasoline for the given years.

   a. 1996–2002 **b.** 2003–2010 **c.** 1996–2010

2. The price per gallon for regular gasoline at the end of 1995 was \$1.08. In what year was the price per gallon for regular gasoline the lowest? What was the price? Explain how you found your answer.

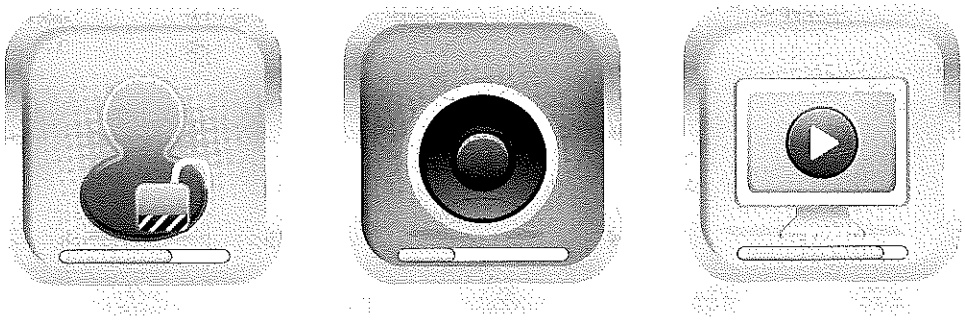
3. How many times greater is the price per gallon in 2010 than the price per gallon in 1996?

Name_____ Date_____

CCSS 7.NS.3

Downloads

You are downloading three cell phone applications. The bar at the bottom of each icon shows the download progress.



1. The size of the first application is 10.8 megabytes (MB). The download is 60% complete. How much has been downloaded?

2. The size of the second application is 3.45 MB less than the first application. What is the size of the second application?

3. For the second application, 3.2 MB has been downloaded. How much is left to download?

4. For the third application, 5.25 MB has been downloaded and 2.25 MB are left. What percent of the application has already been downloaded?

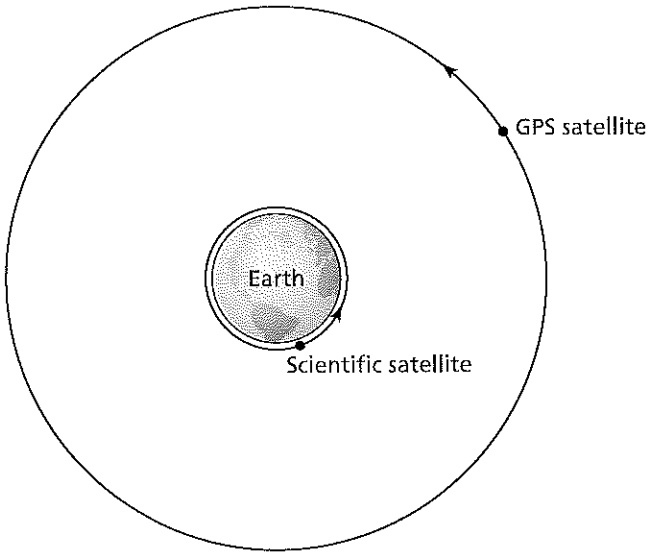
5. Your phone had 26 MB of free space before the applications began downloading. Is there enough free space for all three applications? Explain your reasoning.

Name_____ Date_____

CCSS 7.RP.1

Orbital Speed

The diagram shows the orbits of two satellites.



1. The Global Positioning System (GPS) satellite travels $\frac{23}{30}$ kilometer in $\frac{1}{5}$ second. How far does the satellite travel in 12 seconds?

2. The scientific satellite travels $\frac{3}{4}$ kilometer in $\frac{1}{10}$ second. How far does the satellite travel in 1 minute?

3. Is the orbital speed of the scientific satellite faster or slower than that of the GPS satellite? Explain.

4. The moon travels about 3600 kilometers per hour around Earth and is about 19 times farther from Earth than the GPS satellite. Compare the speeds of the moon and satellites to make a conjecture about the orbital speed of an object in relation to its distance from Earth.

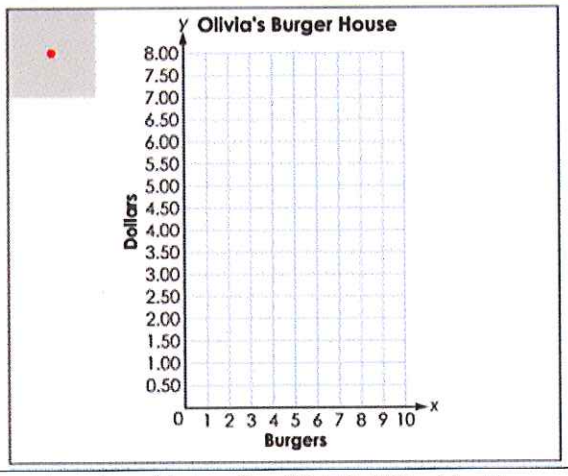
7th Grade Practice Questions

7.RPA.2 Recognize and represent proportional relationships between quantities.
a. Determine when two quantities are in a proportional relationship.
b. Identify and/or compute the constant of proportionality (unit rate).
c. Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.
d. Recognize that the graph of any proportional relationship will pass through the origin.

Sample Practice Questions

At Olivia's Burger House, each burger costs the same price. John buys 5 burgers for $7.50.

Place the point at the location on the graph that represents the unit price for 1 burger.



A grocery store sells an 16 ounce bottle of juice for $2.52. What is the cost of the juice per ounce?

The table shows a proportional relationship between the grams of almonds and raisins in a bag of trail mix.

Grams of Almond	Grams of Raisins
14	4
21	6
35	10

What is the number of grams of almonds in a bag for every 1 grams of raisins?

A. 10
B. 3
C. 3.5
D. 7

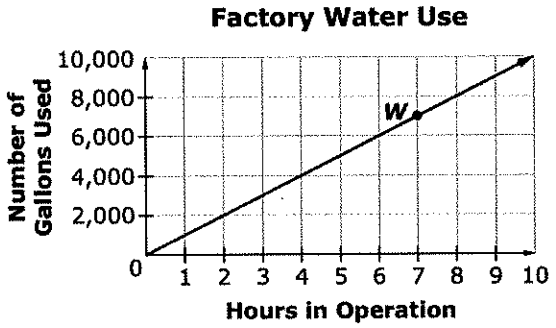
A painter is hired to paint interior of the building. The painter claims that the relationship between the number of hours worked and the total work fee is proportional.

7th Grade Practice Questions

The fee for 5 hours of work is $225. Select all combinations of values for the painters work hours and total work fee that support his claim.

A. 6 hours and $270
B. 6.5 hours and $315
C. 8 hours and $360
D. 8.75 hours and $380
E. 9.5 hours and $427.50

The following graph shows a proportional relationship between the number of hours a factory is in operation and the number of gallons of water used.



Select True or False for each statement about the graph

Statement	True	False
The factory uses 4 gallons of water when it is in operation for 4000 hours.		
Point W represents the number of gallons of water used when the factory is in operation for 7 hours.		
The factory uses 9000 gallons of water when it is in operation for 9 hours.		

A grocery store charges $0.75 per donut. Which equation can be used to find c, the total cost, in dollars, to buy d donuts?

A. $c = 0.75 + d$
B. $c = 0.75d$
C. $d = 0.75 + c$
D. $d = 0.75c$

Harrison reads 15 minutes per day for a project. The total number of minutes Harrison reads for the project is proportional to the number of days since he started the project.

7th Grade Practice Questions

The equation shown represents the total number of minutes Harrison has read since he started the project. $y = 15x$ What does x represent in the equation?

A. The number of days Harrison has read since he started the project.

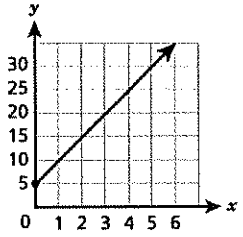
B. The number of minutes Harrison reads per day for the project.

C. The total number of pages Harrison has read since he started the project.

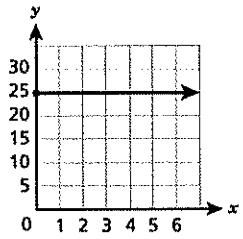
D. The total number of minutes Harrison reads for a certain number of days for the project.

Which representation shows a proportional relationship between x and y?

A



B



C

x	y
2	8
4	16
8	24
12	32

D

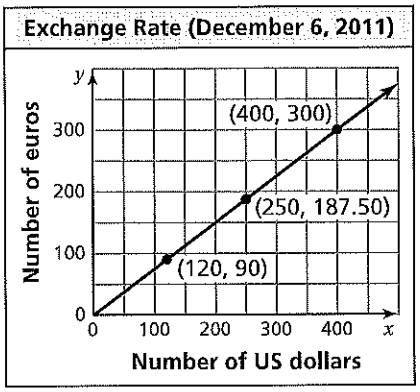
x	y
2	3
4	6
8	12
12	18

Name_____ Date_____

CCSS 7.RP.2

Currency Exchange Rates

The graph shows the relationship between the United States dollar and the euro.



1. Decide whether the relationship between the US dollar and the euro is proportional. Justify your answer in two ways.

2. What is the exchange rate?

   1 US dollar = _____ euro

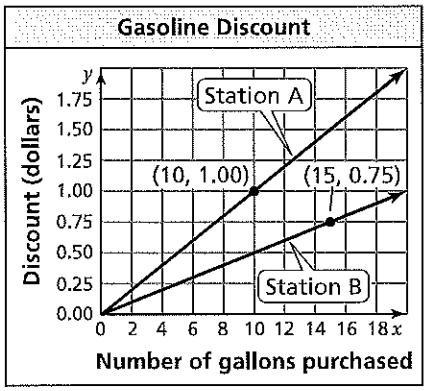
3. You have 400 euros. What is this amount in US dollars?

Name_____ Date_____

CCSS 7.RP.3

Gas Stations

The discount on gasoline when using a prepaid gas card at two different gas stations is proportional to the number of gallons purchased, as shown in the graph.



1. Which gas station gives a greater discount per gallon of gasoline? Justify your answer.

2. You use a gas card to purchase 12 gallons of gasoline at Station B. How much would you have saved by using a gas card to purchase 12 gallons at Station A?

3. Gas costs $3.70 per gallon at both gas stations. The federal government receives $0.184 in taxes for each gallon of gasoline sold. You use your gas card to purchase $45 of gas at Station A. How much did the federal government receive in taxes for your purchase?

4. In Exercise 3, you used a $100 gas card that you purchased with a credit card. The credit card gave you a 5% rebate on the purchase. Including this rebate, what did you actually pay for each gallon of gasoline in Exercise 3?

Name_____ Date_____

CCSS 7.EE.1

Expense Report

A company pays for x employees to attend a conference for two days and two nights. Initial costs are shown in the table.

Conference registration	$80 per person
Hotel	$279.98 per person
Exhibit Booth	$1000

The company reimburses the employees who attended the conference for certain expenses they had on the trip, as shown in the table below.

Food	$75 per person
Additional Allowance	$100 per person
Personal Vehicle Use	$0.50 per mile m
Gasoline	$62.36

1. Write and simplify an expression that represents the total amount of the initial costs. Find the total amount of the initial costs when 3 employees attend the conference.

2. Write and simplify an expression that represents the total amount of the reimbursements. Find the total amount of the reimbursements when the 3 employees drove 1 personal vehicle 364 miles.

3. Which cost is greater for the company, the initial costs or the reimbursements? by how much? Justify your answer by writing and evaluating an expression for the difference between the initial costs and reimbursements.

7th Grade Practice Questions

7.EEI.B.3 Solve multi-step problems posed with rational numbers.
a. Convert between equivalent forms of the same number.
b. Assess the reasonableness of answers using mental computation and estimation strategies.

Sample Practice Questions

Select all the expressions that are equivalent to $-3.75 + 2(-4x+6.1) - 3.25x$

A. $7x- 2x + 8.1$
B. $8.45 - 8x - 3.25x$
C. $-1.75 - 7.25x + 6.1$
D. $-11.25x + 12.2 - 3.75$

Enter the value of c when the expression $21.2x + c$ is equivalent to $5.3(4x -2.6)$

Write the value of $5(13.5 - 4.5)$.

Find the value of the expression

$$\frac{0.4(7 + 11)}{-0.2}$$

A museum opens at 8am. In the first hour, 350 people purchased admission tickets. In the second hour, 20% more people purchased admission tickets than in the first hour. Each admission ticket cost $12.50. What is the total amount of money paid for all the tickets in the first two hours?

A single gram of certain metallic substance has 0.52 gram of copper and 0.26 gram of zinc. The remaining portion of the substance is nickel. Ben estimated that 0.2 gram of nickel is in 1 gram of the substance. He used this to estimate the amount of nickel in 35 grams of the substance. Find the result of Ben's estimation strategy. Then, find the exact amount of nickel in 35 grams of the substance.

Name_____ Date_____

CCSS 7.EE.3

Shopping

You are shopping for protector cases for your cell phone and find the deals shown.

Case 1

Case 2

Case 3

1. Which case can you buy for the lowest price?

2. Suppose each deal can be used multiple times. What is the lowest price you can pay for three cases?

3. How much will it cost to buy one of each?

4. You wait a day before you make a purchase and the original price of Case 3 gets marked up by 15%. Now which case can you get for the lowest price?

5. You find another case with a sale price of $4.51 after a 45% discount. What is the original price of the case? Justify your answer.

left Chin Kit Sen/Shutterstock.com; *center* Denis and Yulia Pogostins/Shutterstock.com; *right* Olga Popova/Shutterstock.com

7th Grade Practice Questions

7.EEI.B.4 Write and/or solve linear equations and inequalities in one variable.
a. Write and/or solve equations of the form $x+p=q$ and $px=q$ in which p and q are rational numbers.
b. Write and/or solve two step equations of the form $px+q = r$ and $p(x + q) = r$ where p, q and r are rational numbers, and interpret the meaning of the solution in the context of the problem.
c. Write, solve and/or graph inequalities of the form $px + q > r$ or $px + q < r$ where p, q and r are rational numbers

Sample Practice Questions

Jenny has $25 and she earns $10 each lawn that she mows. Jenny wants to buy a concert ticket that costs $65.
What is the minimum number of lawns Jenny needs to mow to be able to buy the concert ticket?

Darius goes into a candy store with $5.00. He buys 9 peppermints for $0.15 each, and some sour candies. Each sour candy costs $0.25. What is the maximum number of sour candies Darius can buy?

Mariam and Jenny are exercising on a track.

- Mariam is walking at a rate of 3 miles per hour.
- Jenny starts jogging at a rate of 4 miles per hour after Mariam has been walking for 15 minutes.
- Jenny jogs 2 miles as Mariam continues walking, and they both stop at the same time.

What is the total distance in miles that Mariam walks around the track.

7th Grade Practice Questions

Marcus has a pool that can hold a maximum of 4500 gallons of water. The pool already contains 1500 gallons of water. Marcus begins to add more water at a rate of 30 gallons per minute.
Write an inequality that shows the number of minutes, m, Marcus can continue to add water to the pool without exceeding the maximum number of gallons.

Ms. Sweeny bought x number of shirts for the new members of her hip hop dancers. The cost for x number of shirts, including $3.99 shipping, was $77.49. Each shirt cost $12.25. There was no sales tax for this purchase. Which equation could be used to find x?

A. $3.99(x + 12.25) = 77.49$
B. $3.99x + 12.25 = 77.49$
C. $12.25\ (x + 3.99) = 77.49$
D. $12.25x + 3.99 = 77.49$

Name_____ Date_____

CCSS 7.EE.4

Car Dealership

A salesperson at a car dealership earns a monthly salary of $2400 and $250 for each vehicle sold.

1. How many vehicles does the salesperson need to sell in a month to earn $4400? Explain how you found your answer.

2. How many vehicles does the salesperson need to sell in a month to earn at least $6000? Explain how you found your answer.

3. The car dealership sets a goal for each salesperson to sell at least 12 cars per month. The salesperson achieves this goal every month for the entire year. What is the minimum amount of money the salesperson earns for the entire year?

4. Another salesperson at the dealership sells 9 vehicles in a month and earns $250 for each vehicle. For the month, the salesperson earns $4200. What is the salesperson's monthly salary? Explain how you found your answer.

5. The dealership also includes a monthly car count bonus. The table shows the bonuses given for selling a certain number of cars in a month. The salesperson in Exercise 1 sells at least 12 cars per month for the entire year. What is the minimum amount of money the salesperson earns for the entire year? Can you determine the maximum amount of money the salesperson earns for the entire year? Explain your reasoning.

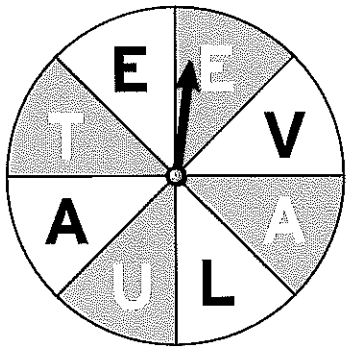
Number of Cars Sold	Bonus
10–14	$300
15–17	$600
18–20	$900
21–23	$1200
24–26	$1500
More than 26	$1800

Name_____ Date_____

CCSS 7.SP.5

Using Spinners

You spin the spinner shown.



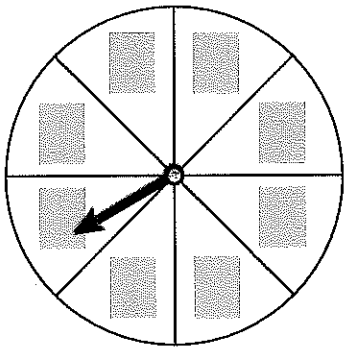
1. Is spinning a vowel equally likely to happen or not happen? Explain your reasoning.

2. Give an example of an event that is equally likely to happen or not happen.

3. Give an example of an event that has a probability of 100%.

4. Give an example of an impossible event.

Use numbers to complete the spinner so that it corresponds to each described event.



5. The probability of spinning an even number is 1.

6. The probability of spinning a multiple of 3 is 0.5.

7. Spinning a 4 is unlikely.

8. Spinning a number divisible by 5 is likely.

Middle School Science

SLPS CIRRICULUM SUPPORT

Continuous Learning Spring 2020 Secondary Science

SECONDARY SCIENCE

MIDDLE SCHOOL SCIENCE

Primary Resources for 6-8 Grades Science

- HMH website: www.hmhco.com/ed. All students should have access to the online portal (same as Microsoft 365)

Secondary Resources for 6-8 Grade Science

- Gizmos Simulations (Explore Learning) website. SLPS bought a subscription. All teachers and students should have created accounts and know how to access Gizmos simulations.
- Khan Academy website.

Other Assessment Opportunities for 6-8th Grade Science

- For 8th Grade: MAP REVIEW PACKET for STUDENTS

6th-8th Grade Science

Week	Day	Topic	Essential Questions	Primary Resource (HMH Science Dimensions)	Additional Virtual Resources for Students	Assessment Opportunities
March 23rd	M	Weathering, Deposition, Erosion (MS-ESS2-2)	What is the difference between weathering, deposition, and erosion?	Module F, Unit 1 Lesson 1 Exploration 1	Level 1: CPalms: Weathering, Deposition, Erosion	Mod F, Unit 1, Lesson 1 Questions 3-8
	T	Weathering, Deposition, Erosion (MS-ESS2-2)	How do weathering, deposition, and erosion affect the Earth's surfaces?	Module F, Unit 1 Lesson 1 Exploration 2	Level 2: Legends of Learning (Games): Weathering, Deposition, Erosion	Mod F, Unit 1, Lesson 1 Questions 9, 11-18 Lesson 1 Self-Check + Interactive Review

	W	Rocks (MS-ESS2-1)	Are all rocks the same? Why?	Module F, Unit 1 Lesson 2 Exploration 1	Level 1: Exploring Nature: Rocks and Rock Cycle Level 1: Khan Academy: Rocks and Rock Cycle	Mod F, Unit 1, Lesson 2 Questions 2-7
	Th	Rocks (MS-ESS2-1)	Are all rocks the same? Why?	Module F, Unit 1 Lesson 2 Explorations 2+3	Level 1: Exploring Nature: Rocks and Rock Cycle Level 1: Khan Academy: Rocks and Rock Cycle	Mod F, Unit 1, Lesson 2 Questions 9, 10-20
	F	Rocks (MS-ESS2-1)	Are all rocks the same? Why?	Module F, Unit 1 Lesson 2, Exploration 4	Level 1: Exploring Nature: Rocks and Rock Cycle Level 1: Khan Academy: Rocks and Rock Cycle	Mod F, Unit 1, Lesson 2 Questions 21-26
April 6	M	Rock Cycle	How do rocks form?	Module F, Unit 1 Lesson 2 Exploration 5	Level 1: Exploring Nature: Rocks and Rock Cycle Level 1: Khan Academy: Rocks and Rock Cycle	Mod F, Unit 1, Lesson 2 Questions 27-34 Lesson 2 Self-check + Interactive Review
	T	Tectonic Plates	What patterns are there in how plates move?	Module F, Unit 1 Lesson 3 Exploration 4	Level 1: Khan Academy: Plates-Earthquakes-Volcanoes	Mod F, Unit 1, Lesson 3 Questions 19-24
	W	Tectonic Plates	What patterns are there in how plates move?	Module F, Unit 1 Lesson 3 Exploration 3 before lab	Level 1: Khan Academy: Plates-Earthquakes-Volcanoes	Mod F, Unit 1, Lesson 3 Questions 13-17
	Th	Evidence of Plate Motion over time	How have plates moved over time? What evidence do we have of plate movement?	Module F, Unit 1 Lesson 3 Exploration 1 Gizmos Simulation - Pangaea	Gizmos Simulation - Pangaea	Mod F, Unit 1, Lesson 3 Questions 3-6
	F	Modeling Plate Motion		Review of Lesson 3		Lesson 3 Self-Check + Interactive

LESSON 1

Weathering, Erosion, and Deposition

The rock structures on Praia do Camilo in Lagos, Algarve region, Portugal, have formed as a result of wave action over many years.

By the end of this lesson . . .

you will have investigated how the processes of weathering, erosion, and deposition have shaped Earth's surface.

Go online to view the digital version of the Hands-On Lab for this lesson and to download additional lab resources.

CAN YOU EXPLAIN IT?

What caused these changes at Port Campbell National Park?

The photo on the left shows a rock formation just offshore of Port Campbell National Park in Australia before 1990. The photo on the right shows the same rock formation after 1990.

The Earth's surface can change in the blink of an eye, or so it seems. While some events can appear to happen quickly, it may have taken many years to build up to that point. As you look at the photographs of the rock formation in Port Campbell National Park, evidence of change appears obvious, but the story may be more complex.

1. What types of changes do you observe between the rock formations in the two images?

2. Based on the visible changes in the rock formation, do you think the changes occurred quickly or slowly over time? Explain your reasoning.

EVIDENCE NOTEBOOK As you explore the lesson, gather evidence that will explain what happened to the rock formation in Australia over time.

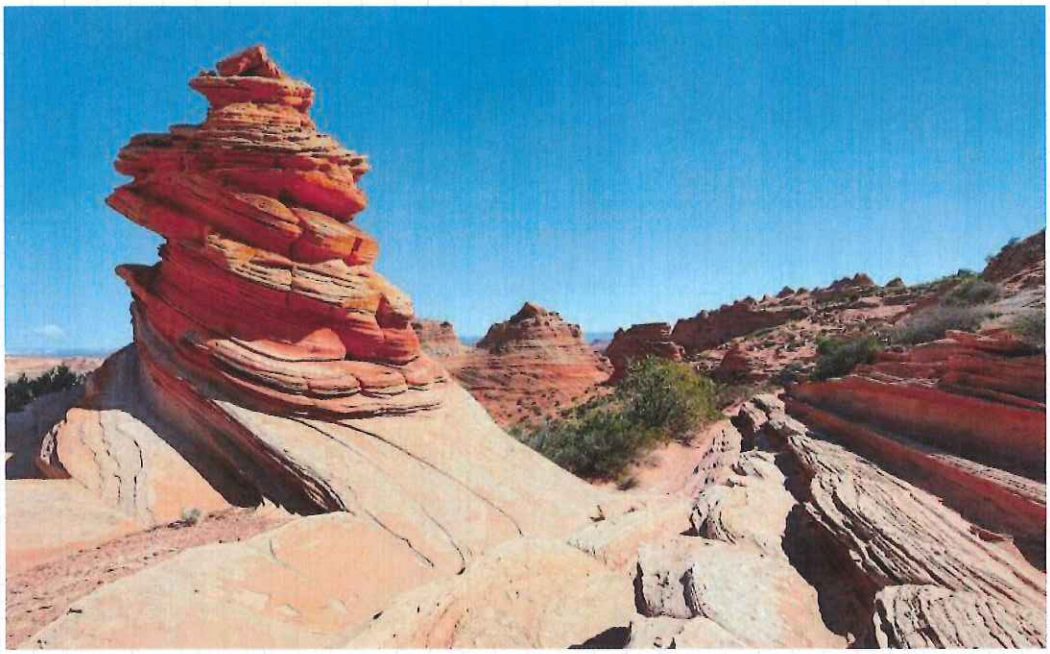
EXPLORATION 1

Identifying Effects of Weathering

Rocks and other materials that make up Earth's surface are matter. So, rock and other materials cannot be created or destroyed. But they can be changed. **Weathering** is the process by which rock materials are broken down by the action of physical and chemical processes.

Weathering changes rocks by breaking them into smaller and smaller pieces, or by dissolving and removing some chemicals within the rock. Fragments of weathered rock, called **sediment,** are an important part of soil. Sediment can build up in layers on Earth's surface to form rock formations, sand dunes, and other features.

When it comes to weathering, not all rocks are created equal. Some rocks are more resistant to weathering than other rocks. Resistance to weathering is affected by the composition of, or chemicals that make up, the rock. Surface area also affects a rock's tendency to weather. A large block of rock will weather more slowly than smaller broken pieces of the same rock will. This difference is because the smaller pieces have more surface area exposed to agents of physical and chemical weathering. Physical and chemical weathering are the two main types of weathering.



Look closely at the shape of this rock formation in South Coyote Buttes Wilderness in Arizona.

3. Many features found in South Coyote Buttes have this same striking appearance. What could cause rocks to be shaped this way? Explain your answer.

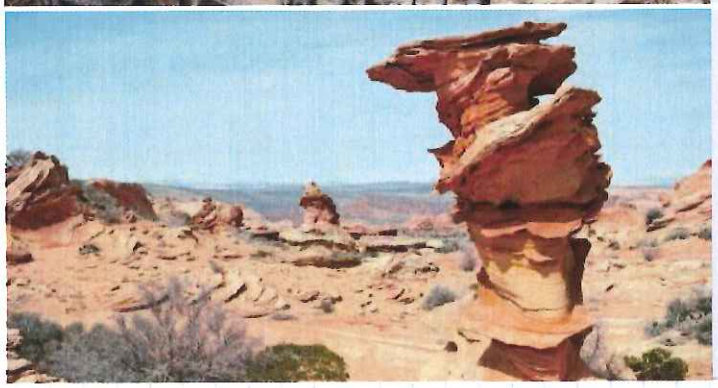
Physical Weathering

Physical weathering is the mechanical breakdown of rocks into smaller pieces. Physical weathering involves only physical changes. Rocks can be physically weathered by temperature changes, pressure changes, and interactions with plants, animals, water, wind, ice, and the force of gravity.

Types of Physical Weathering

Water can seep into tiny cracks in rocks and then freeze. Water expands when it freezes, causing the cracks in the rocks to widen. Cycles of repeated freezing and thawing eventually fracture the rock.

Plant roots can grow into gaps in rocks. Over time, as the roots grow, they force the gaps wider, causing the rock to break apart.



Abrasion occurs when rock is broken into smaller pieces by the scraping action of other materials. Abrasion is driven by water, wind, ice, or gravity. A strong wind, for example, can blow sediments against rock surfaces, wearing down the rock. Abrasion can make angular rocks smooth and rounded.

4. Which statements describe physical weathering? Select all that apply.
   - **A.** Two rocks hit against each other in a fast-flowing stream and break apart.
   - **B.** Oxygen and water change the composition of the minerals in a rock.
   - **C.** Small rocks are pushed together when a mole digs an underground den.
   - **D.** Mosses grow on a rock and produce acids that wear away the rock over time.

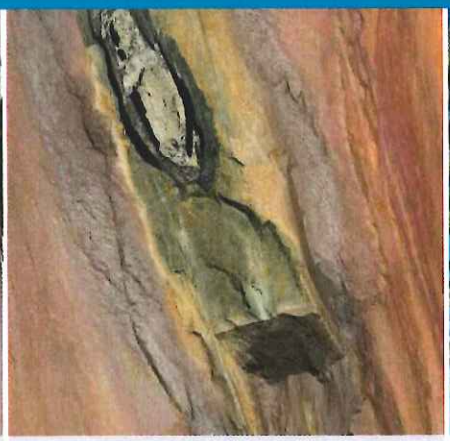
Plants are not the only living things that can cause physical weathering. Animals physically weather rocks in a variety of ways. Burrowing animals dig in soil and expose or displace rocks. Even strolling along a well-worn path in a meadow exposes buried rocks to wind, water, air, and other agents of weathering.

Chemical Weathering

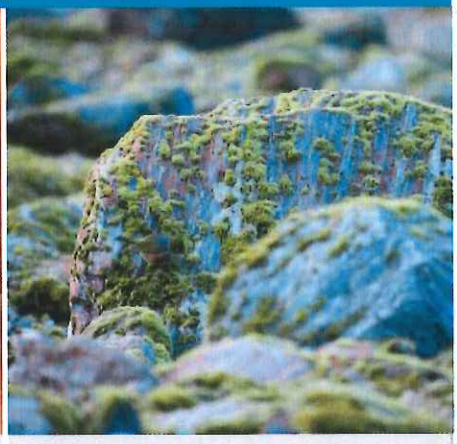
Chemical weathering is the breakdown and decomposition of rocks as a result of chemical reactions and processes. Unlike physical weathering, chemical weathering changes the composition of rocks through a chemical process. It weakens or dissolves rock over time. Agents of chemical weathering include air, water, and plants. For example, groundwater, which is water that flows through rock below Earth's surface, can contain natural acids that dissolve rocks. Underground caves form in this way.

Types of Chemical Weathering

Acid precipitation is rain or other precipitation that is more acidic than normal. Acid precipitation reacts with certain types of rocks, weakening them and making them more susceptible to physical weathering. The rocks break down over time.



Iron-containing rocks can react with oxygen and water in a process called oxidation. Oxidation can give the rocks a reddish color, similar to rust. In fact, the same process causes rust to form on bicycles left out in the rain.



Plants such as lichens and mosses produce weak acids. When the plants grow on rocks, the acids slowly, but steadily, wear down the rocks.

5. Which description is evidence of chemical weathering?

- **A.** A rock in a windy desert has scratches on its surface.
- **B.** A rock in a tundra has deep cracks filled with ice.
- **C.** A rock turns a reddish color when exposed to air and water.
- **D.** A rock on a steep slope falls to the ground and breaks apart.

Earlier, you learned that the surface area and composition of a rock affect its rate of weathering. Other factors that affect rates of weathering include location and climate. Rocks on steep slopes are more likely to be displaced by gravity and exposed to wind, water, and air. Rocks in cold climates are more likely to experience physical weathering caused by cycles of freezing and thawing. In contrast, chemical weathering occurs more rapidly in warm, wet climates because warm temperatures increase rates of chemical processes. Both types of weathering tend to happen more slowly in dry climates.

EVIDENCE NOTEBOOK

6. Does the collapsed rock formation in Australia show signs of weathering? If so, identify the type of weathering that could have occurred. Record your evidence.

7. Language SmArts | Find Evidence for Weathering Analyze each photo and identify the correct terms to complete each statement. Then provide evidence to support your answer choices.

Weathering Example	Weathering Type or Agent	Evidence
	This rock shows evidence of chemical / physical weathering as a result of acid / wind / ice.	
	This rock shows evidence of chemical weathering as a result of acid / wind / ice.	
	This rock shows evidence of physical weathering as a result of acid / wind / ice.	

Analyze the Effects of Weathering

Weathering is an important process that changes Earth's surface. These changes happen on different scales of time and space. A rock tumbles to the ground and breaks apart—this is a fast change that affects a small area. Water and wind steadily wear down a mountain over millions of years—this is a slow change that affects a large area.

8. Discuss With a partner, look at the stone bricks used to build this building and think about how they changed over time. What caused them to change? Do you think these changes occurred quickly or slowly? Explain.

EXPLORATION 2

Exploring Agents of Erosion and Deposition

Picture a fast-flowing stream. Rocks tumble together, breaking up into sediment that is carried away and dropped in a new place. Some of the rock material dissolves in the water and is carried downstream. **Erosion** is the process by which wind, water, ice, or gravity transport weathered materials from one location to another. **Deposition** occurs when the eroded materials are dropped, or laid down. Erosion and deposition, like weathering, do not destroy matter. Instead, they move and deposit matter in new places.

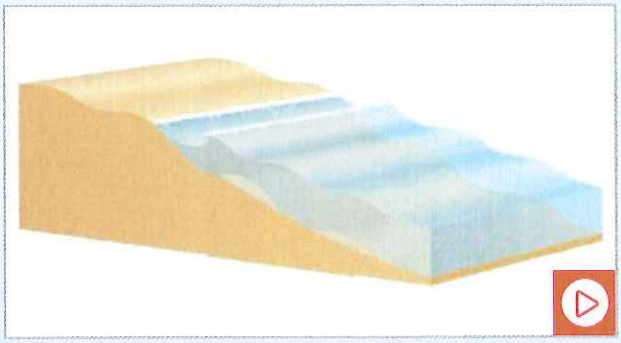
Wind and Water

Recall that wind and water can cause weathering through abrasion. Wind and water are also agents of erosion and deposition. Water erodes as it flows above ground through streams or underground through spaces in rock. Wind erodes as it blows over surfaces and lifts or pushes sediments. When wind and water lose energy and slow down, they drop their sediments and deposition occurs.

Do the Math

Calculate Rate of Erosion

The environment, very much like an equation, is balanced. Although matter cannot be created or destroyed, it can move and cycle through Earth's subsystems. As erosion occurs, it removes, or subtracts, sediment from one location and deposits, or adds, it to another location.



As sand erodes from a beach, it can be deposited into sand bars, deltas, and other beaches.

9. Identify the correct type of change that occurs.

A. Erosion represents a(n) increase / decrease in volume.

B. Deposition represents a(n) increase / decrease in volume.

C. As sand is eroded by waves and deposited on the sand bar, the sand bar increases / decreases in volume.

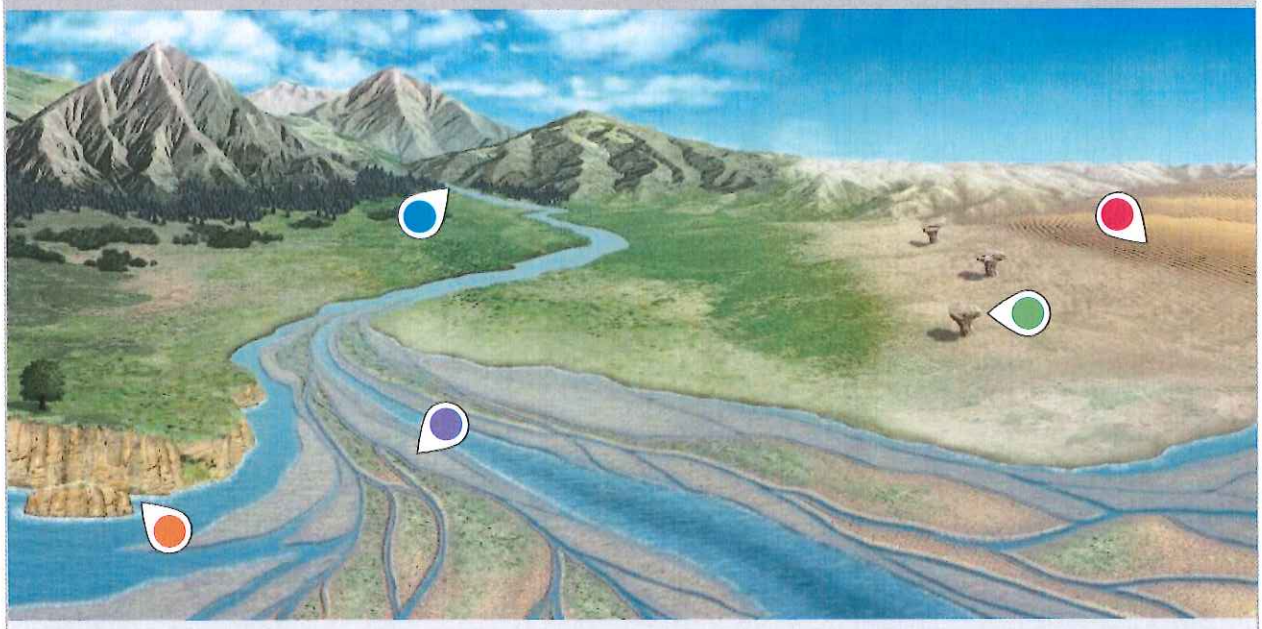
10. During a storm, sand is eroded from a beach at a rate of 2 m^3 per hour. What equation can be used to represent the volume of sand in cubic meters, c, on the beach? Let b represent the amount of sand in cubic meters at the beginning of the storm and h represent time in hours. Complete the equation using +, –, ×, or ÷.

$c = b$ ☐ $2h$

11. Suppose the total volume of sand on the beach is 1,278 m^3. What will its volume be after 24 hours of erosion?

Erosion and Deposition by Wind and Water

How will water and wind shape the land in each of these areas?

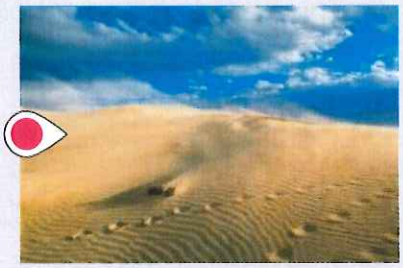


Waves constantly crash against the shoreline, weathering and eroding this rocky coast. Waves also erode sediments from sandy beaches.

Over millions of years, a river can carve a valley by the processes of weathering and erosion.

This rock formation has been shaped by wind abrasion, a type of weathering. Wind erosion then transported the weathered sediments to a new place.

A river slows down when it reaches the ocean. When the water loses energy, the sediments it was carrying are deposited. At the mouth of a stream or river, this action forms a feature called a *delta*. The shape of a delta changes constantly as sediments are deposited and eroded.



Sand dunes form when wind deposits sediments. Sand dune patterns are constantly changing due to erosion and deposition. Patterns can shift in time scales that range from hours to years.

12. Discuss A friend looks at these images and says that sand and sediment are being destroyed during the process of erosion. Form into small groups and discuss whether you think the friend is correct. Use evidence to support your response.

Ice

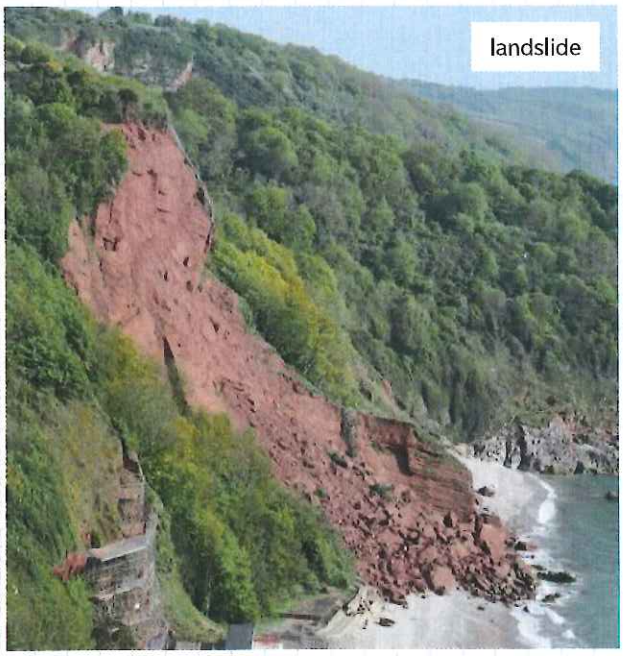
One of the most powerful agents of erosion and deposition is ice. A glacier is a large mass of ice that exists year-round and flows slowly over land. The weight of the glacier, along with gravity, help it move over land. As glaciers move, they act like a conveyor belt, eroding soil, sediment, and rock—even large boulders—over great distances, and then depositing the materials elsewhere. Glaciers can form jagged peaks or flatten and scoop out large sections of land creating valleys. The Great Lakes are huge depressions formed by glaciers and later filled in with water. Glacial deposits can create long winding ridges or rocky mounds of sediment.

This cutaway view of a glacier reveals the sediment and rocks that can be picked up, carried, and deposited by the glacier as it flows across the surface of the Earth.

13. How will the glacier affect surrounding land as it moves and melts over time?

Gravity

Energy from the sun powers the movement of wind and water. But the force of gravity, which attracts matter to Earth's center, also plays a role in driving these agents of erosion. When wind slows down, its load of sediment drops to the ground because of gravity. Rocks, boulders, and soil fall down slopes because of gravity. Water flows downhill, through valleys and waterfalls, because of gravity. Gravity is the main force behind sudden rock falls and landslides that can change the shape of a mountain.



14. Explain the role of gravity in the landslide and in the waterfall.

15. Look at the image of the rock ledge. What factors could contribute to a collapse of the ledge? Select all that apply.

A. Wind

B. Water

C. Ice

D. Gravity

16. Explain how each of the contributing factors would play a role in the collapse of the ledge.

Found near the coast of Palau, Italy, this rock formation shows evidence of weathering.

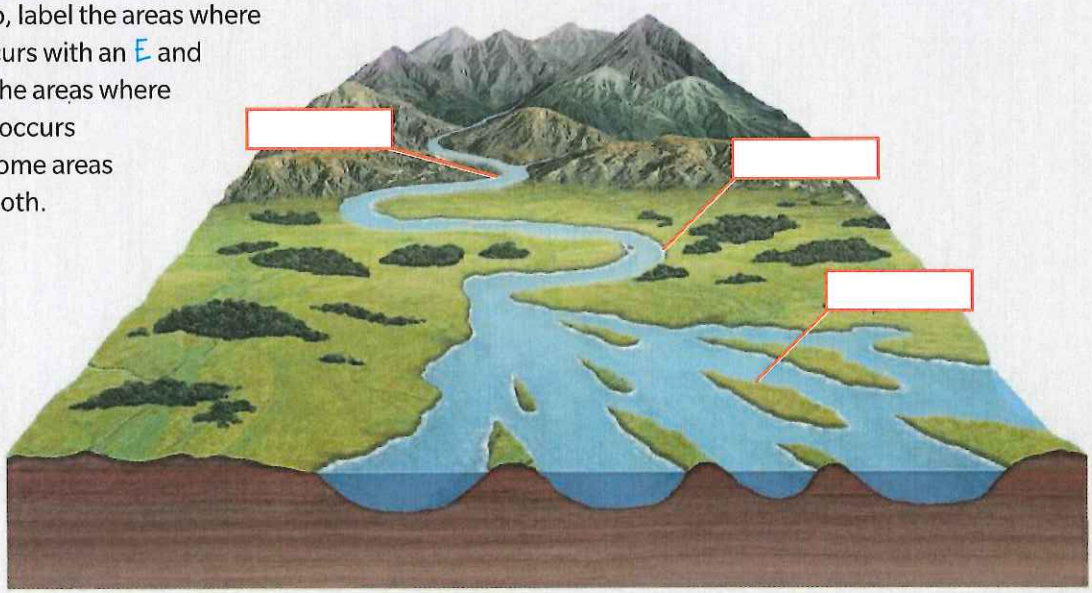
EVIDENCE NOTEBOOK

17. Will gravity always play a role in erosion of a shoreline feature, such as the collapse of a rock formation in Australia? If so, identify the process, or processes, that would lead up to the collapse. Record your evidence.

Identify Areas of Erosion and Deposition

Weathering, erosion, and deposition are geologic processes that are mostly powered by energy from the sun. These changes happen on different scales of time and space. Yet each change can be studied to help predict how Earth will change in the future.

18. On the map, label the areas where erosion occurs with an E and then label the areas where deposition occurs with a D. Some areas may have both.



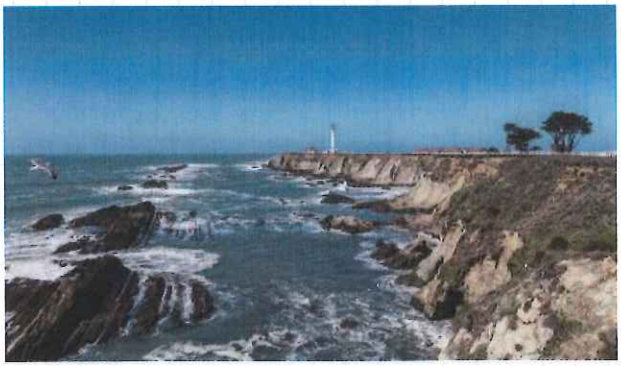
Interactive Review

Complete this interactive study guide to review the lesson.

Weathering is all of the processes that break down rocks. Physical weathering mechanically breaks down rocks. Chemical weathering breaks down rock by chemical reactions or processes such as dissolving rock in water.

A. List and describe different types of physical and chemical weathering.

Erosion is the process by which wind, water, ice, or gravity transport weathered materials from one location to another. Deposition occurs when materials are dropped by wind, water, ice, or gravity.



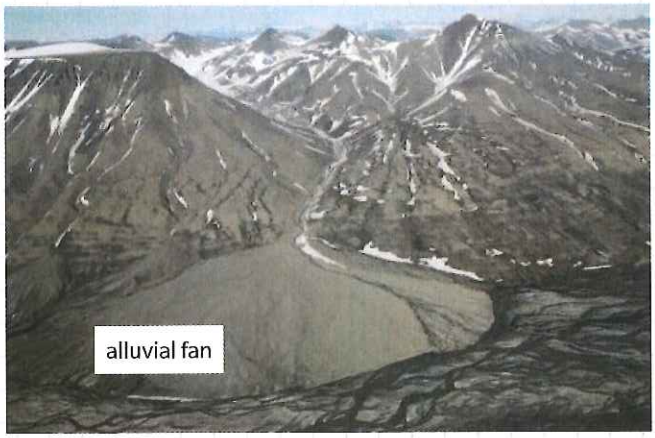
B. Explain how wind and water can contribute to weathering, and are also agents of erosion and deposition.

Weathering, erosion, and deposition can occur in minutes or over millions of years. Changes can be very large and noticeable, or small and seemingly insignificant.

C. Describe how weathering, erosion, and deposition operate on both small and large time and spatial scales.

Checkpoints

Use the photo to answer Questions 3–4.



3. For which of the following can you find evidence in this photo? Choose all that apply.

- **A.** erosion
- **B.** deposition
- **C.** chemical weathering
- **D.** physical weathering

4. Which processes could be primarily responsible for the formation of the alluvial fan shown in the photo? Select all that apply.

- **A.** Wind storms coming through the base of the mountains into the valley
- **B.** Water flowing down from the mountains and depositing sediment at the base
- **C.** Rocks and boulders falling down the mountains and piling up at the base

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Use the photo to answer Questions 5–6.

5. Which of the following is a factor in weathering caused by gravity?

- **A.** presence of living organisms on the rocks
- **B.** presence of water at one end of the glacier
- **C.** slope of the ground that the glacier is on
- **D.** size of the boulders at the base of the glacier

6. Which evidence in the picture best illustrates the occurrence of deposition?

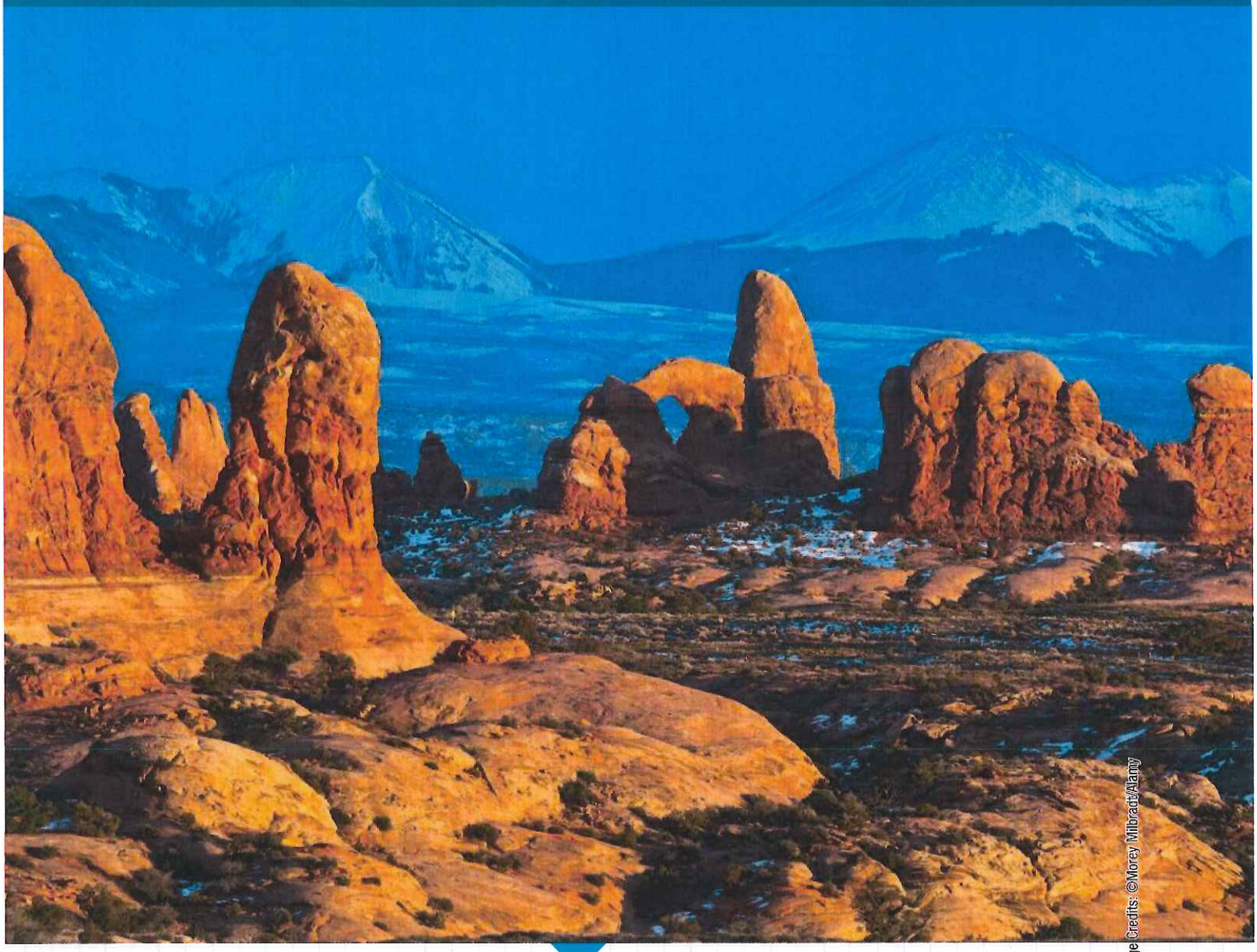
- **A.** the glacier ending in the water
- **B.** the color of the rock formations
- **C.** areas of water where the glacier may be melting
- **D.** rocks and sediment at the edges of the glacier

7. What type of physical weathering could cause a rock to break apart?

- **A.** abrasion of the surface caused by rocks being moved under a sliding glacier
- **B.** gravity acting upon the loose rocks and dirt in the area
- **C.** water refreezing in the rock crevasses

LESSON 2

The Rock Cycle



Arches National Park in Utah is known for its beautiful sandstone arches.

By the end of this lesson . . .

you will be able to describe the processes that form various types of rock and how they involve the cycling of matter and the flow of energy.

Go online to view the digital version of the Hands-On Lab for this lesson and to download additional lab resources.

CAN YOU EXPLAIN IT?

How was the rock in this image of the Grand Canyon formed and shaped over time?

The Colorado River flows through the Grand Canyon. The variety of rocks that make up the Grand Canyon were formed and shaped over long periods of time.

1. Look closely at the rock layers that make up the walls of the Grand Canyon in the picture. How did these rock layers form? Did these rock layers always look the way they do now?

EVIDENCE NOTEBOOK As you explore the lesson, gather evidence to help explain how the Grand Canyon formed and changed over time.

EXPLORATION 1

Comparing Minerals and Rocks

Many parts of Earth are made up of solid rock. There are many types of rock beyond the layered rock that makes up the walls of the Grand Canyon. Although rocks may differ in appearance, the key ingredients of all rocks are minerals. To understand how rocks form, you must understand mineral formation as well as which minerals make up different kinds of rocks.

Different colors and patterns can be seen in this rock found near the edge of a lake in Sweden.

2. Describe the colors and appearance of the rock in the photograph. Do you think the whole rock is made of the same materials? Why or why not?

Minerals

A **mineral** is a naturally occurring and usually inorganic solid. It has a definite chemical composition and an orderly internal structure. A mineral's properties depend on the kinds of atoms or molecules that make up the mineral. The conditions under which the mineral forms also affect a mineral's properties. Minerals form by different natural processes. Some minerals form when magma or lava cools. Magma is molten rock inside Earth. Lava is molten rock on Earth's surface. As magma or lava cools, the atoms join together to form different minerals.

Minerals can also form when temperature and pressure within Earth cause the atoms in existing minerals to reorganize, forming a new mineral. When substances that are dissolved in liquid water are left behind as water molecules evaporate, minerals also form.

Minerals are made up of crystals. A crystal is a solid with its atoms or molecules arranged in a repeating pattern. The way the crystal forms determines its size. Some crystals are very large and some can only be seen with a microscope.

This cave in Mexico was once full of water. Over millions of years, dissolved minerals in the water slowly formed these gypsum crystals. These are now considered to be the largest mineral crystals in the world!

3. Which of the following processes can form a mineral? Select all that apply.

A. cooling of melted rock

B. changing heat and pressure

C. erosion of sediments

Rocks

Where do rocks come from? Rocks come from other rocks. Over long periods of time, natural processes change one type of rock into another type of rock. For example, weathering can break down rocks into smaller particles called sediment. Over time, the sediment can be deposited in layers in low-lying areas. Sediment can be buried, hardened, and cemented to form new rock.

Rocks can also form when existing rock experiences an increase in temperature or pressure. This change may happen when rock is buried deep below Earth's surface or when rock is stretched or squeezed during the formation of mountains. If the pressure and temperature are high enough, the minerals in a rock can change into new minerals. The changing of the minerals forms a new type of rock. Very deep below Earth's surface, rock may get hot enough to melt and form magma. Magma can eventually cool and solidify to form new rock.

4. What role do you think the minerals that make up a rock and the way a rock forms play in the appearance of rocks?

This rock is made up of layers of sand that were pressed together and then cemented over time.

This rock is made up of light and dark bands of minerals that were chemically changed from their original form by intense pressure and temperature.

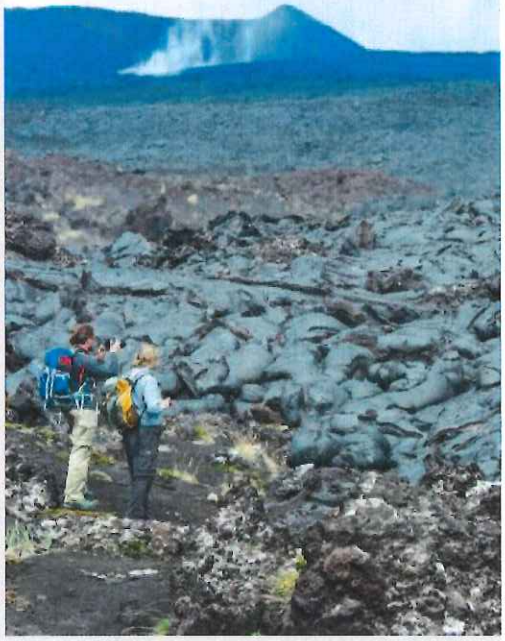
This rock formed when magma cooled far beneath Earth's surface.

EVIDENCE NOTEBOOK

5. What characteristics do you see in the rocks that form the layers of the Grand Canyon? List these in your notebook.

Identify Types of Rock

6. **Discuss** With a partner, write some observations of the rock formation in the picture. What do you notice about the rock and its surroundings? How might this rock have formed?



7. This rock's formation likely resulted from changes in temperature / pressure.

Relating Igneous Rocks to the Earth System

Igneous Rock

Cooling magma below ground and cooling lava above ground both form **igneous rocks.** Magma cools below ground in large chambers, in cracks, or between surrounding rock layers. Intrusive igneous rock forms when magma pushes, or intrudes, into the rock below Earth's surface and cools. Extrusive igneous rock forms when lava erupts, or is extruded, onto Earth's surface. Extrusive igneous rock is common at the sides and base of volcanoes.

Lava flows often cool quickly, hardening into rock.

The mineral composition of igneous rocks depends on the chemical make-up of the magma or lava that formed it and on how quickly that magma or lava cooled. Some igneous rocks are made up of many types of minerals. Other igneous rocks have fewer minerals in their make-up.

8. **Discuss** Do you think that the rock in the picture took more or less time to cool than rocks formed from magma beneath Earth's surface? Together with a partner, discuss why you think your conclusion is correct.

Geological Processes

The processes on Earth that form rock take such a long time that it is hard to imagine that they happen continuously. All rock that is on and inside Earth was magma at some point in the past. Likewise, rock that exists now may eventually end up back below Earth's crust. Then it may melt to form magma. These processes in the rock cycle may take hundreds of millions of years.

The flow of energy and matter that forms most rock may not be noticeable. However, if you have ever seen video of an erupting volcano, you have seen a few moments of the process of rock formation.

Lava from a volcanic eruption flows through a tropical forest in Hawaii.

Explore ONLINE!

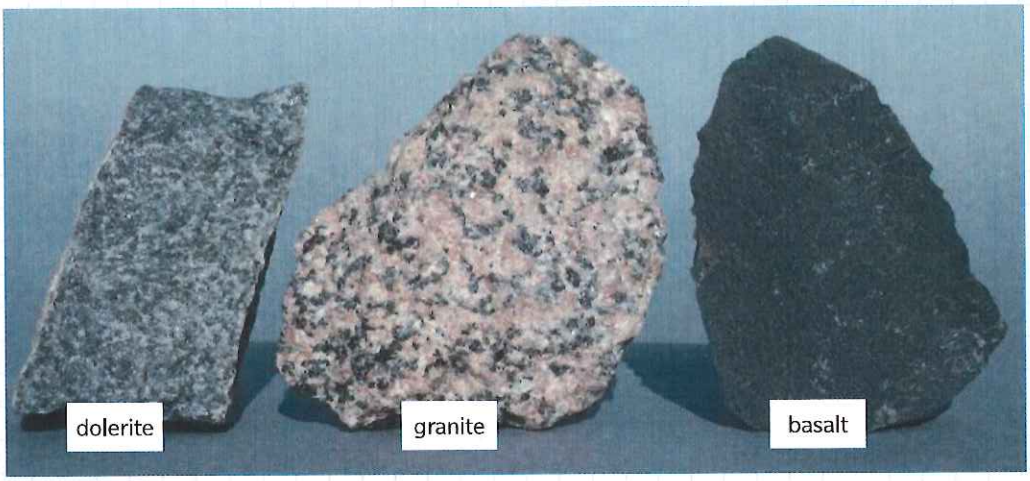
9. What happens to the matter in rock when it melts beneath Earth's surface? How does the melting process eventually lead to igneous rock forming?

Time Scale

The time scale for the formation of igneous rocks varies from minutes to hundreds of thousands of years. When igneous rock forms below Earth's surface, the magma is well insulated by surrounding rock, so it cools very slowly. The longer the cooling takes, the more time crystals have to grow. Rocks formed under these conditions generally have large, visible crystals. These rocks are described as "coarse-grained." Examples of igneous rocks that form below Earth's surface are granite and dolerite.

On the other hand, magma that reaches Earth's surface, called lava, cools very quickly when exposed to air. Because there is little time for crystals to form, these rocks are made up of very small crystals. These rocks are said to be "fine-grained." Basalt and andesite are common igneous rocks that form on Earth's surface.

Rocks with the same chemistry can have very different appearances when they cool at different rates. Remember: slow cooling results in larger crystals. Fast cooling results in smaller crystals. Super-fast cooling of magma can result in no crystals at all. Obsidian (ahb•SID•ee•uhn) is an igneous rock that cools so rapidly that no crystals form. Obsidian is glassy in appearance and is called volcanic glass.



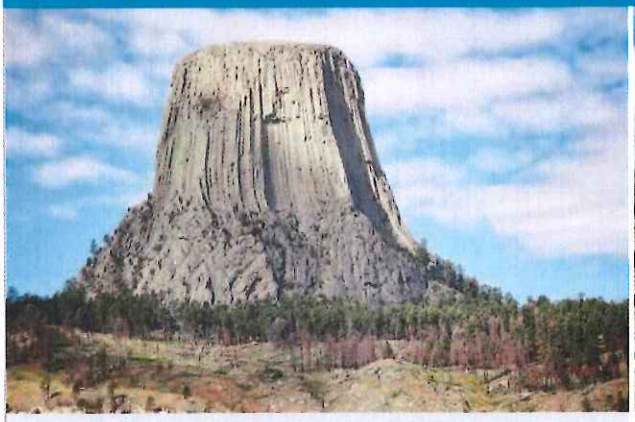
These igneous rocks cooled at different rates.

10. Compare the pictures of the igneous rocks. Which of the three rocks shows evidence of the longest cooling process? What evidence do you see to support your answer?

Igneous Rock in the Geosphere

Extrusive igneous rock, such as basalt, is easily found on Earth's surface. This is where it formed. Intrusive igneous rock is located beneath Earth's surface, where it formed. However, not all intrusive rock remains underground. For example, large regions of Earth's crust are pushed toward the surface during a process called uplift. Then, the intrusive igneous rock may be exposed at Earth's surface if the layers above are eroded. The Rockies, the largest mountain range of western North America, are made mostly of intrusive igneous rock, especially granite.

Igneous Rock



The igneous rock columns making up Devils Tower, Wyoming, show the result of magma forcing its way up toward Earth's surface. Geologists hypothesize that the columns formed underground. The columns later became exposed after the surrounding rock eroded away.

Quick-cooling igneous rock often has a spongy appearance because the lava contained bubbles of gas. This leaves pockets of air in the rock. Pumice is an example of this type of igneous rock and can be light enough to hold above your head with little effort.

11. Compare and contrast the two rock formations shown above. What do these formations have in common as related to energy flow in the Earth system?

Observe How Igneous Rock Forms and Changes

As with all rocks, igneous rocks can be weathered by wind, water, and organisms. Climatic change may also be a factor in the weathering of rocks. For example, as glaciers grow and shrink during ice ages, the granite of massive mountains may be weathered and eroded.

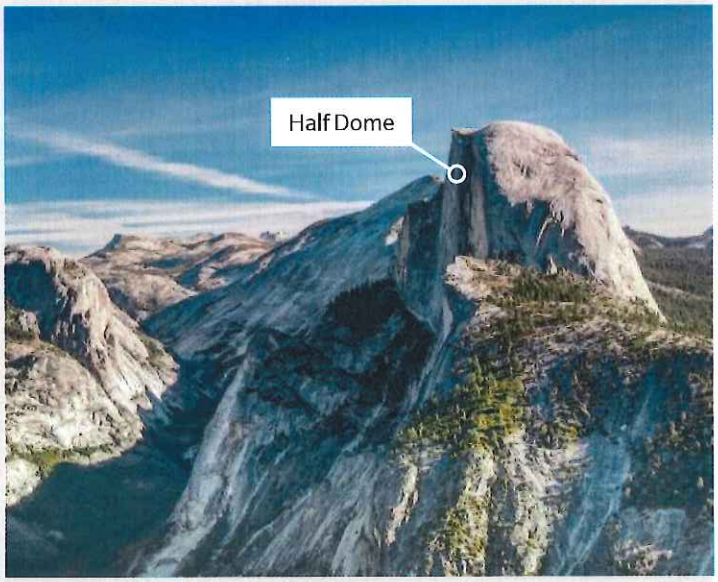
12. Order the events that likely led to the formation of Half Dome. Write numbers 1–4 on the lines to order the events.

___ The granite was uplifted with the surrounding rock.

___ A glacier moved over the exposed granite and eroded the rock.

___ A body of magma cooled underground and formed granite rock.

___ The surrounding rock was weathered and eroded.



One of the iconic rock formations found in Yosemite National Park, California, is Half Dome. It is made of intrusive igneous granite that has weathered with time.

Relating Sedimentary Rocks to the Earth System

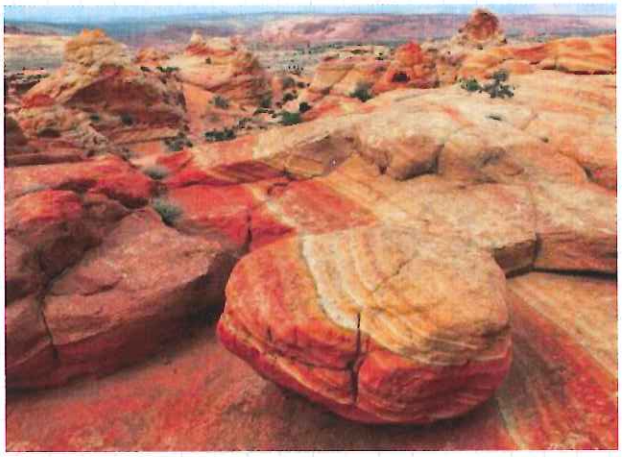
Sedimentary Rock

When sediments are compacted or are cemented together by new minerals, **sedimentary rock** forms. This process is gradual and may take up to millions of years to occur. Like the name suggests, sedimentary rock is made of sediment. The mineral "glue" that cements sediment into rock may be mixed with the sediment when it is deposited or it may enter the rock later. The minerals quartz and calcite are common sedimentary cements.

Sedimentary rocks are named according to the size and type of fragments they contain. For example, one type of sedimentary rock called mudstone is made up mostly of cemented mud particles.

Some sedimentary rock, like this breccia (BREHCH-ee-uh) is made up of large, compacted rock fragments.

13. What processes form the sediment that makes up sedimentary rock? Explain how sedimentary rock is part of the cycling of Earth materials over time.



Sedimentary rock may form in distinct layers. The layers can be different colors and thicknesses, depending on the type and amount of sediment deposited.

Geological Processes

How does sediment get pressed together, or compacted, and cemented? Often these processes happen when the weight of overlying layers of soil and sediment press down on lower layers of sediment. At the same time, dissolved minerals solidify between sediment pieces and cement them together.

Sedimentary rocks may also form from the remains of fossils of once-living plants and animals. For example, when layer upon layer of plant material is buried, compacted, and exposed to the higher temperatures and pressures beneath Earth's surface, its atoms rearrange. Over millions of years, this process may form coal.

Sedimentary rock, however, does not always form from layers of sediment. Sometimes minerals form when the water in which they are dissolved evaporates. The chemicals that remain crystallize to form minerals. Salt and various kinds of limestone form this way.

One Way Sedimentary Rock Forms

Sediment and organic materials are deposited over time.

As these materials break down and settle, they form layers.

These layers are compacted and cemented to form sedimentary rock.

Explore ONLINE!

14. Select the statements that correctly describe a part of the process shown above.

- **A.** The oldest rocks are found in the top layers.
- **B.** The sediment is broken down rock from the edge of the lake.
- **C.** Rock layers formed when magma beneath the lake cooled.
- **D.** The rocks in this scene contain once-living things.

15. Engineer It Sandstone is a type of sedimentary rock that can be formed in a lab environment. How would your knowledge of the formation of sandstone help when designing a machine that could create this rock in a lab?

Do the Math
Buried in Time

The top of the travertine layer shown in the photo is 3 m below the top of the sarcophagus. Assuming a rate of deposition of 2 mm/year on average, how many years will it take for the sarcophagus to be completely buried in travertine? Complete the steps below to find out.

In Turkey, calcium-rich hot springs leave behind mineral deposits that cause this rock formation to slowly bury this 2,000-year-old sarcophagus while the rock formation grows.

16. How long will it take for the sarcophagus to be completely buried?

STEP 1 First, convert meters to millimeters: 3 m = _____ mm

STEP 2 Then, set up a proportion. Use the variable n to represent the unknown:

$$\frac{2\text{ mm}}{1\text{ yr}} = \frac{\square}{\square}\ \frac{\text{mm}}{\text{yr}}$$

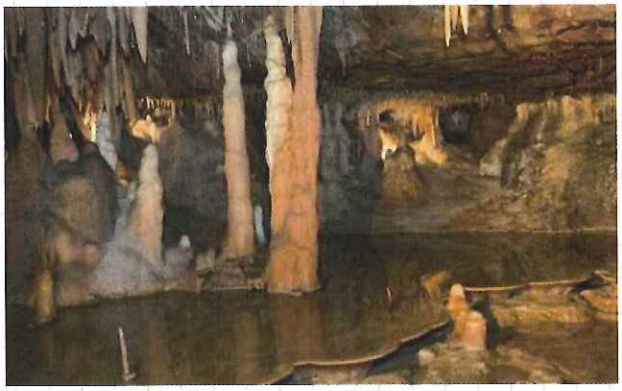
STEP 3 Solve the proportion.

Time Scale

Sedimentary rock forms slowly over time. A person could observe the travertine deposit growing very slowly over a period of years—about 2 cm in 10 years. But the deposition of calcium carbonate out of solution is actually one of the faster ways that sedimentary rock can form. Sedimentary rock formed from the compaction and cementation of sediments may take many thousands or even millions of years to form. For example, some types of limestone form as the remains of tiny aquatic organisms build up on the floor of the ocean or a lake. These sediments accumulate slowly and are buried and compacted for a long time to form limestone.

17. **Discuss** Look at the images and read about the formation of shale and limestone. Together with a partner, compare and contrast the process of shale and limestone formation.

Shale may take millions of years to form by slow accumulation, burial, and compaction of very fine clay sediments.



Limestone may form by the deposition of dissolved calcium carbonate. Limestone stalactites hanging from the ceilings of caves form rapidly when compared to other sedimentary rocks.

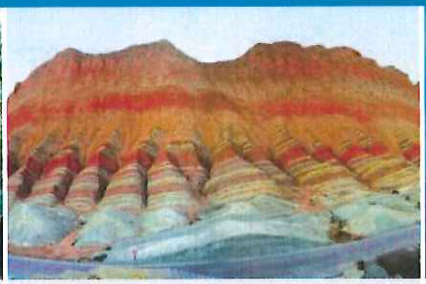
Sedimentary Rock in the Geosphere

Sedimentary rock is often identified by its visible layers. Even though you can see these sedimentary rocks, that does not mean they were formed on or near the surface. The pressure needed for compaction of some sedimentary rocks happens under many layers of sediment and rock, over thousands or millions of years.

Water plays a key role in forming, as well as exposing, sedimentary rock. Water contains many dissolved minerals and salts. Water can flow through sediments and leave the minerals and salts behind, which can cement the sediments together. After a sedimentary rock forms under the surface, uplift can push the rock up toward the surface. Then, weathering and erosion might expose and shape the rock into the formations we see today. For example, over millions of years the Colorado River has helped to shape the Grand Canyon and expose the many colorful layers that make up the canyon walls.

Examples of Sedimentary Rock

Conglomerate rocks are made of large pieces of sediment later cemented together.



The Rainbow Mountains of Gansu Province, China, are sandstone. The different colors and textures are due to differences in the mineral composition and grain size.

The White Cliffs of Dover, England, are made of chalky limestone. They are composed largely of the calcium carbonate shells of tiny ocean-dwelling organisms.

18. Which of these three words applies to all types of sedimentary rock: *weathering*, *compaction*, or *deposition*? Explain your answer.

EVIDENCE NOTEBOOK

19. Do you see any evidence of sedimentary rock in the Grand Canyon? If so, how long do you think it took to form and how has the rock changed over time?

Identify How Sedimentary Rock Forms and Changes

Like other types of rock, sedimentary rock can be affected by its surroundings. Wind and water can weather and erode sedimentary rock, sometimes exposing new layers.

20. Use what you know to write a series of three events that could have led to the formation of Monument Valley as it appears today.

The sedimentary rock of Monument Valley, Arizona, formed approximately 300 to 100 million years ago at what was then near sea level. Since then, dramatic uplift has moved the rock to its current position of 2000 m above sea level. Amazingly its horizontal layers are undisturbed! However, rivers that flooded over it at various times over millions of years have carried much of the rock away.

EXPLORATION 4

Relating Metamorphic Rocks to the Earth System

Metamorphic Rock

When large changes of temperature, pressure, or both cause the texture and mineral content of existing rock to change over millions of years, **metamorphic rock** forms. Contact with hot fluids can also cause changes to rock. *Metamorphism* is another word for this change. Rocks undergo metamorphism when their temperatures typically reach ranges of 200 °C to 1200 °C.

Imagine a rock that is buried deep in Earth's crust. The temperature and pressure are very high. Over millions of years, the solid rock may change to a different kind of rock.

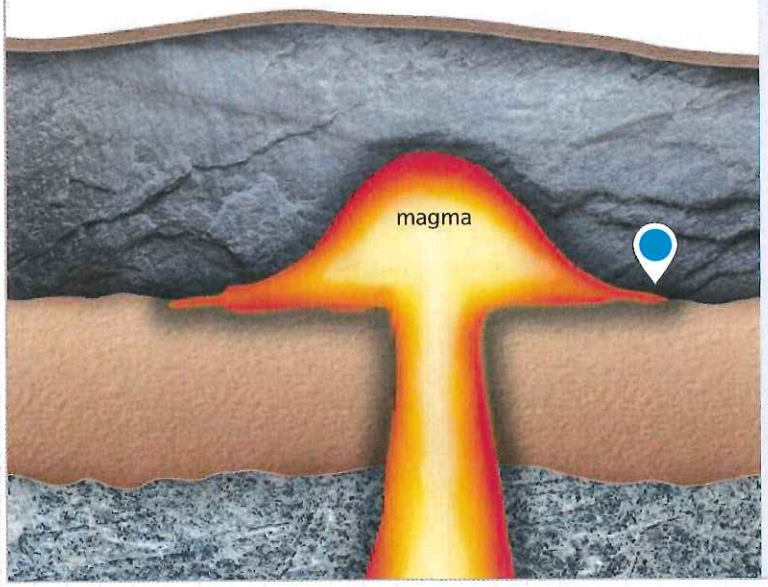
Gneiss (NYS) is a metamorphic rock. It forms at high temperatures deep within Earth's crust.

21. Discuss Together with a partner, discuss why the gneiss rock shown above has both light bands and dark bands.

Geological Processes

When rock is exposed to physical or chemical conditions that cause the rock's minerals to change and form new minerals, the rock then becomes a new metamorphic rock. Each type of metamorphic rock forms under a certain range of temperatures and pressures, and each contains particular kinds of minerals.

Metamorphic Rock May Form Near a Magma Chamber



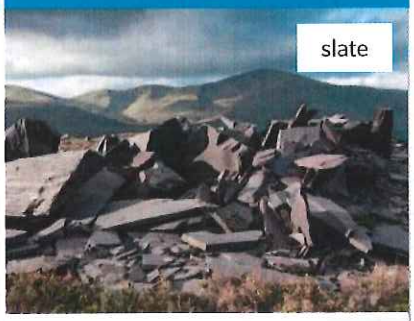
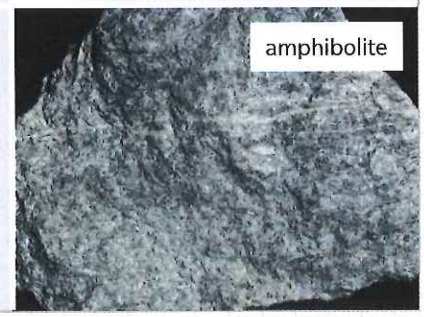
Hornfels is a metamorphic rock that forms in the zone of shale closest to magma, where the shale is exposed to very high temperatures.

Metamorphic Rock Formation

All three kinds of rock—sedimentary, igneous, or metamorphic—can change into new metamorphic rock. Increased temperature and pressure can cause changes to both the physical and chemical make-up of the rock. These changes result in the formation of a new type of rock—a metamorphic rock different from the original rock. The kind of metamorphic rock that forms depends on the parent rock and the conditions of formation.

Metamorphic rock can form in areas that are in contact with or close to a magma chamber. The intense heat of the magma chamber can change the minerals in nearby rock. Rock can also undergo metamorphism when it is buried deep enough in Earth that a large region of rock is subjected to intense heat and pressure. In this situation, large areas of rock can be changed into different types of rock.

An example of metamorphic rock transformation is quartzite. Quartzite forms when sandstone, a sedimentary rock, is exposed to high temperature and pressure. This causes the sand grains to fuse and grow larger and the spaces between the sand grains to disappear.

Before	Metamorphosis	After
 shale	Slate results from exposing shale to moderate pressure and temperature increases over a very long period of time—perhaps millions of years. Slate is a metamorphic rock in which the minerals have become squeezed into flat, sheet-like layers.	 slate
 slate	Metamorphic rocks can change into other types of metamorphic rock. Slate can become phyllite when it is exposed to increased temperature and pressure. Tiny plates of a sparkling mineral called mica form during metamorphism. This gives phyllite a slight sheen.	 phyllite
 basalt	Basalt is an igneous rock that can change into amphibolite when exposed to temperatures between 500 °C and 850 °C. Amphibolite has grains coarse enough for individual minerals to be seen.	 amphibolite

22. Circle the answer that best completes each statement.

A. A sedimentary rock is most likely to change into metamorphic rock after heating / erosion / deposition.

B. Metamorphic rocks are usually / sometimes / never produced by changes to other metamorphic rock.

Time Scale

The formation of metamorphic rock is generally a very slow process because the changes happen to rock in its solid state. The process to form coarser-grained metamorphic rocks with larger mineral crystals, such as gneiss, may take tens of millions of years.

23. How does the time it takes to form metamorphic rock compare to the time it takes to form extrusive igneous rock?

24. What happens to the minerals in rocks that undergo metamorphism?

Metamorphic Rocks in the Geosphere

If metamorphic rock forms deep inside Earth, how are you able to see it? The ridges making up much of the Appalachian Mountains are metamorphic rock. This rock formed when the edges of North America and Africa crashed together hundreds of millions of years ago. Metamorphic rock may be moved to the surface by uplift or after erosion removes layers of rock.

Some rocks are easy to identify as metamorphic. When a metamorphic rock forms, pressure on the rock may force the mineral crystals into parallel dark and light bands. Other kinds of metamorphic rocks will not show this kind of structure. Instead, these rocks will have large grains that are arranged in an unstructured manner.

Schist is often categorized by color. Greenschists, like this one, form under high pressure and high temperature, far below Earth's surface. Blueschists form under high pressure but relatively low temperature.

Exposing schist to higher temperature and pressure can eventually cause its minerals to separate into alternating bands of light and dark minerals as it transforms into another metamorphic rock called gneiss.

25. Discuss Is it possible for metamorphic rock to form on Earth's surface? Together with a partner, discuss your answer and explain your reasoning.

This marble formed beneath the ocean floor millions of years ago. It was uplifted and carved by erosion into vast cliffs. When this marble formed, the calcite crystals in the original limestone grew, filling the spaces in the limestone. This resulted in harder and longer lasting marble. Marble is not as hard as granite. However, marble is chosen as a building material for grand monuments due to its beauty.

Describe How Metamorphic Rock Forms

Metamorphic rock often shows evidence of the strong forces that helped form it. These forces can even change metamorphic rock into different kinds of metamorphic rock. Uneven pressures applied to rock affect the rock's appearance. Many metamorphic rocks have wavy patterns of minerals caused by the reorganization of the solid crystals. Some rocks may be bent or folded by intense pressure.

Metamorphic rocks, just like igneous and sedimentary rock, can also be weathered over time. The weathering may expose mineral patterns.

This metamorphic rock was exposed after glacial movement eroded part of it away. The wavy bands of minerals are a clue to the intense forces experienced during its metamorphism.

26. Use what you know about the formation of metamorphic rock to describe three events that could have led to the formation of this rock as it appears today.

EXPLORATION 5

Modeling the Rock Cycle

Although rocks seem solid and unchanging, they can be affected by temperatures and pressure beneath Earth's surface and weathering on Earth's surface. As a result, rocks undergo changes. These changes sometimes form new kinds of rock. This series of processes, in which rocks change from one type to another, is called the rock cycle. The rock cycle is one way that matter is recycled on Earth.

The action of waves has broken up shells at the beach into tiny fragments.

This limestone was extracted from the ocean floor.

This marble was cut from a quarry several miles inland.

27. These photos could be connected by processes in the rock cycle. Describe what processes could turn the shell fragments into limestone and then marble. Then describe a process in the rock cycle that the marble in the quarry might undergo in the future.

The Rock Cycle

Think about all the processes that form the three kinds of rock—igneous, sedimentary, and metamorphic—and the factors that influence those processes. How are these processes related to each other? How do they recycle matter on Earth?

The processes that form different kinds of rock and recycle matter on Earth do not have one defined pathway. The pathways are more like a web. You can use a model of the rock cycle to show how the processes that form different kinds of rocks are related.

28. Circle the energy source for these processes in the rock cycle.

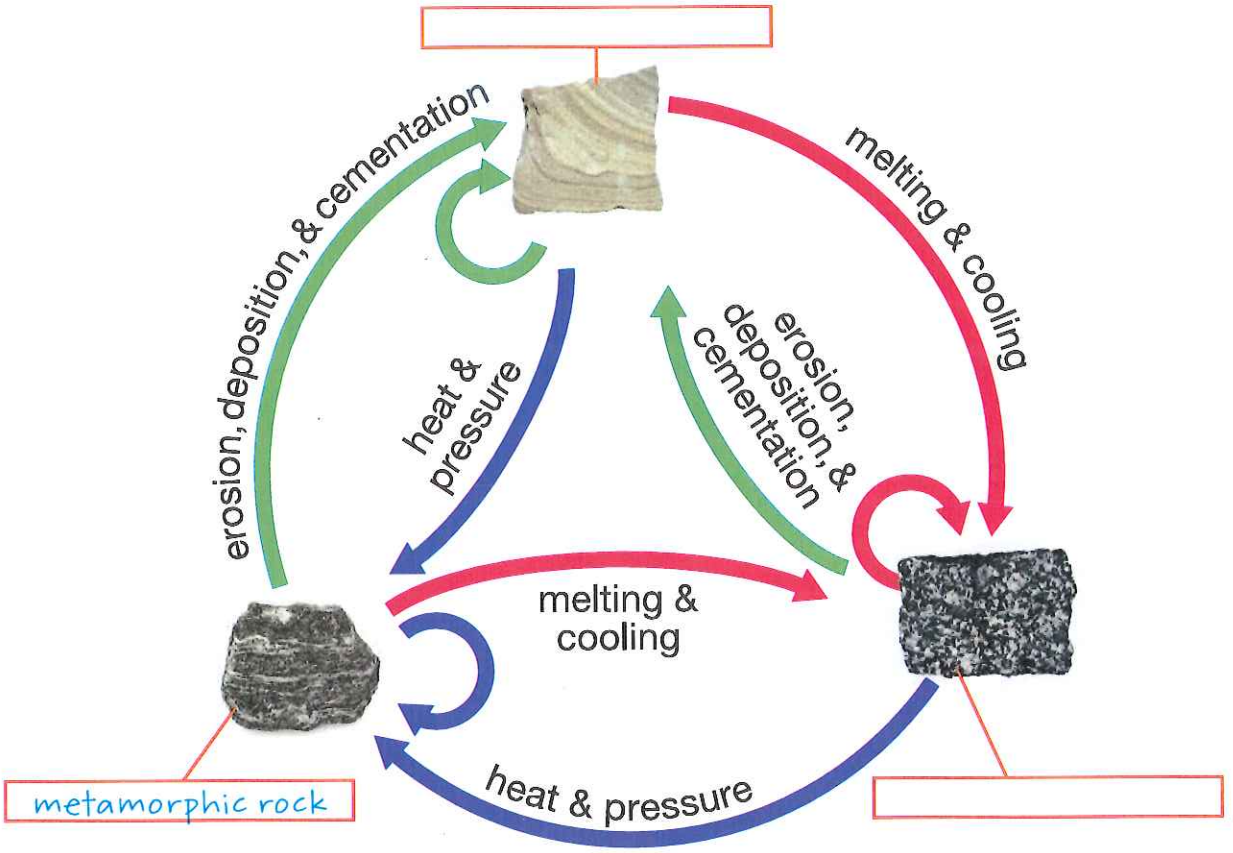
A. Melting and cooling: sun / Earth's interior

B. Erosion and deposition: sun / Earth's interior

C. Changing temperature and pressure: sun / Earth's interior

A Model of the Rock Cycle

29. Complete the rock cycle diagram by writing sedimentary rock or igneous rock. Metamorphic rock has been filled in for you.



30. Discuss Together with a partner, describe how this rock cycle model provides a visual representation of the cycling of matter through Earth's systems.

Paths in the Rock Cycle

With pressure and temperature changes, sedimentary rock may become metamorphic rock. Sedimentary rock may melt and cool to form igneous rock. Or sedimentary rock at Earth's surface may break down into sediment that will form new sedimentary rock.

Igneous rock can change directly into metamorphic rock while still beneath Earth's surface, or it might melt and then cool again to form a new igneous rock. Igneous rock at Earth's surface can be weathered to form sediments that form sedimentary rock.

Metamorphic rock can melt and form magma. The magma cools to form igneous rock. Metamorphic rock can also be changed by temperature and pressure to form a different type of metamorphic rock. Weathering can change metamorphic rock into sediments that will become sedimentary rock.

EVIDENCE NOTEBOOK

31. How did the processes in the rock cycle play a role in the formation of the Grand Canyon? Record your evidence.

32. Write always, sometimes, or never to complete the statements.

A. Igneous rock will _____ change as a result of temperature and pressure.

B. Magma will _____ result in igneous rock when cooled.

C. Sedimentary rock will _____ be eroded before becoming another type of sedimentary rock.

D. Metamorphic rock will _____ become an igneous rock before it becomes another type of metamorphic rock.

Language SmArts

Model the Rock Cycle

Rocks define a large part of Earth's surface. Those rocks are continuously changing as a result of the processes of the rock cycle. Other factors can also change rock.

33. Tell a story of a teaspoon of sediment moving through the rock cycle. Include a discussion of the energy source that is driving each part of the process. Follow the sediment through at least four transformations.

_____

_____

_____

_____

_____

_____

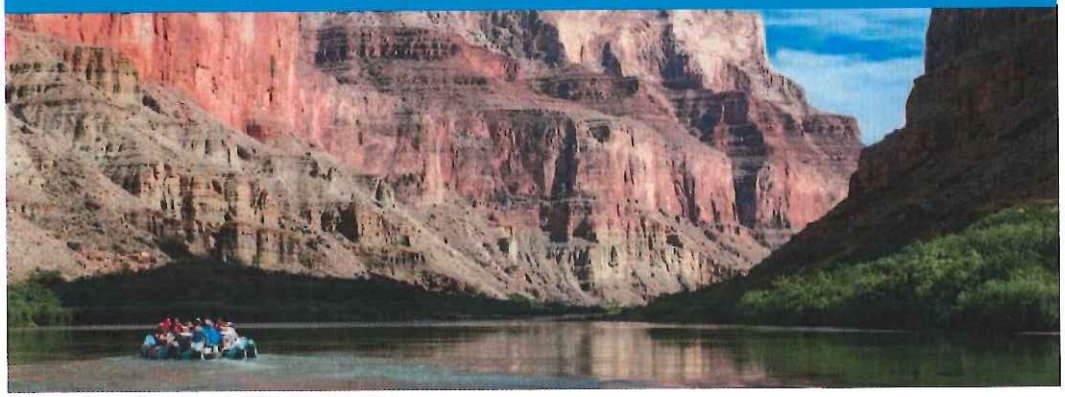
_____

34. Draw In the space provided, draw a rock cycle diagram to go with your story.

Can You Explain It?

Name: _____ **Date:** _____

How was the rock in this image of the Grand Canyon formed and shaped over time?



EVIDENCE NOTEBOOK

Refer to the notes in your Evidence Notebook to help you construct an explanation for how the rock layers formed and were shaped over time.

1. State your claim. Make sure your claim fully explains how the rocks in the Grand Canyon formed and were shaped over time.

2. Summarize the evidence you have gathered to support your claim and explain your reasoning.

Checkpoints

Answer the following questions to check your understanding of the lesson.

Use the photo to answer Questions 3–5.

3. What do you observe in this rock? Choose all that apply.

- **A.** crystals of different sizes
- **B.** crystals of different colors
- **C.** cemented sediments

4. Based on your observations, in which general category would you place this rock?

- **A.** sedimentary
- **B.** metamorphic
- **C.** intrusive igneous
- **D.** extrusive igneous

5. In which order did these events most likely occur during this rock's formation?
Write numbers 1–4 on the lines to order the events.

___ Magma began cooling.
___ Uplift moved the rock to the surface.
___ Heat from Earth's interior formed magma.
___ Crystals formed in the rock.

Use the photo to answer Questions 6–7.

6. Based on your observations, in which general category would you place this rock?

- **A.** sedimentary
- **B.** metamorphic
- **C.** intrusive igneous
- **D.** extrusive igneous

7. What type of rock fragments could be part of this rock? Choose all that apply.

- **A.** sedimentary
- **B.** metamorphic
- **C.** intrusive igneous
- **D.** extrusive igneous

Interactive Review

Complete this section to review the main concepts of the lesson.

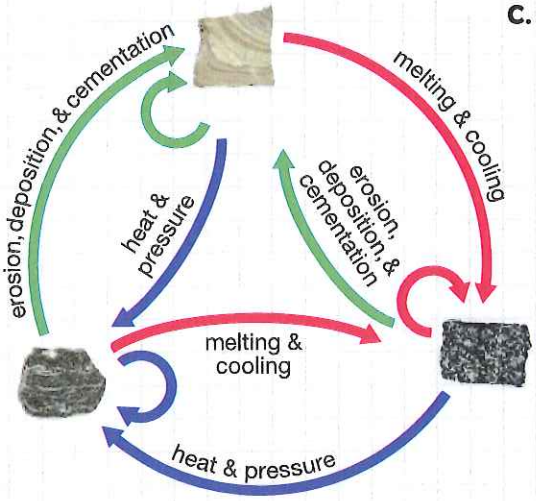
Rocks are composed of minerals.

A. What characteristics do minerals have in common?

The three rock types are igneous, sedimentary, and metamorphic rock.

B. What do all rocks have in common? How is the formation of the three rock types similar? How is their formation different?

Igneous, sedimentary, and metamorphic rocks are all part of the rock cycle.



C. Use the rock cycle diagram to explain how a sedimentary rock could become a metamorphic rock.

Middle School Social Studies

St. Louis Public Schools
Continuous Learning Plans
Middle School Social Studies

WEEK 1	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment *How will you show your teacher that you learned the material?*
Monday **March 23**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	Read Article Respond to Writing Prompt	Article: "7 Times in History When Students Turned to Activism"	**Writing Prompt:** According to the examples provided in this article, what makes social movements effective? Provide evidence related to at least two specific social movements described in this article and explain how they demonstrate common trends in what makes for an effective social movement.
Tuesday **March 24**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	Read Article Respond to Writing Prompt	Article: "Why Demonstrating is Good for Kids"	**Writing Prompt:** How does the author support her main idea about the value of civic engagement? Provide at least two different pieces of evidence from the text and explain how they support her main idea.
Wednesday **March 25**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	Read Article Respond to Writing Prompt	Article: "'Young People Are Angry': The Teenage Activists Shaping Our Future"	**Writing Prompt:** What tone is established in Emma Gonzalez's speech? Pull out at least three different words and phrases and explain how they establish tone.
Thursday **March 26**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	Read Article Respond to Writing Prompt	Article: "Seven Young Activists to Watch Ahead of the 2020 Elections"	**Writing Prompt:** Introduce an activist to your class. Include the following: • Name • Age • Location • Focus of activism • Actions they have taken • Impact of their actions • What their "ideal" future would look like
Friday **March 27**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	Article of the Week Exercise	Select an article from Monday-Thursday	**Article of the Week:** Select one of the articles you have read this week. Complete the Article of the Week exercise in your Continuous Learning Packet.

St. Louis Public Schools
Continuous Learning Plans
Middle School Social Studies

WEEK 2	Lesson Objective *What will you know and be able to do at the conclusion of this lesson?*	Missouri Learning Standard *What content standard will this learning align to?*	Instructional Activities *What needs to be done in order to learn the material?*	Resources *What print and electronic resources are available to support your learning?*	Assessment / Assignment *How will you show your teacher that you learned the material?*
Monday **March 30**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	1. Read Article 2. Complete Comprehension Questions 3. Respond to Writing Prompt	Article: How Government Works: What is citizenship?	**Writing Prompt:** Why are the rights and responsibilities of citizens important to democracy in the United States?
Tuesday **March 31**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	1. Read Article 2. Complete Comprehension Questions 3. Respond to Writing Prompt	Article: Checking the facts about U.S. birthright citizenship	**Writing Prompt:** This article presents a problem identified by voters in the United States. Why is it important for people to know about this issue during an election year? What other types of sources could you study to have a well-rounded understanding of this topic?
Wednesday **April 1**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	1. Read Article 2. Complete Comprehension Questions 3. Respond to Writing Prompt	Article: With teens more politically active, support grows for lowering the voting age to 16	**Writing Prompt:** What do you think the minimum voting age should be? Support your answer with evidence from the text, your own experiences, and evidence from other articles.
Thursday **April 2**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	1. Read Article 2. Complete Comprehension Questions 3. Respond to Writing Prompt	Article: Youth drive push to lower voting age in Somerville, Massachusetts	**Writing Prompt:** Write a short paragraph that explains the central idea of the article. Use at least two details from the article to support your response.
Friday **April 3**	I can determine the central idea of an article and explain how it is developed over the course of the text.	RI.1.D Explain the central/main idea(s) of a text and cite evidence of its development; summarize the text.	Article of the Week Exercise	Select an article from Monday-Thursday	**Article of the Week:** Select one of the articles you have read this week. Complete the Article of the Week exercise in your Continuous Learning Packet.

7 Times in History When Students Turned to Activism

By Maggie Astor
March 5, 2018

Students from Marjory Stoneman Douglas High School rallied for gun control last week on the steps of the State Capitol in Tallahassee, Florida.

Every few weeks or months, after a man armed with a high-powered weapon walks into a school or a church or a nightclub and opens fire, the national response plays out in a rote, almost performative way. The outcry lasts only a few days before guns fade back into the background noise of American politics.

But nearly three weeks after a gunman walked into Marjory Stoneman Douglas High School in Parkland, Fla., and killed 17 people with an AR-15, the conversation has not faded, because the students of Stoneman Douglas have taken up the cause of gun control. Already, they have lobbied state lawmakers in Tallahassee, spoken with President Trump and persuaded many companies to cut ties with the National Rifle Association. And on Saturday, they met with students fighting gun violence in Chicago.

Several of those students, and their critics, have noted the incongruity of teenagers getting involved in politics. But history is full of movements led by students — albeit usually in college, not high school. Some were successful and others brutally crushed, but even the latter still resonate. (Most of these campaigns have been liberal-leaning: Though conservative college students have made their presence known, their actions have rarely coalesced into broader movements.)

Here are seven other cases where young people were moved to challenge adult society.

The lunch counter sit-ins of 1960 began with four college students in Greensboro.

Greensboro sit-ins, 1960

The lunch counter sit-ins that would change American history began with four teenagers who walked up to a Woolworth's lunch counter in Greensboro, N.C., and refused to leave.

Those young men — Ezell Blair Jr., 18; Franklin McCain, 19; Joseph McNeil, 17; and David Richmond, 18, all students at North Carolina Agricultural and Technical State University — made their stand on Feb. 1, 1960. Within three days, they were joined by some 300 others. By summer, the sit-ins had spread to more than 50 cities, and lunch counters were rapidly desegregating.

The actions of the so-called Greensboro Four led directly to the creation of the Student Nonviolent Coordinating Committee, which the civil rights organizer Ella Baker urged students to form in April 1960 to coordinate the continuing sit-ins. Later, SNCC would play a major role in the Freedom Rides and in voter registration efforts across the South. And the momentum that began at the Woolworth's lunch counter would eventually contribute to the passage of the Civil Rights Act of 1964, which outlawed segregation in public spaces.

Perhaps more than anything, the results of the Greensboro sit-ins showed the power of a small group of students prepared to stand alone if necessary.

"Inevitably, people ask me, 'What can I do?'" Mr. McCain said in an interview in 2005. "What kind of question is that? Look around you. Once you identify what you want to do, don't ask for the masses to help you, because they won't come."

Columbia University students occupying Hamilton Hall in April 1968.

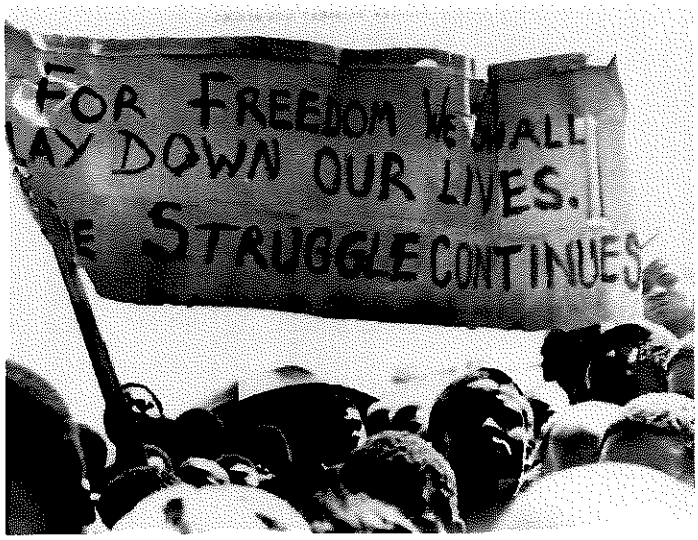
University Uprisings, 1968

In the spring of 1968, student protests exploded on multiple continents. Some accomplished their stated goals and others did not, but even the latter contributed to a climate in which change seemed possible and more people were inspired to act.

In March, more than 1,000 students at the historically black Howard University took over the administrative building, and many more barricaded themselves in their dormitories. They demanded that the university president resign; that the curriculum emphasize African-American history and culture; that a judiciary system involving students be created; and that disciplinary proceedings against students involved in an earlier protest be dropped. The university agreed to the third and fourth demands.

Students at Columbia University used similar tactics a month later, occupying several buildings for a week before 1,000 police officers stormed the campus to evict them. Strikes continued for the rest of the semester, essentially paralyzing the university even after the occupiers were cleared out. The students were protesting two things — the construction of a university gym in Morningside Park in Harlem that would provide only limited access to Harlem residents, and Columbia's Vietnam-era contract with a weapons research think tank — and Columbia canceled both.

On the other side of the Atlantic, students revolted in France and Poland. In Warsaw, protests against government censorship built from 300 students in January to 20,000 in March, but were ultimately suppressed. And in Paris, some 20,000 swarmed the Sorbonne in May, turning cars into barricades and clashing with riot police. French labor unions and teachers joined a 24-hour general strike in support of the students, bringing the nation to a grinding halt but failing to topple President Charles de Gaulle.

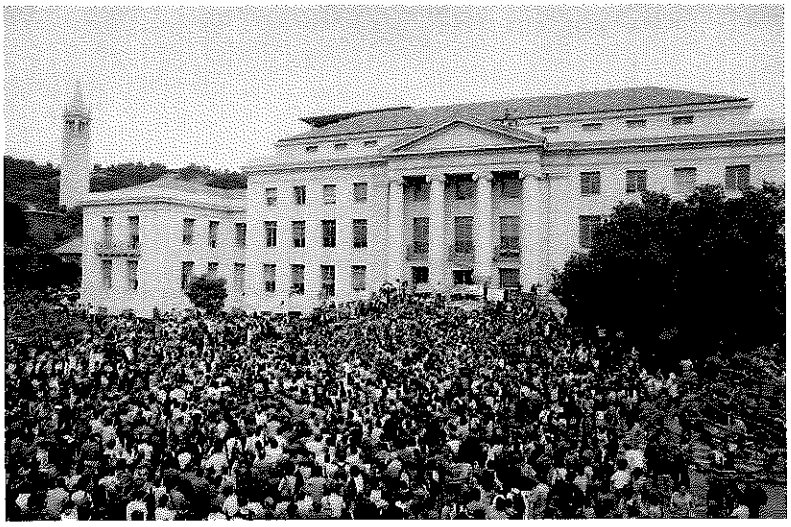


A rally in Soweto, South Africa, in October 1976 after the funeral of a black student who died in jail.

Apartheid Divestment, 1970s-80s

As with the Greensboro sit-ins 16 years earlier, the uprising started by public school students in Soweto, South Africa, would expand far beyond them.

On June 16, 1976, several thousand students near Johannesburg began a peaceful march that turned deadly when the police attacked with guns and tear gas. The protesters were objecting to a law that mandated Afrikaans-language education, but they set in motion a global movement against apartheid. Images of police brutality — particularly a photograph of a high school student carrying the body of Hector Pieterson (12 or 13 years old; accounts differ) — drew international attention to the broader cruelty of South Africa's government.



Thousands of students filled Sproul Plaza at the University of California, Berkeley, in April 1985 to protest the university's business ties with apartheid South Africa.

From the actions of the students of Soweto grew a vast campaign led by college students in the United States, who built shantytowns on campus quads, blockaded buildings and disrupted speeches by South African politicians. From Columbia University to the University of California, protests compelled administrators to withdraw billions of dollars in investments from companies tied to South Africa. Over time, the resulting economic stress contributed, along with other factors, to the dismantling of apartheid.

On June 5, 1989, after Chinese troops violently cleared protesters from Beijing's Tiananmen Square, a lone man stood in front of a column of tanks.

Tiananmen Square, 1989

On June 4, 1989, several weeks of student-led pro-democracy demonstrations in Beijing ended in slaughter when thousands of Chinese troops began firing on crowds of protesters in Tiananmen Square. Hundreds of people, possibly thousands, were killed; a death toll was never released.

Nearly 30 years later, China is still not a democracy. Its trend, on display in 1989, of allowing economic but not political liberalization continues. And in some ways, the protests had the opposite of their intended effect: The crackdown provided a visceral demonstration of how far the government would go to suppress dissent, which discourages some would-be activists to this day. But an iconic image from June 5, of a lone, still unidentified man standing in front of a column of tanks, endures as an emblem of defiance in the face of overwhelming odds.

Vaclav Havel greeting supporters in Prague in December 1989. A dissident playwright, he would become president after the Velvet Revolution.

Velvet Revolution, 1989

Eight days after the Berlin Wall fell, signaling the beginning of the end of East Germany's Communist government, the students of neighboring Czechoslovakia stepped in to topple their own.

The uprising began with thousands and grew until Prague was flooded with 500,000 protesters, who stayed stubbornly peaceful even as riot officers attacked, giving the revolution its name. Just 11 days after the protests began, the Communist Party of Czechoslovakia relinquished power, paving the way for the playwright Vaclav Havel to become president in December.

It was an extraordinary revolution — "swift, entirely nonviolent, joyful and funny," said the author Timothy Garten Ash — and one of the most rapid and complete successes for a student-led movement in modern history.

A student overcome by tear gas at the University of Tehran in July 1999.

Iran, 1999

After a series of scuffles between college students and the police in July 1999, officers raided a dormitory at the University of Tehran, wounding at least 20 people and jailing 125. If their goal was to stop the unrest, the police could not have gone more astray: In response, more than 10,000 Iranian students took to the streets.

In the short term, the protests forced officials, including President Mohammad Khatami and Ayatollah Ali Khamenei, to condemn the police raid. The ayatollah urged restraint even if students "set my picture on fire or tear it," a remarkable directive from a government not normally tolerant of political dissent.

But perhaps more important were the long-term consequences. Since Iran's 1979 revolution, student activists had generally been tied to political parties. After the 1999 protests, that ceased to be the case. And while Iran's society and politics remain tightly regulated, the tradition of student activism has continued there, more so than in many countries with similar political systems.

A Black Lives Matter protester in St. Louis in September, after the former police officer Jason Stockley was acquitted of murder in the shooting of Anthony Lamar Smith.

Black Lives Matter, 2013-present

The Black Lives Matter movement began with three women in their late 20s and early 30s: Patrisse Cullors, Alicia Garza and Opal Tometi. But when it exploded into national view in 2014 after the police killing of Michael Brown, 18, many of the protesters who filled the streets of Ferguson, Mo., were students.

Like the students of Parkland, they were protesting gun violence — but by the police, often involving unarmed black suspects, in shootings captured on video. Unlike the students of Parkland, they were not lauded in the prevailing public narrative, a discrepancy that some Black Lives Matter activists have noted in recent weeks. Instead, they were frequently labeled troublemakers and thugs.

But even as questionable police shootings happen, convictions of officers remain rare, and protests on the streets continue, Black Lives Matter has had a fundamental impact on the national conversation about racial bias and the use of excessive force by the police.

Source: https://www.nytimes.com/2018/03/05/us/student-protest-movements.html
Accessed: March 16, 2020

STOP AND JOT:
Which of the seven cases mentioned in this article can you connect with the most? Describe how you relate.

Why Demonstrating Is Good for Kids

By Lisa Damour
March 12, 2018

Maya Morales, 15, holds a sign during a walkout and demonstration for gun control last month at Anderson High School in Austin, Texas.

Participating in political activism may be good for our teenagers, according to a new research report.

The study, published in January in the journal Child Development, found that late adolescents and young adults who voted, volunteered or engaged in activism ultimately went further in school and had higher incomes than those who did not mobilize for political or social change.

By tracking nearly 10,000 young people from a wide variety of ethnic, racial and economic backgrounds, researchers from Wake Forest School of Medicine, Fordham University and the University of Massachusetts measured the long-term implications of youth political and social engagement. Remarkably, they found that civic activity linked to better academic and financial outcomes regardless of early school performance and parental education levels, two factors that usually drive later success.

Of course, correlation does not prove causation, but the study makes a case for the benefits of civic engagement.

In light of the findings, Parissa Ballard, the study's lead author and an assistant professor in the department of family and community medicine at Wake Forest School of Medicine, said that "having meaningful opportunities to volunteer or be involved in activism may change how young people think about themselves or their possibilities for the future."

The research is especially timely as American students consider whether to participate in the National School Walkout planned for Wednesday.

In the aftermath of the killing of 17 students and teachers in Parkland, Fla., teenagers around the country are planning to leave their school buildings on Wednesday at 10 a.m. for 17 minutes, a demonstration meant to honor the victims and advocate for gun control. Taking part in a single event — whether this one or another that matches the child's political leanings — may not, by itself, alter the trajectory of an adolescent's development. But the study's authors suggest that positive, lasting outcomes may result if organized civic engagement helps young people galvanize their belief in their personal efficacy, connect to empowering social networks or cultivate professional skills.

Indeed, the teenage survivors of the Marjory Stoneman Douglas High School shooting are already making a difference: Gov. Rick Scott of Florida credited them with inspiring new gun control legislation he signed last week.

For teenagers who intend to participate in the National School Walkout, this same study comes with an interesting caveat: Not all forms of political and social action confer equal benefits on young people. Though voting and volunteering both forecast lower levels of depression and smarter health choices down the line, activism does not. "Activism," Dr. Ballard said, "is usually a different social experience than other forms of civic engagement." While casting ballots and serving others both enjoy broad cultural support and are reliably gratifying, "activism tends to be more controversial. Activism can be empowering. But it can also be experienced as difficult and stressful."

Indeed, the youth who engaged in activism — defined by the researchers as participating in a march or rally — enjoyed the positive benefits of greater educational attainment and larger incomes as they aged. But unlike those who only voted or volunteered, they also went on to engage in higher levels of risky health behaviors such as eating fast food, smoking cigarettes, using marijuana or binge drinking when they were between the ages of 24 and 32.

The study's authors propose two possible explanations for this.

First, activists have, historically, often been members of counterculture groups where risk-taking may already have been the norm. Second, activists might become discouraged by the glacial pace of social change and turn to poor health habits to manage their frustration.

"We can help young people reframe their expectations from big ideas to small wins," Dr. Ballard said. "The expectation shouldn't be changing federal policy right away, but getting news coverage and raising awareness."

According to Dr. Ballard, adults can also help teenagers feel that their activism is effective by making it about connection: "connecting with others, connecting with a

cause and connecting with what's already going on." While most teenagers are too young to express their opinions by voting, participating in rallies is a way to make their voices heard. Those who want to join the effort to end school shootings can look to the student-led March for Our Lives movement to learn about the global rallies scheduled for March 24 — a Saturday, so there is no conflict with classroom time.

Of course the decision about whether to support or disapprove of a teenager's activism is as personal as any in family life. Some adults will cheer on students who wish to participate in the walkout while others may oppose them or worry about the potential safety hazards, educational costs or disciplinary consequences of joining in. While some schools have threatened to suspend students who participate, legal scholars say students have the right to demonstrate unless they are disruptive. And dozens of colleges and universities said that any disciplinary actions against those participating in the protests would not affect their admissions decisions.

Looking at the issue from a social science perspective, adults should nurture adolescents' efforts to catalyze political and social change because civic engagement can help teenagers grow. America has a long history of benefiting from the activism of young people; it's good to know that the young people usually benefit, too.

Source: https://www.nytimes.com/2018/03/12/well/family/why-demonstrating-is-good-for-kids.html
Accessed: March 16, 2020

‘Young people are angry’: The teenage activists shaping our future

Fed up with waiting for the older generation to sort out its problems, a growing number of teenage activists are taking matters into their own hands. Here, six motivated people reveal why they’ve decided to fight for a better world.

In a political climate where most adults are inert with despair, a growing number of teenagers are responding with action. After 14 children and three adults were massacred at Marjory Stoneman Douglas High School in Parkland, Florida, it was students – not parents, teachers or political representatives – who organized themselves to campaign for changes to US gun laws. The March for Our Lives demonstration in Washington, DC on 24 March was accompanied by sister marches around the world: millions of young people supporting each other and demanding policy reform. Lead campaigner Emma González, a high-school student who now has more than 1.5m Twitter followers, made a call to arms for her peers to: “Fight for your lives before it’s someone else’s job.”

González is one of many teenagers shattering the stereotypes of the lazy, entitled, self-obsessed millennial. More and more teenagers are noisily questioning the world they’re inheriting and demanding things work differently. Here, we meet some of the young activists whose voices are increasingly impossible to dismiss.

Amika George, 18, London: Campaigning against period poverty

Last spring, I was watching the news when there was a report on girls in the UK missing school because they couldn’t afford menstrual products. Some were using toilet paper, newspaper or socks. Thinking about girls my age going through this hit me hard. The report gained attention, but I felt the government was sweeping it under the carpet and we needed to pressure them to do something. So I did what felt normal to me and went online and started a petition. It calls for free menstrual products for children on free school meals. I didn’t imagine even getting 100 signatures. But in between revising for AS exams, I emailed as many people, companies and universities as I could. I asked my parents to send it around their work. My dad was a bit reluctant at first, but he did.

There’s huge embarrassment about periods, but it’s something half the world’s population will go through for a week every month. That it’s a taboo holds us back in achieving gender equality. Within two weeks, the petition reached 2,000 signatures. Comments were divided between people being shocked that this happens and others saying it affects them or their friends. Hearing that made me want to fight harder.

When the general election was announced, I emailed the parties. The Green party and Women’s Equality party both replied and included a pledge in their manifesto. I was so frustrated I couldn’t vote. Then in December we organized a protest outside Theresa May’s bedroom; more

than 1,000 people came and shouted. To date, 150,000 people have signed the petition. It's sad when adults are surprised to hear a young person being politically vocal. Young people are angry about the state of the world and a lot of us use social media to articulate that. I get asked to speak a lot.

The other morning, a TV station sent a car to school, I left for an hour, spoke on the issue and came back to a history lesson. My parents are supportive and as surprised as me that this has taken off. My dad went with me to the Women's March, which was cool. But sometimes my mum can get annoyed if I'm doing lots of campaign stuff with exams coming up.

Xiuhtezcatl Martinez, 17, Colorado: Climate change activist

If someone tells me I should be in school right now, I know that they don't see the bigger picture. Earth's ability to support human life is falling apart and if things don't change in the next five to 10 years, nothing's going to matter.

I'll finish high school, but right now this is the most important thing I can do with my time. Myself and 20 other kids are currently suing the Trump administration for violating our constitutional rights for failure to act on climate change. We originally launched it against the Obama administration a few years ago. The US government has known the fossil fuel industry is having a negative impact on our climate, yet they have been offering them subsidies and opening up land to exploration. We have just heard that we are going to trial in October.

I'm also involved in law actions and civil disobedience to stop fracking around my hometown of Boulder. In 2012, my friends and I successfully helped push for a five-year ban.

From a young age, I was aware of my part in protecting our planet. I was three or four the first time I went on a protest, and six when I started speaking at them. I was born in Colorado and have spent a lot of time in Mexico. My entire childhood was travelling, hanging out in nature and learning about my family's indigenous heritage. My dad taught me that we have a responsibility to protect the Earth the way that our ancestors did.

I've spoken at the UN about my work. I was surprised how disrespectful, disconnected and sterile it was. The delegates were on their phones, not listening. They perked up when they heard I was just 15 years old. The power of me speaking wasn't for them but for the millions of people my speech has since reached online.

The world is seeing how powerful young people are and how things are going to change. Adults on CNN and in the United States specifically, they can argue and cover gossip about Trump and his hair and porn stars. But young people are mobilizing on the streets.
There's so much power in what's happening within our generation. We don't have the respect we deserve, but I think it's coming.

Shiden Tekle, 18, London: Diversity in the media

I've been racially abused since about 12, but it was never seen as an important thing to tackle. At secondary school, white children called me disgusting things, but teachers would turn a blind eye. And not just to racism, but sexism, homophobia, transphobia. There's also internal racism in the Eritrean community. My dad is called names because he has darker skin. It all comes from preconceived ideas that black is less, or the darker you are the lower you are in terms of income, society and politics.

Because these problems weren't taken seriously, I normalized them. But when I moved to a sixth form where the majority of students are black girls, I was surrounded by political and social consciousness. The more educated I got, the angrier I became. Last summer, I joined an organization called the Advocacy Academy and, with a small group of people my age, we launched a campaign challenging the image and under-representation of black people in the media. We recreated iconic posters, such as *Doctor Who*, *Titanic* and *Harry Potter*, and made all the characters black. The campaign is rooted in personal experiences and I've gone from talking about things with my friends in the lunch hall to speaking about them nationally.

The Academy has revolutionized the way I think. Back in the day I definitely upheld toxic masculine identities. I'd tell myself that I didn't cry. Challenging gender norms wasn't of interest to me because I wanted to fit in with my friends. But I've learned to let go of my ego and be vulnerable so I can say what's on my mind. It's allowed me to take all the cold anger I have built up over years and turn it into something good. I've learned to become an ally to many other issues that don't affect me directly.

After university, I don't just want to get a really good job, buy a big house and forget about my community. I want to change something and challenge the status quo.

Muzoon Al-Mellehan, 19, Newcastle: Education for refugee children

Even before the war in Syria, I wanted to change society, but I knew I needed to get educated to do that. Back then, we had a normal life. We went to school every day and saw our friends. The war started when I was 11 or 12. Going to school became difficult. There were people fighting on the ground, there would be bombing, sometimes bullets. Sometimes school was just closed because of budgets. My father is a teacher and he lost his job.

We left Syria five years ago, when I was 14. I was so worried about my future and education. We went to a refugee camp in Jordan. I didn't expect there to be a school, but I was happy to discover a caravan with a tent and some teachers. There was no electricity. We studied computing from a book. In the winter, it got so cold it was hard to focus on the teacher.

But school gave me hope. And I started to encourage other girls and boys to go, too. I would walk from tent to tent, caravan to caravan, persuading kids and parents. I met people who thought that because we are refugees, education isn't important any more, or that they'd continue school when they returned to Syria. I encouraged people to believe in themselves and not give up. I met kids who'd never been to school, and girls who saw marriage as their profession. Some parents told me it had nothing to do with me. I fought hard for everyone to believe that we can't do anything without knowledge and got involved with international charities who supported me.

What's happening in my country is not of our making and it's not our fault that we're losing our rights. One day, we'll be able to return, and we need to have knowledge. After three years in Jordan, my family came to the UK. Last year I became the youngest and first refugee Unicef Goodwill Ambassador. I'm now on my way to university and am doubling my activism.

Ellen Jones, 19, London: Campaigning for LGBTQ+ rights

I came out at 14. When you're a young LGBTQ+ person and you come out, you're put in this position where you are suddenly expected to educate your peers. I'd be in a lesson and someone would ask me an incredibly inappropriate question. People feel like they have permission to access all of you when you're still figuring things out for yourself.

At the same time, someone in my class was sending me online anonymous, violent messages, telling me to kill myself. My school didn't know what to do with it. At one point, they had contacted my parents, pushing me to come out to them, too, and it all became detrimental to my mental health.

I don't come from a political family, but I've always had a strong sense of fairness. After coming out, I started making educational YouTube videos on LGBTQ+ issues and people watched them. I also worked with my school to establish support systems and visibility for LGBTQ+ pupils. I got together with teachers to set up a group. We held events and assemblies, and suddenly others wanted to join. I worked with the school to run surveys of the staff and students, so we knew the issues that needed addressing.

As part of a Stonewall youth program, I started a YouTube series called Queeries. I invite anyone to submit questions, however inappropriate or silly, and I sit down with another LGBTQ+ person and we answer them. Part of that is creating space for difficult questions, but also to give others a platform. I am very aware of the fact that I am white, middle-class and able-bodied, and there are a lot of things I feel I can't speak to. I have been diagnosed with bipolar disorder and autism, but campaigning is always something I've felt able to do.

I was happy to do the work with my school, and I know that education resources are stretched, but schools shouldn't rely on pupils to affect change. That puts pressure on young people to challenge things adults should be addressing.

Many young people think they aren't going to amount to anything because of all the headlines we read. But that's designed to discredit our concerns about how the world's being run. A lot of people in control are invested in the world as it currently stands; to suggest that things aren't great the way they are scares them.

Emma González, 19, Florida: Gun-control activist

We are going to be the kids you read about in textbooks. Not because we're going to be another statistic about mass shooting in America, but because we are going to be the last mass shooting. Just like Tinker v Des Moines, we are going to change the law. And it's going to be due to the tireless effort of the school board, the faculty members, the family members and most of all the students. The students who are dead, the students still in the hospital, the students now suffering PTSD, the students who had panic attacks during the vigil because the helicopters would not leave us alone, hovering over the school for 24 hours a day.

If President Trump wants to tell me to my face that it was a terrible tragedy and how it should never have happened and maintain telling us how nothing is going to be done about it, I'm going to happily ask him how much money he received from the National Rifle Association.

It doesn't matter because I already know: $30m. And divided by the number of gunshot victims in the United States in the first one and a half months of 2018 alone, that comes out to being $5,800 each. Is that how much these people are worth to you, Trump? If you don't do anything to prevent this from continuing to occur, that number of gunshot victims will go up and the number that they are worth will go down. And we will be worthless to you.

To every politician who is taking donations from the NRA, shame on you. The people in the government who were voted into power are lying to us. And us kids seem to be the only ones who notice and call BS. Companies trying to make caricatures of the teenagers these days, saying that all we are is self-involved and trend-obsessed and they hush us into submission when our message doesn't reach the ears of the nation, we are prepared to call BS.

Politicians who sit in their gilded House and Senate seats funded by the NRA telling us nothing could have been done to prevent this, we call BS. They say tougher guns laws do not decrease gun violence. We call BS. They say a good guy with a gun stops a bad guy with a gun. We call BS. They say guns are just tools like knives and are as dangerous as cars. We call BS. They say no laws could have prevented the hundreds of senseless tragedies that have occurred. We call BS. That us kids don't know what we're talking about, that we're too young to understand how the government works. We call BS.

This is an edited transcript from the speech student and activist Emma González gave at the anti-gun rally in Fort Lauderdale on 17 February 2018.

Source: www.theguardian.com/society/2018/may/13/young-people-are-angry-meet-the-teenage-activists-shaping-our-future
Accessed: March 16, 2020

Seven Young Activists to Watch Ahead of the 2020 Elections

From climate change to gun control, a new generation of activists is holding elected officials accountable for crises that they've helped create.

BY RACHEL JANFAZA

There's a lot at stake in the 2020 elections: addressing the climate crisis, securing voting rights, taking action on gun control, and addressing exorbitant student-loan debt.

For young people most affected by these pressing issues, there's no time to waste. A new generation of activists under 25 is pushing elected officials to answer for crises that they've helped create. As the presidential campaign gains momentum, these young activists are determined to direct the conversation.

Ja'Mal Green, 23, Chicago, Illinois

A 23-year-old Chicago native, Ja'Mal Green jumped into the political fray in 2018, running to unseat then Mayor Rahm Emanuel. But Ja'Mal's activism predated the race. He rose to prominence advocating for young people in his community after 17-year-old Laquan McDonald was fatally shot by police in 2014, and he soon became a leading voice in the local Black Lives Matter chapter. Ja'Mal served as a surrogate to the Bernie Sanders campaign in 2016 and made national headlines when he successfully shut down a Donald Trump rally. Today, Ja'Mal is mentoring young people on entrepreneurship and financial literacy, and working to build the first 24-hour community center on the South Side of Chicago.

What is the most pressing issue you want to see your dream candidate address?

"I want to see a candidate address the root causes of why there is gun violence in communities of color throughout the country. When you talk about those root causes, it's going to be addressing the economic disparities: economic development, infrastructure, and jobs. It's going to be debt. So many things contribute to the state of violence in communities throughout this country, and I want to see who has the best plan to address those root causes," Green told *Teen Vogue*. "Criminal justice is attached to that....Hopefully we legalize cannabis federally, but we need to mass-expunge records and get people out of prisons throughout this country. We need to ban private prisons. We need to talk about how the criminal justice system is making money off of every conviction....What the prison system has done to black and rural communities for the past few decades is despicable, to say the least. Criminal justice reform is key, as is giving a path to real citizenship for those who reenter society."

Arielle Geismar, 18, New York City

At only 18, Arielle Geismar has made a name for herself advocating for gun control legislation and women's rights in New York City. Though she recently took on the role of associate director at Gen Z Girl Gang, Arielle has spent over a year fighting for gun safety as the New York state president of Team Enough. Arielle navigates what she calls the "divide" between New York City, a city with some of the most progressive gun laws in the country, and upstate New York, home to a pervasive culture of guns and gun ownership. This year, Arielle worked with state legislators and Governor Andrew Cuomo to pass what's called an "extreme risk protection order," which, according to the bill, "prohibits individuals from purchasing or possessing guns if a court finds they are likely to harm themselves or others." She also serves as the national action chair of the Next Gen Activist Women's Caucus. Arielle credits her social justice work to her Jewish background, saying her religious upbringing taught her the value of speaking up.

How do you plan to change the 2020 conversation?

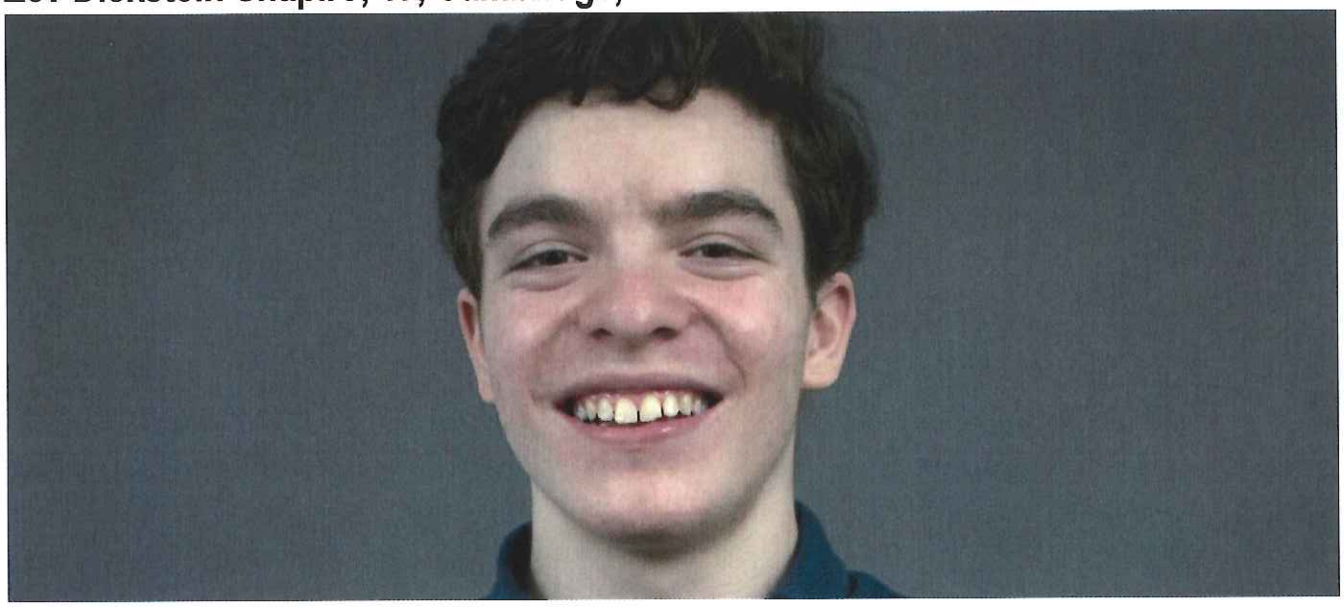
"The conversation needs to stop being about mass shootings and the NRA. When we think about the conversations we have after a mass shooting, it's a cycle of shock. It's 'Oh my God, how did this happen?' and then it's 'Why is this happening?' We need to acknowledge that the NRA is a special-interest group. We need to stop involving special-interest groups in our decision-making and in our civil discourse," Arielle told *Teen Vogue*. We also need to be moving away from the idea that gun violence is mass shootings because it's not. Gun violence is domestic violence, police violence, and suicide; it's inner-city violence and gang violence. We need to be approaching this issue in a more intersectional way. If our movement isn't intersectional, our movement isn't valid."

STOP AND JOT:

What do the two teens you just read about have in common?

How are their platforms similar? How are they different?

Zev Dickstein Shapiro, 17, Cambridge, Massachusetts



Zev Shapiro, a 17-year-old social entrepreneur from Cambridge, Massachusetts, wants to start a social media revolution. His team recently launched a new app, Turnout, with the aim of creating a social media platform that will allow young activists to engage, connect, and organize across the country. After successfully petitioning for healthier foods in his elementary school cafeteria, Zev got involved with a number of campaigns, including those of Senator Ed Markey and Massachusetts Attorney General Maura Healey. He even attended the State of the Union with Senator Elizabeth Warren in 2014. Turnout will connect activists, inform users about local events, and engage with larger organizations. Thanks to a partnership with TurboVote, users will also be able to register to vote through the app.

Do you have a 2020 plan?

"We are hoping to release Turnout to everyone in early 2020. We want to use it to increase activism among young people while also increasing voter turnout in 2020. We are hoping to see record levels, maybe over 65 percent, through getting young people engaged in our democracy, sustaining over long periods of time," Zev told *Teen Vogue*. "Every day we are getting people active, so that on Election Day, this is one of the normal things people are doing in our democracy. We want our generation to make a huge impact in 2020 as one of the largest — hopefully *the* largest — voting blocs, in terms of the age group 29 and under. We think our platform will help this generation get there."

STOP AND JOT:

What are some ways that young people can engage in activism in the St. Louis community?
Do you (or any of your friends or family) participate in activist projects or organizations?

Katie Eder, 19, Milwaukee, Wisconsin

In March 2018, Katie Eder, then 18 years old, marched 50 miles over four days to Paul Ryan's hometown in a Selma-inspired endeavor to protest Ryan's "lead role in blocking gun reform." Katie, now 19, is the founder of Future Coalition, a national network and community for youth-led organizers and leaders. Future Coalition works to provide youth organizers with the resources they need to mobilize and connect youth leaders from around the country. Currently, Katie and her coalition are gearing up for the September 20 climate strikes, set to be the largest youth-led strikes to date.

What is the most pressing issue you want to see your dream candidate address?

"If we do not elect people into office in 2020 who are going to take swift and immediate action to address the climate crisis, we are, as a country and as a planet, in really big trouble," Katie told *Teen Vogue*. "I think that climate change is going to be the number-one voting issue of 2020. Over the next few months we will see a shift and see a lot of people, young people and adults alike, who are thinking about and planning to vote because of climate. The message that I think is going to be the most powerful for 2020 is that we need to vote for our futures. If we want to have a future on this earth, we need to get people into office who understand that this is an emergency. All of the other issues are important, but if we want any chance of solving those problems, we need a planet to live on."

STOP AND JOT:

How does Katie Eder's platform compare with Ja'Mal Green and Arielle Geismar (the first two teens in the article)?

Ameer Abdul, 23, Columbus, Ohio

Ameer Abdul recently graduated from Ohio State as a biology major and premed student. Before applying to medical school, he is taking time off to work with Period, a youth-led nonprofit that serves, educates, and advocates for issues of menstrual equality and helps make menstrual products readily available. Ameer started the Ohio State chapter of Period, where he successfully pressured the school into supplying each bathroom on campus with free menstrual products. He has also publicly advocated for the end of the "pink tax" in Ohio.

What's one issue that's nonnegotiable for you when it comes to the 2020 election?
"I would have to say there are a couple things. First and foremost is being a strong supporter of the issues surrounding climate change and being a strong supporter of gender equality and breaking those barriers. Those are the issues that have led to a number of other problems that have grown in this country," Ameer told *Teen Vogue*. "To give you an example with Period, I believe it's the stigma that eventually caused period poverty, not the other way around. If we didn't have stigma surrounding period poverty, it would have been much easier to combat and we could have ended it a long time ago."

Hailey Hardcastle, 18, Sherwood, Oregon

Hailey Hardcastle, 18, recently received national recognition for helping to secure mental health days as sick days for Oregon students. For more than three decades, the suicide rate in Oregon has surpassed the national average. Hailey felt it was her responsibility to advocate for an issue so prevalent in her own community. Hailey told *Teen*

Vogue that she's committed to improving mental health nationwide. Her organization, Students for a Healthy Oregon, is working with peers across the country to help similar groups in other states with their own movements. Hailey said that when it comes to mental health, it's critical to advocate for policy on a state-by-state basis, as every school district has its own policies and different communities have their own needs.

What is the most pressing issue you want to see your dream candidate address?
"School safety, for sure. Whether it comes in the form of gun laws or mental-health reform, anything that can help our schools be a safer place, that's what I'd like to see our candidates talking about."

Jerome Foster II, 17, Washington, DC

Jerome Foster told *Teen Vogue* he was "surrounded by activism" as a young person growing up in DC. In 10th grade, Jerome started interning for National Geographic. After taking part in a Nat Geo expedition to Iceland and witnessing firsthand the way in which climate change directly impacts an ecological community, Jerome helped organize the 2018 DC youth climate march. He has continued striking against climate change every Friday since then. Jerome also founded the Climate Reporter, an organization of students who write about the climate crisis and provide a platform for people from rural communities to speak about their own experiences with the effects of climate change. Today, Jerome is on the cusp of launching a new organization, OneMillionOfUs, which he told *Teen Vogue* will "galvanize a new generation of voters around the five major social movements: gun violence, climate change, immigration, racial equality, and gender equality."

What are you most excited about for 2020?
"I'm most excited about young people. In 2018 we had a 188% surge in early voting records and a 10% increase in actual turnout rates. I'm really excited for young people to be engaged in politics because when young people are engaged in politics, we have a more fair political system. Young people don't have special interests; we don't have anything that holds us back. We are purely trying to make sure that our future is safe and that we have a livable future with clear air, clean water, affordable college," Jerome told *Teen Vogue*. "My generation isn't fooled. We understand that we have input in the situation and that this isn't how we should live. We don't want change; we need change."

Source: https://www.teenvogue.com/story/teen-activists-to-watch-2020-elections
Accessed: March 16, 2020

Name: _____ Date: _____ Period: _____

ARTICLE OF THE WEEK TITLE: _____

Step 1. Number the paragraphs in the article if they are not already numbered (if you have a printed copy of the article).

Step 2. Read the entire article, annotating the text as you read to practice close reading. Circle any unfamiliar vocabulary words in the article, underline key ideas, and jot notes in the margins (at least 3 high level questions and at least 1 quality comment per paragraph). Remember – Random underlining or highlighting by itself is coloring, not close reading. If you do not have a printed copy of the article, take notes in your notebook.

Step 2. Complete the post-reading activities. (Please be sure your responses are thoughtful and high-quality. This is where you engage in deeper thinking about the article you read and practice a variety of standards-based skills to improving your reading.)

Step 3. Create a citation for the article using MLA format. (There are lots of citation generators on the internet or you can use the example you have in your class notes.)

Summary Statement: ***Write a summary statement for the article (approximately 50 words or less) in which you include the title, a summary verb, and the sentence completed with the main idea / main point of the article.***

Sample: The article, "Coming Soon to a Classroom Near You ... RoboRoaches," explores a new technology that controls a cockroach with a smart phone and the various uses for this discovery.

_____

_____

_____

_____

_____

_____

_____

Vocabulary Journal Entries: ***Complete 3 entries using words from the text.***

Word:	**Part of Speech:**	
Definition:		
Sentence:		
Visual Representation	**Synonyms**	**Antonyms**

Word:	Part of Speech:
Definition:	
Sentence:	

Visual Representation	Synonyms	Antonyms

Word:	Part of Speech:
Definition:	
Sentence:	

Visual Representation	Synonyms	Antonyms

Reflection: ***Choose one of the following reflection prompts (or complete the option assigned for the week) and complete your response on a separate sheet of paper.***

1. Choose 3 interesting quotes or passages from this week's article and write a 2-3 sentence reflection for *each* in which you explain their meaning and/or importance.
2. Write down 5 things you learned by reading this week's article. Which of these 5 do you think is *most important* to know? Explain in 3-5 sentences.
3. After reading the article, create a T-chart. On the left side, bullet the key points of the article. On the right side, list what the article doesn't say. What has been left out? You should include at least 3 bullet points. Write a brief 4-6 sentence paragraph summarizing your list and explaining why you think it was left out.
4. If an article contains bias (an opinion; prejudice), identify the bias and explain the "other side" in 4-6 sentences.
5. In 3-5 sentences, explain *in your own words* the author's point of view.
6. Pros/Cons to an issue. Take a position and then support it with 3 reasons from the text. Your paragraph should be 4-6 sentences minimum.
7. Three important points/ideas are ... because ... (5-7 sentences)
8. In 3-5 sentences, explain the author's purpose and intended audience.
9. Choose 3 of the following sentence starters and write a brief 2-3 sentence reflection for each:
    - I noticed...
    - I wonder why...
    - I was reminded of...
    - I am surprised that...
    - I'd like to know...
    - I realized...
    - I can relate to this because...
    - If I were...
    - The central issue(s) is (are)...
    - Although it seems...
    - I still don't understand...
    - What interested me most was...
    - The author wants the reader to think...
    - This idea/article is similar to...

How Government Works: What is citizenship?

By Encyclopaedia Britannica, adapted by Newsela staff on 02.24.17
Word Count **662**
Level **MAX**

Citizens in California vote during the 2008 presidential election. Choosing a leader of the government, like the president, is a right citizens have. Photo from: Associated Press.

Citizenship is everything that has to do with being a citizen, or full member, of a country. Citizens have rights that are given by the country's government. For example, citizens have the right to be protected by a country's laws. In return, citizens have duties that they owe to the country. One of the most important duties is being loyal to the country.

Citizenship is different than nationality. A person's nationality tells which country that person (called a national) is from. But nationals from a certain country are not always citizens of that country. They may have gained citizenship in another country, or they may have lost their citizenship. People who live in a country but are not citizens or nationals of that country are called aliens.

Becoming A Citizen

Every country has its own rules about who is a citizen and how to become one. Many countries have set up four basic ways to become a citizen. First, anyone who is born in the country is a citizen of that country. Second, anyone whose mother or father is a citizen of the country is also a

citizen. Third, anyone who is married to a citizen becomes a citizen. Fourth, a person who goes through a process called naturalization becomes a citizen.

Naturalization is a method for people who are born in one country to become citizens of another country. Laws on naturalization are different from country to country. Usually, people who want to be naturalized must have lived in the new country for several years and must speak the country's language. They may have to pass a test about the country's laws and history and often they must take an oath, or swear to be loyal to the country.

Rights And Responsibilities

Citizens have certain rights, and some countries give their citizens more or different rights than other countries. Citizens usually have the right to vote and the right to be elected to government jobs, as well. Other rights of citizens may include the right to follow any religion and the right to speak freely.

Citizens also have duties, or responsibilities. Voting is a responsibility as well as a right. Citizens must vote to make sure that their government works for the good of its citizens. Citizens also may have the duty to serve on a jury during a trial in court. Some countries make serving in the military a duty of all citizens.

Aliens may have some of the same rights as citizens but they usually cannot vote or serve in the government. Aliens also have some of the same responsibilities as citizens. They must obey the country's laws and they often must pay taxes as well.

Losing Citizenship

People cannot lose their citizenship except in very special cases. A government may take away the citizenship of someone who becomes a naturalized citizen of another country. A government also may take away the citizenship of people who show allegiance to another country. Examples of this include voting in a foreign election and serving in a foreign military. Trying to overthrow the government by force is a serious crime that can result in loss of citizenship. Naturalized citizens who commit serious crimes may lose their citizenship as well.

People who have lost their citizenship can end up as citizens of no country, in which case they are called stateless persons.

Quiz

1 Read the summary below. Choose the answer that BEST fits into the blank to complete the summary.

Citizenship refers to being a full member of a country. _____. They also have duties, like serving on a jury or serving in the military. Every country has different rules for who is considered a citizen, how to become a citizen and how to stay a citizen.

(A) Citizens have rights that are protected by the government, such as freedom of religion and speech.

(B) Citizens have responsibilities to their countries, like paying taxes and voting in elections.

(C) Naturalization is a process that people can go through to become citizens of a different country.

(D) Sometimes people's nationality (where they are from) is different from their citizenship (where they are citizens).

2 What is the MOST likely reason the author included the example about voting in a foreign election?

(A) The author wanted to give information on how naturalized citizens are different from other citizens.

(B) The author wanted to show that it is possible for people to have their rights as citizens taken away.

(C) The author wanted to explain part of the process for becoming a citizen in a foreign country.

(D) The author wanted to highlight the rare cases in which aliens become stateless persons instead of citizens.

3 Read the sentence from the introduction [paragraphs 1-2].

One of the most important duties is being loyal to the country.

Which selection from the article describes a consequence for not following through with this duty?

(A) They may have to pass a test about the country's laws and history and often they must take an oath, or swear to be loyal to the country.

(B) Citizens also may have the duty to serve on a jury during a trial in court. Some countries make serving in the military a duty of all citizens.

(C) Aliens may have some of the same rights as citizens but they usually cannot vote or serve in the government.

(D) Trying to overthrow the government by force is a serious crime that can result in loss of citizenship.

4 Which piece of evidence from the article BEST shows how becoming a citizen of another country is a complex process?

(A) But nationals from a certain country are not always citizens of that country. They may have gained citizenship in another country, or they may have lost their citizenship.

(B) First, anyone who is born in the country is a citizen of that country. Second, anyone whose mother or father is a citizen of the country is also a citizen. Third, anyone who is married to a citizen becomes a citizen.

(C) Naturalization is a way for people who are born in one country to become citizens of another country. Laws on naturalization are different from country to country.

(D) Usually, people who want to be naturalized must have lived in the new country for several years and must speak the country's language. They may have to pass a test about the country's laws and history and often they must take an oath, or swear to be loyal to the country.

Checking the facts about U.S. birthright citizenship

By PBS NewsHour, adapted by Newsela staff on 11.05.18
Word Count **792**
Level **1070L**

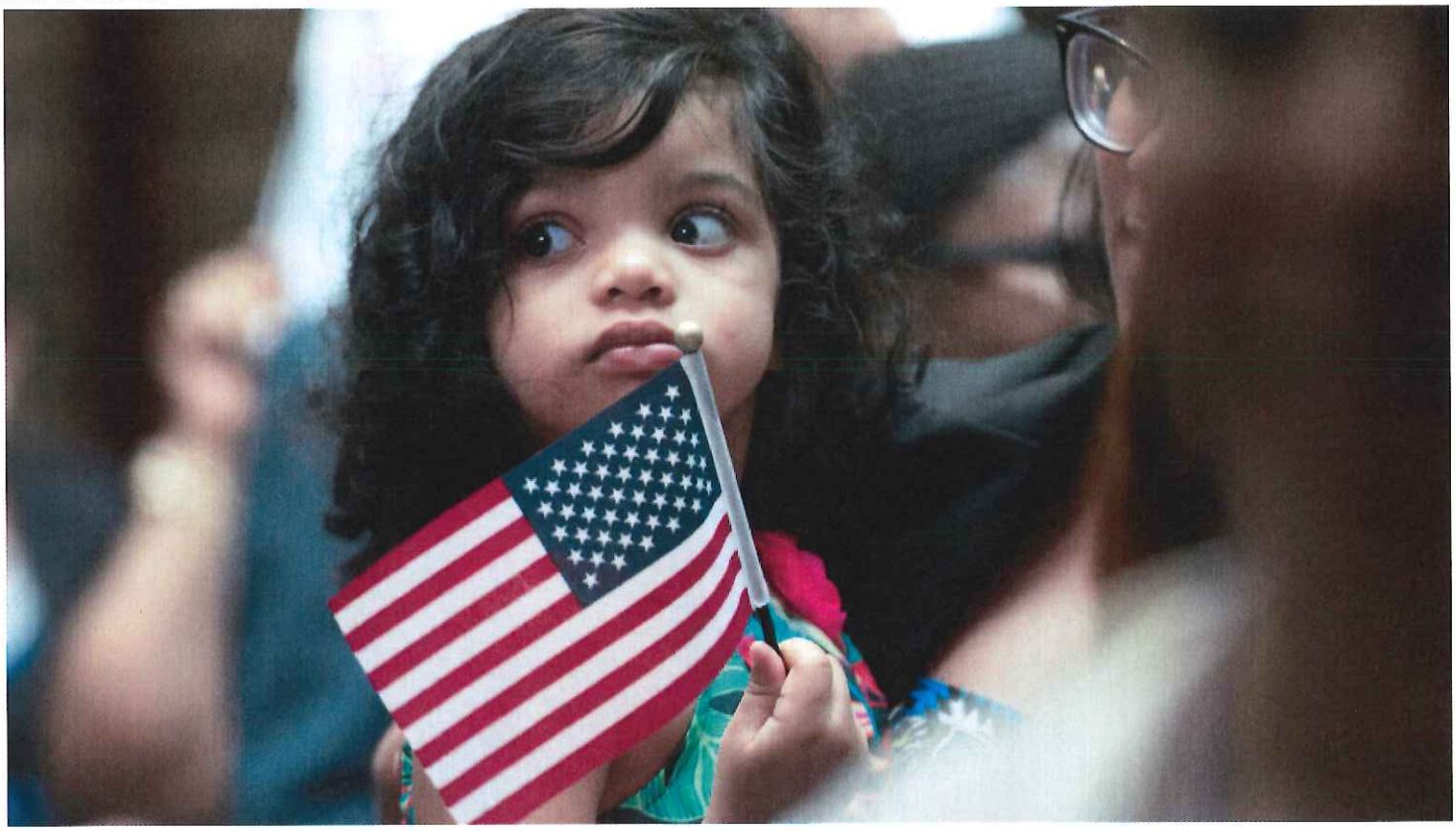


Image 1. A little girl holds the flag as the U.S. Citizenship and Immigration Services welcomes 200 new citizens from 50 countries during a ceremony in honor of Independence Day at the New York Public Library on July 3, 2018. Photo: Bryan R. Smith/Getty Images

All children born in the United States are automatically U.S. citizens, regardless of whether their parents are citizens or not. It's been that way for 150 years, ever since the 14th Amendment was added to the U.S. Constitution. However, President Donald Trump now says he wants to end such birthright citizenship.

There are plenty of questions over whether and how Trump could overturn the 14th Amendment. Let's set those questions aside for the moment, though. Instead, let's look at birthright citizenship itself. What do we know about how many people have birthright citizenship in the United States? And how has that group changed over time?

Here is a look at the facts.

Who Would Be Affected By A Change?

It is unclear who exactly would be affected if the White House were to overturn the 14th Amendment. Trump has yet to comment on that, said Mark Hugo Lopez, an expert on migration with the Pew Research Center.

Children born to mothers who are legal permanent residents with green cards could be affected, Lopez said. Children born to mothers who have temporary work or student visas could also be affected.

Children with parents who are unauthorized, or living in the country illegally, might also be affected, Lopez said. Parents are considered unauthorized for various reasons. It can be because they are undocumented, meaning they entered the country without registering with immigration authorities. Or, it can be because they overstayed a student, work or tourist visa.

In 2016, there were 4 million U.S.-born children with at least one parent who is unauthorized. Of those, 1.3 million live with two parents who are both unauthorized. Another 1.8 million live with one parent who is unauthorized and one who is a legal immigrant. Around 909,000 live with a single parent who is unauthorized.

U.S. Among Many Countries With Birthright Citizenship

Trump has misrepresented the uniqueness of our country's birthright citizenship law. In a recent interview he claimed the United States is "the only country in the world where a person comes in, has a baby and the baby is essentially a citizen of the United States for 85 years with all of those benefits."

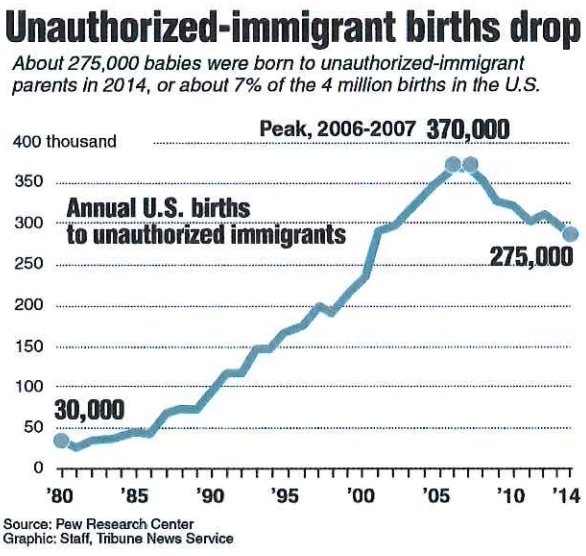
In fact, more than 30 countries have birthright citizenship. Among them are Canada, Mexico, Brazil and Argentina.

Births To Undocumented Immigrants Declining

In 2014, an estimated 275,000 children – or 7 percent of all births that year – were born to immigrants who were undocumented. That was down from 330,000 births in 2009, Lopez said.

"It's been declining almost a decade now," he said, along with the overall U.S. birth rate. In 2017, 3.8 million babies were born in the United States, the lowest recorded number of births in three decades and the largest single-year drop since 2010.

In 2016, about 23 percent of children born in the United States — more than 910,000 children — had mothers who were born in another country. These mothers include both immigrants who are undocumented and those who are here legally, as well as those who have become U.S. citizens. That number has dropped slightly from 25 percent — more than 1 million births to foreign-born mothers — in 2007.



Countries Of Origin For Parents Of U.S.-Born Children

The foreign-born mothers of U.S.-born children largely come from nine countries and Puerto Rico. People born in Puerto Rico are U.S. citizens, but government data counts them as foreign-born.

It is important to remember that the term "foreign-born" includes immigrants who have become citizens.

Mexico accounts for about one-third of all children born in the United States to foreign-born mothers. The other eight countries are China and India (5 percent each); El Salvador, Guatemala and Philippines (3 percent each); Honduras, Vietnam, the Dominican Republic and Puerto Rico (2 percent each).

Those opposed to birthright citizenship often point to so-called "birth tourism." They claim many women — particularly from China and Russia — travel to the United States to give birth, so their child will be a U.S. citizen. However, it is difficult to say how common this practice really is. The U.S. government does not track exactly how many women who come to the United States on tourist visas give birth while they are in the country.

"The numbers are really quite small," said Michael Fix, a senior fellow at the Migration Policy Institute. "Birth tourism is a reality, but I'm not sure it's a very big reality in the scheme of things."

Fix said Chinese immigrants, like those from other nations, are coming to the United States for economic opportunity. About half of all adult Chinese immigrants and 77 percent of adult Indian immigrants have a college degree, compared with 32 percent of U.S.-born adults.

Quiz

1 Read the two paragraphs from the section "U.S. Among Many Countries With Birthright Citizenship."

Trump has misrepresented the uniqueness of our country's birthright citizenship law. In a recent interview he claimed the United States is "the only country in the world where a person comes in, has a baby and the baby is essentially a citizen of the United States for 85 years with all of those benefits."

In fact, more than 30 countries have birthright citizenship. Among them are Canada, Mexico, Brazil and Argentina.

How is the central idea developed in these two paragraphs?

(A) It identifies other countries that are interested in having birthright citizenship laws.

(B) It indicates that the birthright citizenship law in the U.S. comes with benefits.

(C) It suggests that Trump's desire to end the birthright citizenship law might be based on misinformation.

(D) It provides several examples that prove that the birthright citizenship law is unique to the United States.

2 Which statement would be MOST important to include in a summary of the article?

(A) Overturning the 14th Amendment could affect children of foreign-born mothers who are legal permanent residents, on temporary visas or unauthorized to be in the U.S.

(B) Immigrants from China and India are coming to the United States for economic opportunity and many immigrants from those countries have college degrees.

(C) The U.S. government data counts people born in Puerto Rico as foreign-born even though they are really U.S. citizens.

(D) Children from El Salvador, Guatemala and Philippines each make up 3 percent of all children born in the United States to foreign-born mothers.

3 Read the first two paragraphs of the article.

How do these paragraphs introduce a MAIN idea of the article?

(A) It poses some questions about birthright citizenship that Trump thinks need to be answered.

(B) It explains several reasons why birthright citizenship has lasted for 150 years in the U.S.

(C) It states that Trump wants to end birthright citizenship and explains some reasons why.

(D) It explains what birthright citizenship is and that Trump wants to end it.

4 What is one reason why the author includes the information about the declining number of children born to immigrants who are undocumented?

(A) to suggest that the birthright citizenship law is no longer needed

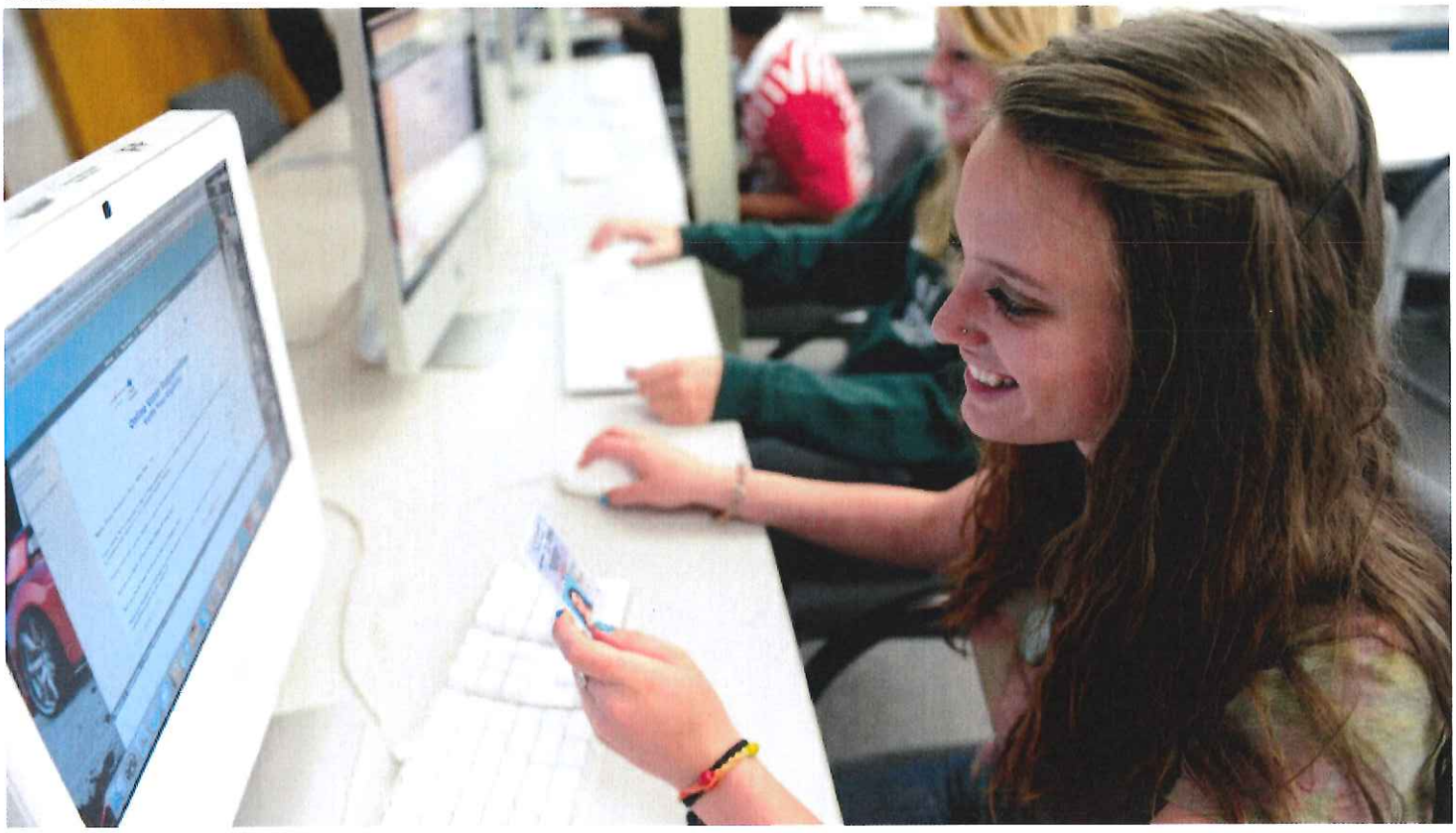
(B) to show that the birthright citizenship law is affecting fewer children than it used to

(C) to emphasize that fewer people are coming to the U.S. as immigrants who are undocumented

(D) to explain why the number of children born to immigrants who are undocumented is declining

With teens more politically active, support grows for lowering the voting age to 16

By PBS NewsHour, adapted by Newsela staff on 10.22.18
Word Count **945**
Level **1140L**



Rhea Boyd, 18, of Thomas Jefferson High School in Denver, Colorado, registers to vote online April 6, 2010. Some leaders believe the right to vote should be extended to 16- and 17-year-olds as well. Photo by: Hyoung Chang/The Denver Post via Getty Images

In April 2018, a Washington, D.C., city councilman proposed lowering the voting age in local and federal elections from 18 to 16.

Charles Allen had attempted to pass his bill once before, in 2015. The bill died in committee. This time, he said, he thinks there is more support. Since the early 2010s, a handful of communities, mostly clustered in the suburbs of D.C., have already lowered the voting age to 16 for local elections, and other cities are considering similar legislation.

Across the country, young people are pressuring lawmakers and staging protests against gun violence. They are acting in response to the Parkland, Florida, school shooting. Now, the question of when teens ought to have an electoral voice has resurfaced.

Constitutional law expert Michael Morley said states have the power to decide who gets to vote in state and local elections. He explained that the voting age was lowered from 21 to 18 in 1971, in response to young people fighting in the Vietnam War.

Who Has Lowered The Voting Age?

Brandon Klugman is the campaign coordinator at Vote16USA, an organization that lobbies for lowering the voting age. He said that four other cities currently have laws allowing 16- or 17-year-olds to vote. Three of them are in Maryland, while Berkeley, California, allows 16-year-olds to vote in school board elections only.

If 17-year-olds turn 18 before the general election, many states will let them vote in state and presidential primaries.

What Supporters Say

Allen has a long list of reasons he believes the voting age is too high. He thinks 16-year-olds should have a stake in laws that affect them, such as education policy. Research suggests that a strong predictor for voting habits is a record of previous voting. Student activists around the country have also demonstrated that many teenagers "have very well thought out positions and frankly, in many cases, they're leading the adults," Allen said.

For Allen, however, perhaps his greatest motivation is that many 16-year-olds are taxpayers because they have jobs. However, they cannot vote for their own elected representation.

Allen has re-introduced his bill at a time when students and teenagers are participating in advocacy, activism and even government itself.

The national voting rights advocacy group FairVote supports Allen's bill. "Sixteen- and 17-year-olds are affected by the same policies or even policies in a different way than older voters are," said Dave O'Brien, legal fellow at FairVote. "It seems only right that they should have some sort of input into it," he added.

What Critics Say

Some critics say 16-year-olds are not mature enough or do not have enough life experience to vote.

"The arguments for lowering the voting age to 18 don't entirely translate to lowering it to 16," Morley said, referring to the campaign to lower the voting age from 21 to 18 in 1970. "You had the notion that 18 was already adulthood in several other contexts," such as facing the draft, establishing households and starting families. Morley, though, does not necessarily think those arguments apply to 16-year-olds. In most cases, they are still legally required to attend school and generally depend on parental support.

Allen does not see legal adulthood as relevant.

"I think that young people have a stake in election outcomes. At age 16 your relationship with the law changes dramatically, from being able to drive on city streets to having a job and paying taxes," he said.

"There are a lot of 16- and 17-year-olds who also walk around every day with adult responsibilities," Allen said. "Not only are they having jobs, they're a part of helping run a family. Some of them may even have kids of their own. When you think about what those responsibilities are, why shouldn't they have a voice in helping shape that?"

Why It Matters

Historically, political parties have struggled to get 18- to 24-year-olds to show up on Election Day. However, Allen thinks young people are demonstrating a willingness to get engaged. He pointed to Takoma Park, Maryland, as one example. A FairVote study of the 2013 election in Takoma Park showed that about 17 percent of 16- and 17-year-old voters cast a ballot in the local election, about double the 8.5 percent of 18-year-olds.

Neither Allen nor O'Brien sees the issue as favoring one political party over another, but Morley is not as convinced. Data shows that younger people tend to vote Democrat, so lowering the voting age could influence some elections.

What's Next?

Klugman at Vote16USA said many states are making a good effort to increase voter turnout among young people. Currently, 13 states and D.C. allow for voter pre-registration at age 16. A new law in California will pre-register 16 and 17-year-olds to vote when they get a driver's license. They will have to opt out if they do not want to register.

Klugman also said that state legislators in at least three other states — New York, Virginia and Minnesota — have introduced bills to lower the voting age in state and local elections, federal elections or both.

The next step for the D.C. bill is a hearing at the Committee on Judiciary and Public Safety, which Allen is in charge of.

If approved by a majority of the committee's five members, it would go to the full DC Council for its consideration, where a majority of eight out of 13 council members are on board.

It would then move to Mayor Muriel Bowser's desk for approval. Bowser's press secretary, LaToya Foster, said the mayor will support the bill.

By 2020, Allen hopes 16- and 17-year-olds will be able to vote in both local and federal races.

Quiz

1 Which of the following details is MOST important to the development of the central idea?

(A) Across the country, young people are pressuring lawmakers and staging protests against gun violence.

(B) He explained that the voting age was lowered from 21 to 18 in 1971, in response to young people fighting in the Vietnam War.

(C) Brandon Klugman is the campaign coordinator at Vote16USA, an organization that lobbies for lowering the voting age.

(D) Historically, political parties have struggled to get 18- to 24-year-olds to show up on Election Day.

2 What is the relationship between the following sentences from the article?

In April 2018, a Washington, D.C., city councilman proposed lowering the voting age in local and federal elections from 18 to 16.

By 2020, Allen hopes 16- and 17-year-olds will be able to vote in both local and federal races.

(A) The second sentence presents a supporting detail for the main idea stated in the first sentence.

(B) The first sentence introduces the cause of the potential outcome presented in the second sentence.

(C) The second sentence summarizes the main idea of the article stated in the first sentence.

(D) The first sentence contradicts the claim made in the second sentence.

3 Which statement accurately characterizes the connection between a lowered voting age and voting, based on the ideas in the article?

(A) A lowered voting age is not likely to increase voter turnout of 18- to 24-year-olds, but it could potentially have a significant effect on lawmakers' decisions.

(B) A lowered voting age is not likely to increase the number of 16- and 17-year-old voters, but overall voter turnout may increase.

(C) A lowered voting age will likely have a negative effect on major political parties and a positive effect on independent candidates.

(D) A lowered voting age will likely lead to increased voting by individuals over the course of their lifetimes and could potentially shift election outcomes.

4 Which of the following people quoted in the article would be MOST LIKELY to agree with the idea that 16-year-olds want to vote?

(A) Michael Morley

(B) Brandon Klugman

(C) Charles Allen

(D) LaToya Foster

Youth drive push to lower voting age in Somerville, Massachusetts

By Wicked Local North, adapted by Newsela staff on 09.20.19
Word Count **973**
Level **1040L**

Photo from: Getty Images/hermosawave.

In Massachusetts, there are a record number of proposed state laws that could extend voting rights to youths under 18. One proposal was made in the city of Somerville, just outside of Boston.

Some think the volume of proposals represents a tipping point on this issue. Before anything changes, though, the bills have to make it through the State House. So far, no Massachusetts community has been successful in getting one through.

Over recent years, there has been a push to lower the voting age to 16. It gained popularity with the March for Our Lives movement, a huge, youth-led movement to prevent gun violence. March for Our Lives was followed by a wave of youth-led protests across the country focused on climate change.

Representatives Not Accountable

Young activists say they are fighting for their future. Yet they do not have the power of the vote to motivate their representatives to act. Their representatives, they say, are not accountable to them.

Some representatives have recently expressed support for lowering the voting age to 16. Most of the successful activism has occurred around municipal elections only, though. A lower voting age for federal and state elections appears to be a more distant possibility.

In Massachusetts, there were efforts to lower the municipal voting age as early as 2002 and 2006 in Cambridge. Harwich and Lowell took a stab at it in 2007 and 2011, respectively.

The first community in the country to successfully extend voting rights to 16- and 17-year-olds in municipal elections was Takoma Park, Maryland, in 2013. Hyattsville, Maryland, followed suit in 2015, along with Greenbelt and Riverdale Park in 2018. In 2016, the city of Berkeley, California, extended voting rights to 16-year-olds in school board elections.

In 2017, Western Massachusetts communities Ashfield, Shelborne and Wendell voted to pursue legislation for a 16-year-old municipal voting age. In 2018, Northampton did the same. Concord voted to send a request to the State House to lower the voting age to 17. When a similar request came before the Malden City Council, however, they rejected it in a 7-4 vote.

Complicated Process

In Boston, no specific proposal on the issue has been introduced. The Boston City Council has passed a resolution, however, urging the State Legislature to adopt what has come to be known as the Empower Act. The Empower Act is a bill that would allow any municipality across the commonwealth to choose to lower their local voting age to 16 or 17. Right now, each municipality has to get permission from the state, which can be a complicated process.

Somerville's leadership is strongly in support of lowering the municipal voting age. Congressional Representative Ayanna Pressley is on board, and so is City Council President Katjana Ballantyne.

In April, Somerville officially asked for permission from the state Legislature to lower the municipal voting age to 16. Many such requests die before they ever make to a formal vote. If the request is approved, however, it would set a new standard in Massachusetts.

Mayor Joseph Curtatone has been an outspoken supporter from the beginning.

"We're all impacted immediately by the decisions made at City Hall every day," he said. "We believe that our young people, our young leaders, deserve a voice in those decisions."

Ballantyne believes extending the right to vote will only make the democratic conversation richer. Young people have a lot to contribute, she said.

"They talk to me about gun violence, they talk to me about recycling in the public schools, they talk to me about allowing girls and women to have sanitary pads and tampons in the public schools," she said. She listed even more issues young voters had expressed an interest in. "They talk to me about these important issues, and they're close to them," she said.

Rey Junco is the director of research at CIRCLE, a Tufts University program dedicated to researching civic learning and engagement. He has been studying this topic for years.

Importance Of Early Engagement

"What we know from research is the younger someone gets involved — the younger they are civically engaged — the more likely they are going to do it for a lifetime," he said.

For this reason, Pressley introduced an amendment to lower the federal voting age. She supports a lower voting age across the board.

"I support this because it is ridiculous that we think that young people are going to spontaneously combust at the age of 18 and suddenly care about their government and their relationship with it," she said. She said civic participation should be encouraged, not blocked.

She acknowledged the youth and voting rights supporters across the country who have elevated this to a national conversation.

"Young people are at the fore of every social movement in this country," she noted. "They are leading on gun violence prevention and climate change, working on campaigns, laboring and expending sweat equity, making sacrifices to get people elected, even though they can't cast a ballot. They are disenfranchised."

Jack Torres, a 17-year-old Somerville High School student, activist and rock climber, agrees. He doesn't buy many of the arguments against the effort.

"Something I hear a lot is that we're checked out, so why even offer us the right? That is shown to not be true," he said. He pointed to high youth voter turnout in Maryland.

"When you're 16 and 17 you're in a more stable place than you are when you're 18," Torres continued. "You're usually still going to high school and living at home."

He also emphasized the unique and valuable perspective youth can offer if they are allowed to vote. "Sixteen-year-olds are close to the pain," he said. "It's really good to reintroduce 16-year-olds and students into the system to be able to help write solutions to the problems they face on a daily basis."

Quiz

1 Which two of the following sentences from the article include CENTRAL ideas of the article?

1. *The Boston City Council has passed a resolution, however, urging the State Legislature to adopt what has come to be known as the Empower Act.*
2. *In April, Somerville officially asked for permission from the state Legislature to lower the municipal voting age to 16.*
3. *"What we know from research is the younger someone gets involved — the younger they are civically engaged — the more likely they are going to do it for a lifetime," he said.*
4. *"When you're 16 and 17 you're in a more stable place than you are when you're 18," Torres continued. "You're usually still going to high school and living at home."*

(A) 1 and 3

(B) 1 and 4

(C) 2 and 3

(D) 2 and 4

2 Which statement would be MOST important to include in a summary of the article?

(A) Towns across Massachusetts are pushing to lower the voting age in local elections.

(B) Many people believe that young people are not interested in voting and politics.

(C) Young people in some other states are allowed to vote in smaller elections but not federal elections.

(D) Lowering the voting age in Massachusetts requires permission from the state legislature.

3 Read the following claim.

Many young people are not civically engaged or interested in politics.

How would City Council President Katjana Ballantyne MOST likely respond to this claim?

(A) Ballantyne would argue that young people do not care because they are ignored by the political system.

(B) Ballantyne would explain that she is frequently contacted by young people who are passionate about important issues.

(C) Ballantyne would suggest that expanding the right to vote would be pointless because many young people would not vote.

(D) Ballantyne would emphasize that young people should only be able to vote in national and state elections.

4 What is the author's purpose for writing this article?

(A) to persuade the reader that the voting age for all elections should be lowered

(B) to argue that the voting age for local elections should not be lowered in Massachusetts

(C) to inform the reader about efforts to lower the voting age for local elections in Massachusetts

(D) to suggest that lowering the voting age is too complicated for most towns in Massachusetts

Name: _____ Date: _____ Period: _____

ARTICLE OF THE WEEK TITLE: _____

Step 1. Number the paragraphs in the article if they are not already numbered (if you have a printed copy of the article).

Step 2. Read the entire article, annotating the text as you read to practice close reading. Circle any unfamiliar vocabulary words in the article, underline key ideas, and jot notes in the margins (at least 3 high level questions and at least 1 quality comment per paragraph). Remember – Random underlining or highlighting by itself is coloring, not close reading. If you do not have a printed copy of the article, take notes in your notebook.

Step 2. Complete the post-reading activities. (Please be sure your responses are thoughtful and high-quality. This is where you engage in deeper thinking about the article you read and practice a variety of standards-based skills to improving your reading.)

Step 3. Create a citation for the article using MLA format. (There are lots of citation generators on the internet or you can use the example you have in your class notes.)

Summary Statement: ***Write a summary statement for the article (approximately 50 words or less) in which you include the title, a summary verb, and the sentence completed with the main idea / main point of the article.***

Sample: The article, "Coming Soon to a Classroom Near You … RoboRoaches," explores a new technology that controls a cockroach with a smart phone and the various uses for this discovery.

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Vocabulary Journal Entries: ***Complete 3 entries using words from the text.***

Word:	**Part of Speech:**	
Definition:		
Sentence:		
Visual Representation	**Synonyms**	**Antonyms**

Word:	Part of Speech:
Definition:	
Sentence:	

Visual Representation	Synonyms	Antonyms

Word:	Part of Speech:
Definition:	
Sentence:	

Visual Representation	Synonyms	Antonyms

Reflection: ***Choose one of the following reflection prompts (or complete the option assigned for the week) and complete your response on a separate sheet of paper.***

1. Choose 3 interesting quotes or passages from this week's article and write a 2-3 sentence reflection for *each* in which you explain their meaning and/or importance.
2. Write down 5 things you learned by reading this week's article. Which of these 5 do you think is *most important* to know? Explain in 3-5 sentences.
3. After reading the article, create a T-chart. On the left side, bullet the key points of the article. On the right side, list what the article doesn't say. What has been left out? You should include at least 3 bullet points. Write a brief 4-6 sentence paragraph summarizing your list and explaining why you think it was left out.
4. If an article contains bias (an opinion; prejudice), identify the bias and explain the "other side" in 4-6 sentences.
5. In 3-5 sentences, explain *in your own words* the author's point of view.
6. Pros/Cons to an issue. Take a position and then support it with 3 reasons from the text. Your paragraph should be 4-6 sentences minimum.
7. Three important points/ideas are ... because ... (5-7 sentences)
8. In 3-5 sentences, explain the author's purpose and intended audience.
9. Choose 3 of the following sentence starters and write a brief 2-3 sentence reflection for each:
    - I noticed...
    - I wonder why...
    - I was reminded of...
    - I am surprised that...
    - I'd like to know...
    - I realized...
    - I can relate to this because...
    - If I were...
    - The central issue(s) is (are)...
    - Although it seems...
    - I still don't understand...
    - What interested me most was...
    - The author wants the reader to think...
    - This idea/article is similar to...