

**Grades**

**9-12**



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](http://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](mailto: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.

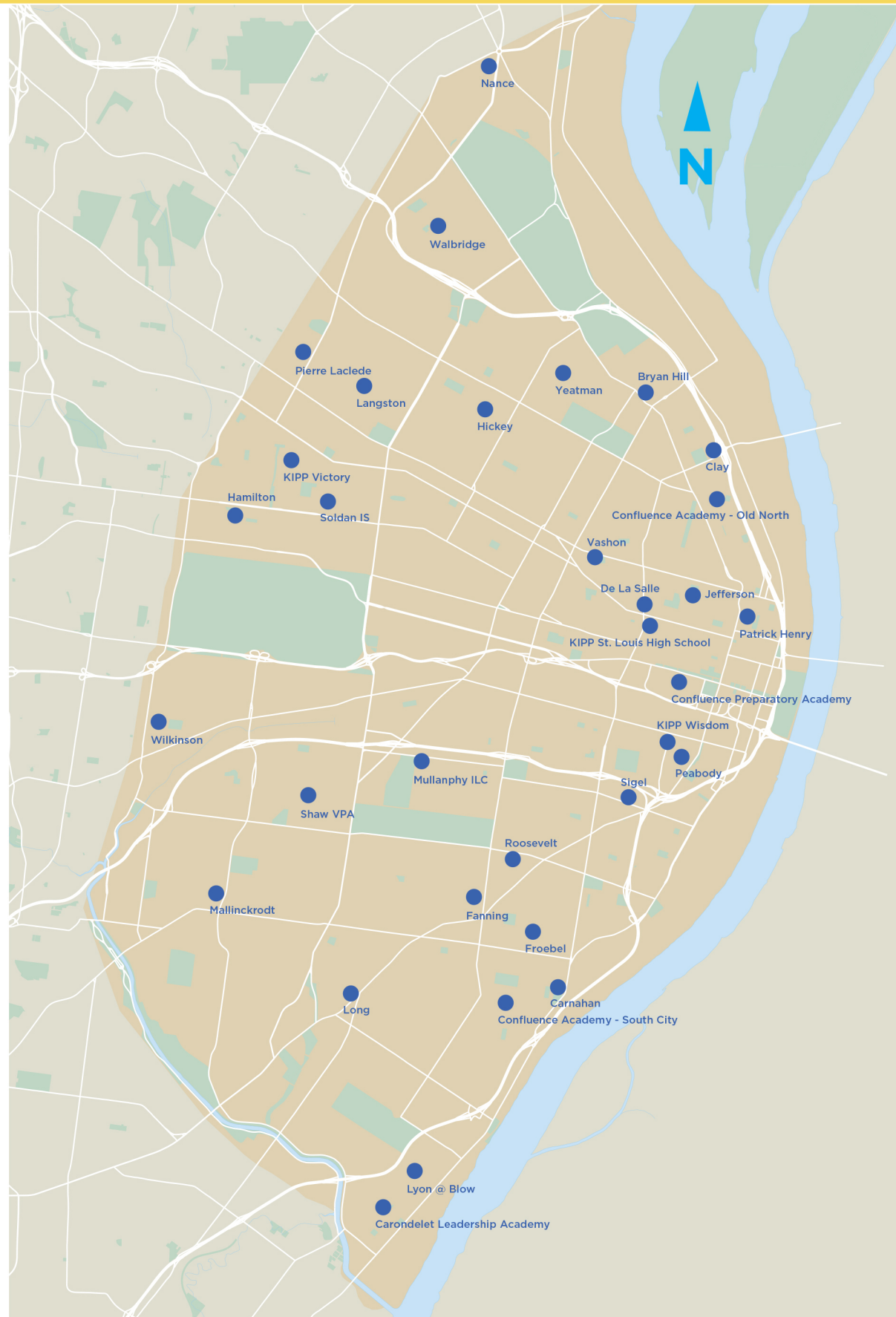
-  Grab-and-go breakfast and lunch meals are provided at school sites
-  No student ID required
-  Students must be present to receive meal
-  Free for children 18 and younger
-  Meals served from 8:00 a.m. - 12:00 p.m.

## North City Schools:

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

## Downtown/South City Schools:

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



FOR MORE INFORMATION, DIRECTIONS AND UPDATES, PLEASE VISIT

[WWW.SLPS.ORG/MEALS](http://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; <b>Complete Daily Log*</b>
10-11 am	Academic Time	Reading books, doing puzzles, journaling Choose from the List of Possible Learning Activities; <b>Complete Daily Log*</b>
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; <b>Complete Daily Log*</b>
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
- ✓ Journalled 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	
<b>Learning Activity</b>	<b>Reflection</b>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Tuesday, March 24	
<b>Learning Activity</b>	<b>Reflection</b>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

**Learning Log**

Name \_\_\_\_\_

**Wednesday, March 25**

**Learning Activity**

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**Reflection**

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**Thursday, March 26**

**Learning Activity**

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**Reflection**

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**Learning Log**

Name \_\_\_\_\_

Friday, March 27	
<b>Learning Activity</b>	<b>Reflection</b>
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Monday, March 30	
<b>Learning Activity</b>	<b>Reflection</b>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

# Learning Log

Name \_\_\_\_\_

Tuesday, March 31	
Learning Activity	Reflection
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Wednesday, April 1	
Learning Activity	Reflection
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

**Learning Log**

Name \_\_\_\_\_

Thursday, April 2	
<b>Learning Activity</b>	<b>Reflection</b>
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Friday, April 3	
<b>Learning Activity</b>	<b>Reflection</b>
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**High  
School  
ELA**



# St. Louis Public Schools Continuous Learning Plans High School English

<b>WEEK</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment</b> <i>How will you show your teacher that you learned the material?</i>
<b>Monday</b> <b>March 23</b>	I can summarize a text.	RL.1.D Determine the theme(s) of a text and cite evidence of development; summarize the text.	Independent Reading 20 minutes minimum	Novel of Choice News Articles Online Text Options	Reader Response Journal (See attached list of Reader Response prompts.)
	I can conduct research to answer a question (including a self-generated question) or solve a problem.	W.1.A Gather relevant information from multiple authoritative print and digital sources; assess the strengths and limitations of each source in terms of the task, purpose, and audience.	Select an Article Read the Article Respond to the Article (use the daily writing expectations to guide your work)	Self-Selected Articles and/or Articles Linked in this Document	See daily writing assignment described in the ELA section of your Continuous Learning Packet.
	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.			
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For questions related to this instructional plan, please contact:

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judine.keplar@sps.org

<b>WEEK</b> <b>1</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment</b> <i>How will you show your teacher that you learned the material?</i>
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# St. Louis Public Schools Continuous Learning Plans High School English

<b>WEEK</b> <b>2</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment*</b> <i>How will you show your teacher that you learned the material?</i>
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## St. Louis Public Schools Continuous Learning Plans High School English

# 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 Continuous Learning Plans High School English

# 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 [spl.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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# You Are Living History Right Now!

You are living through an unprecedented moment in history—right now! Today, tomorrow, and the days that follow will be captured in history books. Someday, you will share stories with your children and grandchildren about living through this time. Because these days are historical, it is critical that we not let these events pass without capturing how they affect you, your family, your school, and your community.

Since you will be “schooling” from home, I will describe here the daily assigned work to be done outside the classroom. Here are your daily writing and reading requirements:

## Daily Writing:

You will be asked to write two pages (or more) a day in your writer's notebook, capturing your thoughts, questions, comments, and concerns about the events that are unfolding. I want you to capture this history—your history—any way you'd like. Below are some suggestions for your daily writing, but you do not need to follow them. Feel free to generate your own thinking. You will use these writing pieces when you return to school.

Some possibilities for daily writing:

- Capture how this virus has disrupted your school year—including sporting events, concerts, assemblies, dances.
- Discuss how your daily life has been disrupted.
- Share the effect it has had on your friends and family.
- As we go into more social isolation, you might write reviews of movies, television shows, podcasts, video games to share with your classmates.
- Respond to any seed about the crisis you find interesting. A “seed” can be an article, a broadcast, a Tedtalk, a tweet, a photograph, a podcast, a film, an Instagram (or another online) post, a TikTok video, a political cartoon, a photograph—anything that spurs some thinking about the crisis. This is much like the seed writing we do in class. You are encouraged to find your own seeds—whatever you think is worth writing about—but if you have trouble getting started, you might want to respond to one or more of the following seeds:
  - [Two Woman Fell Sick, One Survived Two Women Fell Sick from the Coronavirus. One Survived.](#)
  - [25 songs that matter now](#)
  - Coronavirus explained in a TedTalk: [Coronavirus Is Our Future](#)
  - Political cartoons: [Corona News](#)
  - A soccer team is trapped: [The Stranded Stars of Wuhan F.C.](#)
  - Who will pay the salary of stadium workers? [One player steps up. Pelicans Star Zion Williamson Pledges to Pay the Salaries for Staffers of the Smoothie King Center](#)

For questions related to this instructional plan, please contact:

Judine M. Keplar, Ed.S.  
ELA Curriculum Specialist  
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- Student sent home for profiting on the selling of hand sanitizer: [Student Sent Home For Selling Hand Sanitizer By The Squirt To Classmates, Mom Says](#)
- Creating a coronavirus songlist: [Rita Wilson Crowdsources Coronavirus 'Quarantunes' Playlist From Her Fans](#)
- Podcast on the Coronavirus: [Ologies "Virology \(COVID-19\) with Dr. Shannon Bennet + various ologists"](#)
- Researchers are using a World of Warcraft scenario to understand COVID-19's spread: [PC Gamer Article](#)
- [The power of social distancing](#)
- [Here are the workers most at risk](#)
- Lots of good info here: <https://www.nytimes.com/news-event/coronavirus>
- [A Comic Exploring Coronavirus](#)
- [Is paper money safe?](#)
- [How can we stop the curve of infection?](#)

These are here if you need help getting started. As the crisis unfolds, you will be able to easily find new seeds that encourage reflection. This story changes every day. Do not depend on the teacher to do your thinking for you. Find seeds worthy of writing and thinking about. Be creative: Write across genres: poetry, dialogue (just capture a conversation between people), description: zoom in on a moment you experience; discuss songs that capture these events for you; find and respond to charts and graphs worth thinking about. Or perhaps you'd like to make a scrapbook. If so, here are some samples to spur your thinking:

- <https://www.creativelive.com/blog/scrapbook-ideas-for-beginners/>
- <https://www.pinterest.com/simonsaysstamp/scrapbook-layouts/>

Here is another site that shows ways of keeping interesting notebooks:

<http://www.sharingournotebooks.amylv.com/>

You might also want to look at how other people in history captured historical events. Here, for example, is a look at the notebooks of Anne Frank, which has been read by millions of people:

<https://www.annefrank.org/en/anne-frank/diary/complete-works-anne-frank>

Again, be creative as you decide how best to chronicle your thinking. What is the best way to capture this historical moment? You decide. Be creative!

**Your daily writing will not be graded.** It will not even be read unless you grant permission. You will be given points on a credit/no credit basis. So take risks. Be honest. Try to create writing that you will be interested in re-reading years from now. Chronicle your thinking as we navigate these uncertain days/weeks. If you do not have your notebook at home, you may write on paper or create a Google Doc or OneDrive document.

For questions related to this instructional plan, please contact:

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That said, if this quarantine is extended, we will create a digital space where we can eventually begin sharing our writing. You will not be asked to share everything you write, but occasionally you will be asked to join the written “conversation.”

**Daily Reading:**

Find a book to read. Any book that interests you. Your choice. You are asked to read this book for 30 or more minutes every school day. You are asked to time your reading every day, and to track the time you spend reading on a self-made chart. The chart you create can be hand-written or created digitally, and it might look like this example:

Date	Book	Pages Read	Time Spent Reading
3/23	The Hate U Give	22-48	35 minutes
3/24	The Hate U Give	48-68	30 minutes
3/25	The Hate U Give	68-90	40 minutes
3/26			
3/27			

The goal here is 30 minutes a day of sustained, uninterrupted reading. I know that may be difficult for some of you, as you may face interruptions at home, but it is critical that you do your best to find uninterrupted reading time as a means to building your stamina.

If you do not have a book, you can download one for free from the public library system. Although the public library may be closed to the public, there are lots of options for checking out e-books and audio books. Start here: <https://www.slpl.org/>

If you own a Kindle, here are places you can download free books:  
<https://ebookfriendly.com/download-free-kindle-books/>

Though we may not see each other for a few weeks, we will combat “social distancing” by remaining connected to one another. There is strength in community, and it is this strength that will pull us through this event. This moment will pass, so don’t let these days elapse without capturing your thinking and experiences. Capture your history in real time.

*Special thanks to Kelly Gallagher and Penny Kittle for this resource.*

**For questions related to this instructional plan, please contact:**

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# Why everything is closing for coronavirus: It's called "flattening the curve"

By Forbes, adapted by Newsela staff on 03.17.20

Word Count 1,035

Level 1040L



Image 1. Authorities control a line of motorists waiting to be tested for coronavirus at Glen Island Park in New Rochelle, New York, March 13, 2020. Closing areas such as parks is an essential part of the social distancing needed to slow the COVID-19 outbreak. Photo: John Minchillo/AP Photo

South by Southwest (SXSW) is a huge music/film/tech/education festival. It brings hundreds of thousands of visitors to Austin, Texas, every March. When organizers canceled the festival it was only a matter of time before other major events also canceled.

As of March 13, many sports leagues have suspended their seasons. The National Basketball Association (NBA), National Hockey League (NHL) and Major League Soccer have suspended play. Major League Baseball (MLB) has pushed back the season start. The National Collegiate Athletic Association (NCAA) canceled March Madness. March Madness is a college basketball competition every spring. If a team loses a game they are out of the competition. People fill out brackets with who they think will keep advancing to the championships.

Several universities have canceled spring football games. The Professional Golfers' Association (PGA) Tour canceled the Players Championship. And the future of the 2020 Summer Olympics in

Japan is in doubt. And that's just sports.

School districts from Seattle, Washington, to Baltimore, Maryland, have closed schools. So have entire states, including Maryland, Michigan and Ohio. More than 100 colleges and universities have canceled all in-person classes and moved online. The huge music festival Coachella has been postponed. So have a long list of concerts and music tours and all Broadway shows through April 12. Movie theaters may be next.

Even all Disney parks have closed their gates. This is only the third time Disneyland has closed the park. The first time was after U.S. President John F. Kennedy was assassinated in 1963. The second time was after 9/11. Terrorist attacks on September 11, 2001, hit the Twin Towers in New York and the Pentagon in Washington, D.C.

### **Economic Impacts**

The economic impacts of all these closures will be incredibly high. Canceling SXSW will mean a loss of more than \$350 million. This includes thousands of low-income workers' lost tips and wages. However, that won't even be close to how much it will cost sports teams and amusement parks to close down. So the decision to suspend seasons, cancel events and close up shop are not being made lightly.

And yet, there have only been about 1,660 cases of COVID-19 diagnosed in the United States. COVID-19 is short for coronavirus disease 2019. There have also been fewer than 50 deaths because of it in the United States. The coronavirus is a flu-like illness that began in China and has been spreading across the globe since December 2019.

Many people talk about the flu. Every year the flu sickens millions and kills tens of thousands of people. It is expected to sicken nearly 50 million people in the United States this year and kill as many as 52,000 this flu season.

So why is everyone making such a big deal about coronavirus? Why are events being canceled? Why are schools moving to online instruction? Especially when there are so few cases right now.

### **Slowing The Spread**

There's a good reason to "cancel everything." All these decisions by public officials and businesses are aimed at one goal: slowing down the spread of the virus to avoid overburdening a health care system that doesn't have the infrastructure to handle a sudden surge of tens of thousands of cases at once. Without mass closings, that surge is exactly what will happen, just as it has in Italy.

It's called "flattening the curve." And that's exactly what it is when you see it visually.

Epidemiologists study diseases and how they spread. They can somewhat predict how many cases of a disease are going to occur based on how the disease is behaving. Continuing business-as-usual allows cases to escalate rapidly in just a few weeks, spiking so high at once that they completely overwhelm hospitals. In such a scenario — such as Italy is facing now — more deaths are likely because there simply aren't enough hospital beds, enough face masks, enough IV bags, even enough healthy doctors and nurses to care for everyone at once.

However, if that same number of cases can be stretched out over months, never quite exceeding the health care system's capacity, then people will get the care they need. More health care



providers can avoid illness and burnout, and fewer people are likely to die — as South Korea has shown.

But are we really headed for that many cases?

Yes.

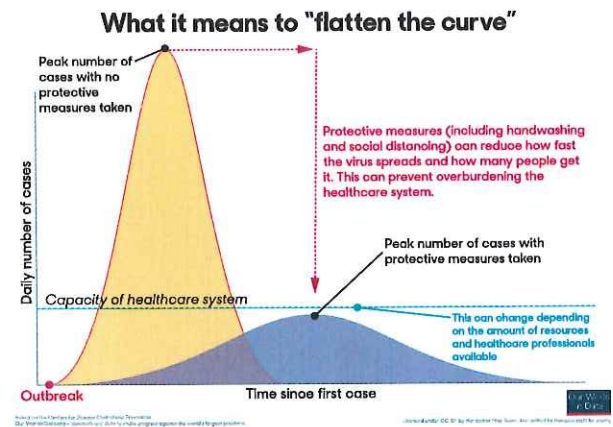
As former Food and Drug Administration (FDA) commissioner Scott Gottlieb explained in a recent interview, the novel coronavirus — just declared a pandemic by the World Health Organization — is beyond containment. If it's not already in your community, it's coming soon. The only reason total U.S. cases aren't already skyrocketing is that coronavirus testing has been such a mess that too few people — just 77 by the Centers for Disease Control and Prevention (CDC) in the whole week of March 8 — are being tested. You can't count cases you haven't identified yet.

But every indication is that the United States is on track to see the same exponential increase other countries are seeing, as scientist Mark Handley has been tracking on Twitter.

### People Are Listening

So what do we do to avert disaster? We have to flatten the curve. Fortunately, people are listening and the idea has caught on so well among armchair epidemiologists that the #flatteningthecurve and #FlattenTheCurve hashtags have trended several times on Twitter in recent days.

Clearly, public officials and businesses are listening to the warnings of public health officials, as evidenced by all the closings and cancellations. But to be effective, ordinary people need to do their part by avoiding as much as possible any crowds and places where large numbers of people congregate, such as movie theaters, malls and events that haven't been canceled.



# Officials say coronavirus targets elderly and ill, children mostly unaffected

By Los Angeles Times, adapted by Newsela staff on 03.09.20

Word Count **969**

Level **1050L**



Centers for Disease Control and Prevention Director Robert Redfield (center), National Institute of Allergy and Infectious Diseases Director Anthony Fauci (far left) and other government officials speak about coronavirus to reporters at the White House in Washington, D.C., March 2, 2020. Photo: Manuel Balce Ceneta/AP Photo

People who have contracted the coronavirus were recently identified near Christina Arnold's Northern California home. Arnold started worrying about herself and her two teenage sons.

They all have asthma. Their condition puts them at a higher risk of death if they were to contract the virus, which affects people's respiratory system.

"I try to keep my paranoia inside, under control," she said. As of March 4, the death toll in the United States reached 11. "I don't want to show my kids I'm scared because there is not much we can do about it."

## **Elderly People Most At Risk**

COVID-19 (short for "coronavirus disease 2019") has continued to spread in the U.S. Although many Americans have become more anxious, health officials agree on one point. They say the

coronavirus is more of a risk to certain groups of the population, such as the elderly. Health experts stress that the coronavirus does not represent a serious threat to most people.

"The risk is low," said Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases.

A healthy adult who contracts the rapidly spreading illness might get little more than a cough or runny nose. However, the elderly and those with certain medical conditions are at greater risk for a serious infection or even death.

### **People With Long-Term Illness Also Threatened**

Seven fatal cases are now linked to a nursing home outside Seattle, Washington, the state where most of the deaths have been. The deaths of these elderly people highlight that the virus is particularly vicious to those past middle age. The risk is especially high for people who have a long-term illness, such as high blood pressure, or are overweight. Some of the recent casualties included a man and woman in their 70s and a woman in her 80s.

"Older populations of people and people with health conditions may have much bigger problems," said Tom Frieden on March 2. Frieden is the former director of the Centers for Disease Control and Prevention (CDC). He added that about 60 percent of American adults have conditions that could worsen the coronavirus.

The facts about who the virus kills and how to best contain it is of growing concern as coronavirus cases begin to pop up across the country. There is as much fear and uncertainty as there is actual illness.

### **Children Not Hit With Severe Cases**

Children are one group that hasn't been hit with severe cases.

"For reasons we don't understand, children don't seem to get severely ill," Frieden said.

As of March 4, there were 152 known cases of the coronavirus in the U.S., most of which have been in Washington and California. Some contracted the illness through travel or contact with someone who traveled. Some got the virus through its spread in the community.

Faced with the growing numbers of cases without a known cause, dozens of businesses and organizations have canceled events or restricted travel for employees. Late March 2, Twitter urged employees to work from home. Uber said the virus posed a threat to its business.

In Washington, Governor Jay Inslee said residents "should begin to think about avoiding large events."

Experts warned the virus will continue to spread in the coming days. Yet just how deadly it is and who exactly faces the most danger beyond the elderly is not yet clear. Long-term illnesses like diabetes and heart problems have been linked to more serious outcomes, as have severe illnesses such as cancer. Smoking can add to the severity of a coronavirus as well, researchers said.

"We could learn a lot more in the next week," said Stephanie Christenson, a doctor and lung specialist at the University of California, San Francisco (UCSF). "All of this is kind of changing."

China's CDC recently released a paper that detailed more than 70,000 instances of the coronavirus there. It found that in confirmed cases, nearly 15 percent of the people with the virus over 80 years old died from it. In comparison, only about 2 percent of all confirmed people with the coronavirus have died so far. Researchers also saw higher rates of death for people with cardiovascular disease, diabetes, respiratory disease, high blood pressure and cancer.

### **Broader Look At All Cases Could Lower Fatality Rate**

Jeffrey Klausner is a professor of medicine and public health at the University of Southern California, Los Angeles. Klausner warned that early data might not present a fully accurate picture. Initial research depends on rates of confirmed cases, largely treated in medical facilities. He said a broader look at all cases, including those not severe enough for serious treatment, could lower the rate of fatalities.

Peter Beilenson is a health officer for Sacramento County in California. Beilenson explained that "a healthy 72-year-old is not at as great a risk as an unhealthy 72-year-old."

"It's about lung function and the compromise of lung function," said George Rutherford, a disease specialist at UCSF, explaining why the disease hits some harder than others.

George Rutherford is a doctor and disease specialist at UCSF. Rutherford explained that the disease affects some more than others because of the health of their lungs. "The lungs of an 80-year-old aren't the lungs of a 20-year-old."

Rutherford said older people's lungs have accumulated years of air pollution and secondhand smoke. This makes them weaker.

### **Only Minor Lifestyle Changes Needed**

Most health experts say that even groups with increased risk should make only minor lifestyle changes. They should wash their hands, avoid sick people and limit foreign travel.

Arnold, the mother whose sons have asthma, plans on keeping life as normal as possible. Her family "still has to get on with their lives." Despite the worry, they continue going to the gym, movies and beach.

"Your best bet is just washing your hands," she said.

# Your most urgent questions about the new coronavirus

By Science News for Students, adapted by Newsela staff on 02.10.20

Word Count 1,292

Level MAX

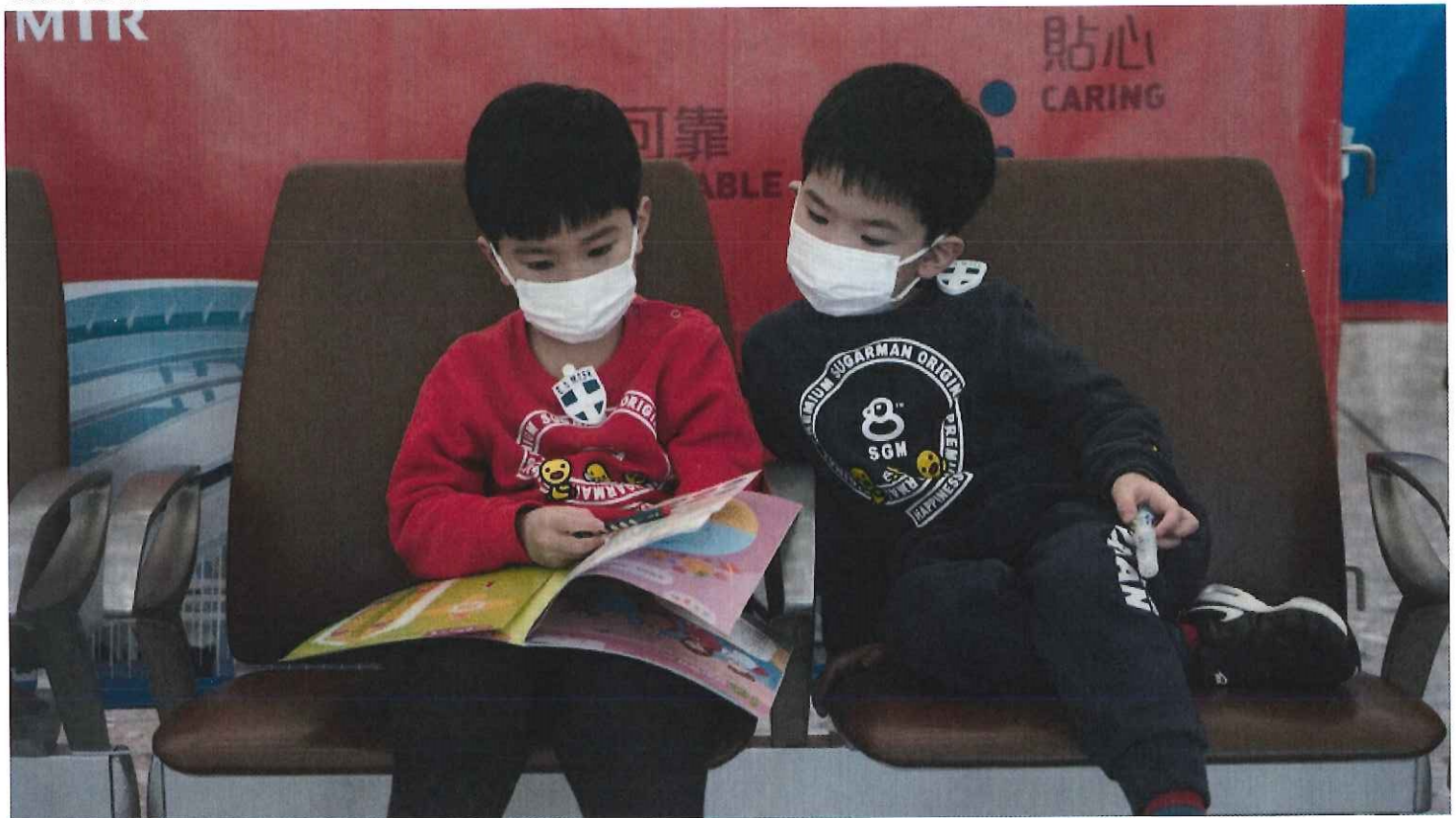


Image 1. Children wear masks at a train station in Hong Kong, January 22, 2020. A new coronavirus emerged in Wuhan, China, in December 2019. As of February 10, 2020, it had infected more than 40,000 people globally and resulted in more than 900 deaths. Photo: Kin Cheung/AP Photo

Scientists are racing to unravel the mysteries of a new coronavirus that recently emerged in China. The outbreak is now a global public health emergency, the World Health Organization said on January 30. As of February 10, the virus had infected more than 40,000 people globally and resulted in more than 900 deaths. Its rapid spread has sparked global concern. It also is triggering many questions from researchers and the public alike. In this rapidly evolving epidemic, many unknowns remain.

Here's what we know so far about what's known as the 2019 novel coronavirus, or 2019-nCoV.

## What is 2019-nCoV?

Coronaviruses are one of a variety of viruses that typically cause colds. But three members of this viral family have caused more severe outbreaks that include pneumonia (a type of inflammatory lung disease) and risk of death. The first was severe acute respiratory syndrome, or SARS. Then

came Middle East respiratory syndrome, or MERS. Now there is 2019-nCoV. This latest coronavirus first emerged in Wuhan, China.

### **When did the outbreak start?**

Chinese officials notified the World Health Organization on December 31, 2019, of an unknown pneumonia-like disease in 44 patients. Initial reports tied this disease to a seafood market in Wuhan, a city in central China's Hubei Province.

But the earliest cases may not be related to exposure at the market. That's what a team of Chinese researchers reported January 24 in *The Lancet*. The earliest known patient got sick on December 1. He had not been exposed to the market, according to the study, although the first person who died had been.

"The market was not the [source of the] index case. It was an amplifier," said Anthony Fauci. "People crowded in the market infected each other." Fauci directs the National Institute of Allergy and Infectious Diseases in Bethesda, Maryland.



### **Where did the virus come from?**

Coronaviruses originate in wild animals. Sometimes they leap to humans.

Current data suggest that the virus made the leap from animals to humans just once and that since then it has been moving between people. Based on how closely related the viruses are that have been isolated from patients, animals from the seafood market probably didn't give people the virus multiple times (as researchers once thought).

### **Can it infect pets?**

There are currently no reports of pets getting sick with 2019-nCoV.

Several types of coronaviruses can infect animals, and in some cases it can make them ill. So the U.S. Centers for Disease Control and Prevention, or CDC, advises avoiding contact with pets and wearing a face mask if you are sick.

While the CDC recommends that people traveling to China avoid animals, the agency says there is no reason to believe that animals or pets in the United States can transmit the virus.

### **What are the symptoms of a 2019-nCoV infection?**

People sickened by the new virus may develop a fever, cough and difficulty breathing, according to the CDC. Though many people with 2019-nCoV might experience mild symptoms, others can develop pneumonia.

The CDC reports that symptoms of 2019-nCoV may appear from two to 14 days after exposure. On average, it may take someone five days to become visibly sick, researchers reported January 29 in the *New England Journal of Medicine*. That number, however, is based on only 10 patients, so it needs further study, the researchers wrote.

### **How infectious is the virus?**

Researchers don't yet know, but since 2019-nCoV has never infected humans before last year, people have not yet developed immunity to it. So it's likely that everyone is vulnerable to becoming infected.

### **How long does it stay on surfaces?**

Researchers aren't sure, but not very long. Or that's what they expect, based on what they know about other coronaviruses. These viruses typically survive on a surface for only a few hours, notes Nancy Messonnier. She directs the CDC's National Center for Immunization and Respiratory Disease in Atlanta, Georgia.

While it's still unclear how the new virus spreads, coronaviruses in general are thought to be spread primarily by respiratory droplets. These are spread when patients cough, for instance. There is no evidence suggesting 2019-nCoV can be transmitted from things such as imported goods, according to the CDC.

### **How does it spread?**

The new virus is spreading from person to person. Like SARS and MERS, it probably spreads between people similarly to other respiratory diseases, the CDC says. Respiratory droplets from an infected person's cough or sneeze can carry the virus to someone new.

Some coronaviruses can cause the common cold. Severe coronaviruses infect deeper parts of the respiratory tract than cold viruses do. So infected people are not usually contagious until they start to show symptoms, says Stanley Perlman. He's a virologist at the University of Iowa in Iowa City.

There have been some reports of people without symptoms spreading 2019-nCoV. And because people might be infected and not show obvious symptoms, doctors should isolate patients and trace their contacts as soon as possible.

### **How far has 2019-nCoV spread?**

So far, it's not clear how many people the virus has sickened. Epidemiologists — researchers who work as disease detectives — are attempting to come up with a good estimate.

Through the end of January, most of the thousands of people with confirmed diagnoses of the new virus have been in China. But several other countries — 27 as of February 7 — also reported isolated cases. Many of these patients had just returned from a trip to China.

A few countries outside China are now reporting human-to-human transmission, including Vietnam, Germany and the United States.

### **How deadly is the disease?**

The coronaviruses that cause colds usually bring fairly mild symptoms. They tend to just affect the upper airways (sinuses and throat). But the new virus is more like SARS and MERS. It penetrates much deeper into the respiratory tract. 2019-nCoV is "a disease that causes more lung disease than sniffles," says Fauci of the National Institute of Allergy and Infectious Diseases. It's damage to the lungs that can make these viruses deadly.

An analysis of 99 hospitalized patients, including the first cases from Wuhan, shows that 17 developed what is known as acute respiratory distress syndrome. It's a condition that affects the lungs and can limit the blood from getting enough oxygen. Eleven of these patients would go on to die from multiple organ failure.

Right now, the 2019-nCoV death rate appears to be about four in every 100 infected people. That's what the World Health Organization reported on January 23. But that number may well change as more cases are diagnosed, Fauci notes.

### **What is the situation in the U.S.?**

As of February 4, health officials had confirmed the coronavirus in 11 people. These included two infected by someone else in the U.S.

Twenty U.S. airports began actively screening travelers from China for symptoms in late January. Because of the relatively rapid release of information from China, countries like the U.S. have had time to put strong screening procedures in place.

### **What are the best ways to protect yourself?**

There is no drug or vaccine to treat or prevent 2019-nCoV. But there are things people can do to limit the chance they will become infected. And they aren't much different from what you'd do to keep from picking up colds or the flu, the CDC says.

Wash your hands with soap and water for at least 20 seconds. Other tips include covering your mouth when you cough or sneeze. Finally, don't touch your eyes, nose or mouth. Who knows what viruses might have been on surfaces that you touched?



# In South Korea, coronavirus gives kids a break from school but also traps them inside

By Min Joo Kim and Simon Denyer, Washington Post, adapted by Newsela staff on 03.11.20

Word Count 1,034

Level MAX



Image 1. Sun Yul, 4, is painting a "treasure map" at his mother's apartment in Yongsan-gu, Seoul. Photo: Min Joo Kim/Washington Post

The spread of the coronavirus means fewer school classes in South Korea. The coronavirus is a flu-like illness. It originated in China and has been spreading across the globe. The start of the school semester for Yoo Ju-chan, age 8, got delayed by a week. His after-hours "cram school" canceled classes, too. A cram school is a test preparation school.

"It's so much more fun to stay at home," he said. "There's no question."

Sure, Ju-chan's evening school has piled on extra homework to make up for the classes he is missing, and he has been stuck indoors since the government's decision on March 1. Even the playground near his family's apartment is empty.

But he's not complaining. "Even with that homework, my playtime more than doubled," he said. "Now I have about seven hours of playtime. I frolic with my dog at home. I play video games. I hang out with my parents more."

On February 27, Japan went even further than South Korea, closing schools nationwide through March because of the fast-spreading coronavirus. This was a significant measure meant to limit the infection's spread at what the government considers a critical time.

Taking into account both countries, that's nearly 20 million children whose education is being disrupted, to curb the spread of a virus that mainly kills elderly people.

Here in Seoul, there are distinctly mixed feelings about the government's move.

South Korea has perhaps the most high-pressure and competitive education system in the world. Many children spend several hours every evening at cram schools known as hagwon. There, they try to gain a crucial advantage over their peers.

Hwang Hyun-bi, age 12, usually spends three hours at her hagwon every evening after school where she studies math, science, English and Chinese.

The hagwon has doubled or even tripled her homework to make up for the class cancellations. She says she doesn't really have any more free time. "But I did have some fun at home," she said. "I watched 'The Incredibles' with my sister."

Nevertheless, Hyun-bi can't wait for the virus threat to ease. February marked the final weeks of her time in elementary school: Children weren't allowed in classrooms unless they were wearing masks, and parents weren't allowed to attend the graduation ceremony.

"I really don't like having to wear a mask during class," she said. "It makes it hard for me to breathe."

She had to cancel plans to celebrate her graduation with friends in Seoul's trendy Hongdae neighborhood, and when she went for orientation at her new middle school, "everyone was wearing a mask, so I couldn't see the faces of my new friends."

Her 6-year-old sister, Si-yeon, doesn't have homework to make up for her canceled hagwon classes. She has been spending her free time coloring, drawing and painting - her dream is to become an artist - as well as reading books. But she doesn't like the virus, either.

"I like playing outside," she said. "The last time I went out biking was two weeks ago, and I love biking. Also, I couldn't go to my kindergarten this month. I wanted to go to my kindergarten and meet my friends."

The girls' mother, Lee Eun-jin, says she and the other moms in the neighborhood are worried about the "education gap" caused by the virus.

They live in Mok-dong, an affluent Seoul neighborhood known as a "special education district" because of its abundance of hagwon and good public schools. Here, parents spend an average of \$1,000 a month on after-school classes for their children.



On an online forum for Mok-dong mothers, Lee says people are discussing how to make up for canceled hagwon classes and looking for private home tutors. But she says she'd be more worried if her children were in high school and preparing for exams.

"It's a happy nuisance, I would say. I like spending more time with my girls at home," Lee said. "But taking care of them for 24 hours, no school, no kindergarten, is a different story. If this was an actual vacation, we would have planned outings, but we are just stuck indoors in this awkward limbo."

Despite the government's "strong" advice to close down, two-thirds of the 25,000 hagwon in the South Korean capital have stayed open, Cho Hee-yeon, Seoul's education chief said.

"I understand that parents are making the best effort to support their children's studies, and have difficulty finding a place to entrust their children in these urgent situations," Cho said in a statement. "But now is the time for our country to act together to overcome the crisis."

Choi Bo-na, a 29-year-old teacher, says her school decided only this week that it would close, and she thinks it might have to reopen for high school students preparing for the college entrance exam. "For them, studying is an urgent priority," she said. "Virus excuses won't make up for failing the crucial college entrance exam."

Choi is also considering videotaping or live-streaming her reading and essay-writing class.

Four-year-old Sun Yul normally lives with his father and grandmother in Paju near the border with North Korea. But with kindergarten there canceled, he spent this week with his mother in her apartment in Seoul's Itaewon district. He's having a great time, he says, because he can watch YouTube videos at home.

His mom, Son Seung-hee, quickly chimed in.

"Well, you know, moms are in this emergency situation right now. Following nursery closures, I have to plan how my baby will spend his 24 hours," she said. "A baking session in the morning, drawing together, playing in the kitchen in the afternoon, and then the remaining time, I have no choice but to let the kid watch YouTube."

On February 26, Yul and his mom had a big piece of white paper rolled out on the floor and were creating a "treasure map" with paintbrushes and crayons.

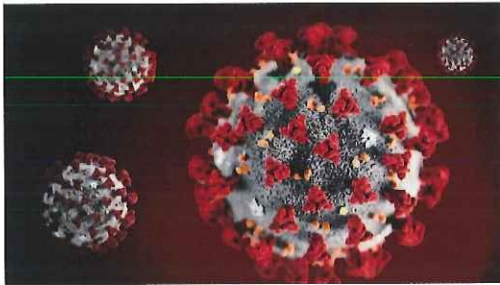
"Yul has a lot of free time and wants to play," Son said. "The sky outside is very blue. But we can't go anywhere."

## DOGOnews

MARCH 15, 2020

# The WHO Has Declared The COVID-19 Coronavirus Outbreak A Pandemic: Here Is What That Means

BY MEERA DOLASIA

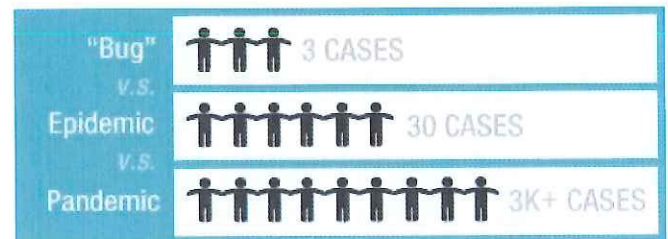


The COVID-19 coronavirus was declared a global pandemic by the WHO on March 11, 2020 (Credit: YouTube screen capture)

On March 11, 2020, the World Health Organization (WHO) announced that the COVID-19 coronavirus global emergency is now a **pandemic**. The UN health agency **urged** countries worldwide to "double-down" on their efforts to **curtail** the spread of the **infectious** disease, which has swept into at least 114 countries and killed over 4,000 people in less than three months.

"WHO has been assessing this outbreak around the clock, and we're deeply concerned both by the alarming levels of spread and severity and the alarming levels of inaction. We have therefore made the assessment that Covid-19 can be **characterized** by 'pandemic,'" WHO Director-General Tedros Adhanom Ghebreyesus said at a press conference in Geneva, Switzerland.

## What is a pandemic?



A pandemic refers to the unchecked spread of disease across many countries (Credit: [www.utsouthwestern.edu](http://www.utsouthwestern.edu))

A **viral** illness usually starts as an "outbreak." This refers to a large number of people in one area getting infected within a short period of time. For example, the series of measles cases in the US in 2019 was considered an outbreak. If the disease continues to spread **extensively**, it is termed an "epidemic." According to the WHO, an epidemic is "the occurrence in a community or region of cases of an illness ... clearly in **excess** of normal expectancy."

However, the rapid global spread of COVID-19 — which began as an outbreak with 41 identified cases in Wuhan, China — has clearly gone far beyond the local community and region, transforming into a "pandemic." Scary as it sounds, a pandemic is a loosely-defined term that does not necessarily **predict** a severely **dire** outcome. The WHO usually declares a

pandemic when a new virus, for which people do not have **immunity**, spreads around the world beyond expectations.

Dr. Nathalie MacDermott, National Institute for Health Research academic clinical lecturer at King's College London, says: "The change of term does not alter anything practically as the world has been advised for the last few weeks to prepare for a **potential** pandemic, which has hopefully been taken seriously by all countries. The use of this term, however, **highlights** the importance of countries throughout the world working cooperatively and openly with one another and coming together as a united front in our efforts to bring this situation under control."

## How is the world stepping up to the WHO's call for action?

While governments and corporations worldwide had taken some measures to **curb** the COVID-19 spread, its new status as a pandemic has elevated the urgency further. Italy, which has reported 10,000 COVID-19 cases, including 1,000 deaths — the worst outbreak outside of China — has imposed severe travel restrictions and banned all public gatherings. All sporting events have also been **suspended indefinitely**, and schools and universities have been shuttered until at least April 3, 2020.

Spain, with over 4,000 cases, has declared a national state of emergency. In addition to banning non-essential travel, the government has also closed all schools and

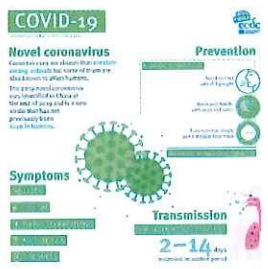
universities until early April. In the Catalonia region, all businesses and retailers, except for ones selling food or **essential** goods, have been shut down in the four hardest-hit towns. Madrid, which is the **epicenter** of almost half of the country's COVID-19 cases, has taken similar measures and closed all restaurants, bars, and shops. Only supermarkets and pharmacies are allowed to remain open.

The US is taking similar measures. Following the WHO announcement, President Trump imposed a 30-day ban on visitors from continental Europe. He also promised to free up as much as \$50 billion towards fighting the spread of the virus. The US government is also in the **process** of approving a bill that will provide free COVID-19 testing for all, and paid sick leave and unemployment insurance for those **afflicted** with the virus, as well as additional Medicaid funding for local healthcare systems.

Professional sports leagues, including the NBA, NCAA, NHL, and MLB, have either **postponed** or suspended their 2020 season. A large number of universities across the nation have closed and moved classes online for the rest of the school year. At least a dozen states, including — Ohio, Maryland, New Mexico, Michigan, West Virginia, Virginia, Louisiana, Illinois, Wisconsin, Washington, and Alabama — have closed schools until the end of March or early April. Large retailers, including Apple Inc and Urban Outfitters are shuttering stores globally, while others like Walmart, are cutting store hours. Many

American city and town officials have banned large public gatherings, including concerts. Officials are also **urging** citizens to **limit** private events to less than 100 guests.

## What precautions can I take?



COVID-19, a new strain of coronavirus, first surfaced in Wuhan, China, in December 2019 (Credit: CDC.gov)

Experts assert that simple **precautions** are the key to avoiding the infection. Wash your hands, including your nail tips, **frequently**

and **thoroughly** with soap and water for at least 20 seconds. Avoid touching your eyes, nose, or mouth with your hands, and stay away from people displaying flu-like symptoms. Conversely, those experiencing such symptoms should get tested and not go to school, work, or any public area where they risk infecting others.

Given the **unprecedented** nature of the virus' spread, the situation is certainly not one to be taken lightly. However, thanks to the **concerted** efforts from government officials, corporations, and individuals, we remain **optimistic** that the COVID-19 pandemic will soon be **contained**.

Stay strong, stay healthy. We are all in this together!

Resources: Vox.com, LATimes.com, www.brusselstimes.com USAtoday.com

## DOGOnews

MARCH 2, 2020

# World Leaders Take Precautionary Measures To Curb The Spread Of The New Coronavirus

BY MEERA DOLASIA



Electron microscope images of the new coronavirus (blue), which is infecting people worldwide (Credit: NIAID-RML)

Despite the extreme **quarantine** measures taken by Chinese officials to stem the spread of the 2019 Novel Coronavirus (COVID-19), or Wuhan virus, the **infectious**, flu-like **affliction** continues to spread worldwide at an **unprecedented** rate. As of March 2, 2020, there are more than 90,000 reported cases in at least 53 countries, with more than 3,000 deaths globally.

This is a sharp increase from the 7,711 instances of the **virus**, including 200 deaths in China, and the 100 cases reported in 19 countries worldwide, just four weeks ago. To prevent the disease from becoming a **pandemic**, nations worldwide are imposing strict measures, such as travel **restrictions** and school closures. Here are a few that went into effect over the past week.

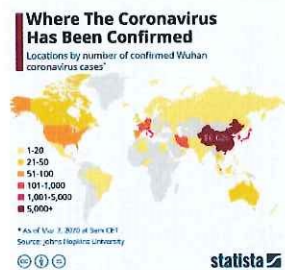
## United States

In two televised press conferences on February 27, 2020, and February 29, 2020, President Donald Trump and health experts assured Americans that the risk of contracting the disease was still extremely low in the US. They urged citizens not to **panic** and continue with their day-to-day lives. The US leader also **assured** Americans that he would **devote** all the resources necessary to **curtail** the spread of the infection, which has, as of March 2, 2020, afflicted 90 residents, six of whom have died. So far, all of the fatalities have occurred in Washington state. "We'll spend whatever is **appropriate**. Hopefully, we won't have to spend so much because we really think that we've done a great job in keeping it down to a minimum," the president said.

The US leader also **appointed** Vice President Michael Pence to oversee the effort to fight the virus. "Mike will be working with the professionals, doctors, and everybody else that is working. The team is brilliant. I spent a lot of time with the team the last couple weeks," he said. "But they are brilliant, and we're doing

really well, and Mike is going to be in charge, and Mike will report back to me."

As an added **precautionary** measure, the Center for Disease Control (CDC) is urging Americans to avoid traveling to countries most impacted by the outbreak. These include China, South Korea, Iran, and Italy.



Countries worldwide are taking precautionary measures to stop the spread of the Wuhan virus (Credit Statista/CC-BY-SA 2.0)

## South Korea

Outside of China, the largest outbreak of the Wuhan virus has been reported in South Korea. As of March 2, 2020, there are 4,335 confirmed cases and at least 22 infection-related deaths. To prevent it from spreading further, government officials have announced that suspected patients caught breaking the **mandated** two-week quarantine will face up to a year in prison or a 10 million won (\$8,200) fine. They also want individuals who have come within 7 feet (2 meters) of a coronavirus patient to self-quarantine by staying home for two weeks. Those who **comply** will be provided financial assistance to **compensate** for the lost wages.

Additionally, though most of the reported cases have been in the cities of Seoul and Daegu and the neighboring North Gyeongsang province, the country's leaders

are urging all citizens to stay indoors as much as possible. They have also closed all schools and **postponed** the start of the new term by three weeks, from early March to early April.

## Iran

Iran currently has the highest number of confirmed Wuhan virus cases outside Asia – 1,501, including 61 deaths, as of March 2, 2020. The government is urging locals to stay at home and to avoid mass gatherings, including funerals for coronavirus victims. The authorities also **imposed** a ban on members of the public visiting patients at hospitals across the country.

"The safest place is our homes and our cities," Health Ministry spokesperson Kianoush Jahanpour said in a televised address. "We have to reduce our visits, even attending funerals, and of course, those people who are **mourning** will feel guilty if they find that their ceremony causes the disease to spread."

## Italy



Italy has reported hundreds of confirmed cases of the Wuhan virus (red) and many more are suspected (blue) (Credit: Night Lantern / CC BY-SA 4.0/ Creativecommons.org)

Italy, which has reported 1,600 cases, including 34 coronavirus-related **fatalities**,



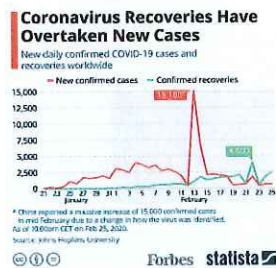
has cordoned off eleven towns and villages where most of the infections have occurred. Two impacted regions include Lombardy and Veneto, whose **respective** capitals, Milan and Venice, are popular business and holiday **destinations**. The regions' estimated 100,000 residents have been asked to remain in their homes for two weeks as authorities **scramble** to contain the spread. The officials have also stopped people from entering or leaving the affected areas, **suspended** all public events, and closed down tourist attractions, such as museums.

## Japan

Japan, which currently has more than 910 infections, including eight deaths, has not yet seen as rapid a jump in new cases as some of the other countries. To keep it that way, on February 27, 2020, Japanese Prime Minister Shinzo Abe requested the closure of all elementary, middle, and high schools until spring break, which starts in late March. Though the timing, which **coincides** with the end of Japan's school year and final examinations, is **unfortunate**, the country's leader believes it is necessary.

"The coming week or two is an extremely important time," Mr. Abe said. "This is to **prioritize** the health and safety of the children and take precautions to avoid the risk of possible large-scale infections for many children and teachers who gather and spend hours together every day."

## China



The number of daily new cases of the Wuhan virus is declining in China (Credit: Forbes/Statista/CC -by-SA/2.0)

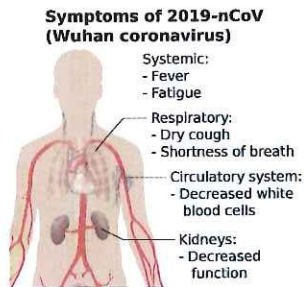
Though the Wuhan virus's worldwide spread is **disconcerting**, there is a glimmer of hope from mainland China, which was the **epicenter** of the outbreak. Since a massive spike in mid-February, the number of new cases being reported daily has stayed in the hundreds, rather than the thousands being reported earlier. This is good news for the millions of Chinese residents who are gradually being allowed to resume their normal lives after being quarantined for several months. More importantly, it indicates that with precautionary measures, like the ones being undertaken by countries worldwide, the virus can be effectively halted.

## Should I be concerned?

The CDC maintains that the risk of **contracting** the Wuhan virus is relatively low unless you have been, or are, in contact with someone that has recently traveled to a country, or an area, that has experienced a large outbreak. Additionally, thus far, the virus has proved fatal to only about 2 percent of those infected, with the risks increasing **significantly** for elderly patients. Infectious disease experts believe the overall fatality numbers could be even lower due to the possibility of thousands of

undetected infections around the world, many of them mild or even with no symptoms at all.

## What symptoms should I be looking out for?



Typical symptoms of the Wuhan virus (Credit: Mikael Häggström, M.D./CCO)

Wuhan virus symptoms are similar to those experienced with the flu. They include fever, cough, **fatigue**, muscle pain, and shortness of breath. Some victims have also experienced severe headaches and diarrhea. The CDC says if **diagnosed** on time, most people will recover on their own by simply resting and taking commonly-available cold medications.

## When will the Wuhan virus vaccine be available?

Scientists worldwide are **scrambling** to create an effective vaccine against the new coronavirus. However, Peter Marks, the director of the US Federal Drug Administration's Center for Biologics Evaluation and Research, warns that it will take a few months before one is ready and even more time to ensure that it is safe for the public. He is, however, cautiously

**optimistic** that medication used for previous coronavirus strains, currently being tested in Chinese hospitals, may help severely ill patients fight the disease.

## How can I remain healthy?



Simple measures like covering your cough and staying away from people who are sick can help stop the spread of the Wuhan virus (Credit: CDC.gov)

Though scientists are not entirely sure how this virus is spreading, coronaviruses typically pass through droplets containing large particles that can only be suspended in the air for three to six feet before **dissipating**. Hence, experts **recommend** taking simple precautions, like washing hands frequently and thoroughly with soap and water for at least 20 seconds, avoiding touching your eyes, nose, or mouth with your hands, and staying away from people displaying flu-like symptoms. Those experiencing any of the symptoms associated with the virus are advised to cover their coughs and sneezes with their inner elbows. Most importantly, however, they should stay away from school, work, or any public area where they risk infecting others.

Resources: marketwatch.com, CNN.com, BBC.com, Guardian.com

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.*

<b>Word:</b>	<b>Part of Speech:</b>	
<b>Definition:</b>		
<b>Sentence:</b>		
<b>Visual Representation</b>	<b>Synonyms</b>	<b>Antonyms</b>

<b>Word:</b>	<b>Part of Speech:</b>	
<b>Definition:</b>		
<b>Sentence:</b>		
<b>Visual Representation</b>	<b>Synonyms</b>	<b>Antonyms</b>

<b>Word:</b>	<b>Part of Speech:</b>	
<b>Definition:</b>		
<b>Sentence:</b>		
<b>Visual Representation</b>	<b>Synonyms</b>	<b>Antonyms</b>



Name: \_\_\_\_\_

Date: \_\_\_\_\_

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<b>Definition:</b>		
<b>Sentence:</b>		
<b>Visual Representation</b>	<b>Synonyms</b>	<b>Antonyms</b>





# High School Math

## Secondary Math Continuous Learning Plan Schedule

### Digital Resources

- [www.ixl.com](http://www.ixl.com)
- [www.khanacademy.com](http://www.khanacademy.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.

Algebra 150 Learning Plan		
Date	Topic	Practice
March 23, 2020	Solving Equations and Inequalities	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Practice 1</a></li> </ul>
March 24, 2020	Linear Equations	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Practice 2</a></li> </ul>
March 25, 2020	Linear Functions	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Practice 3</a></li> </ul>
March 26, 2020	Systems of linear equations and Inequalities	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Practice 4</a></li> </ul>
March 27, 2020	Exponential Functions	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Practice 5</a></li> </ul>
March 30, 2020	Polynomials	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Practice 6</a></li> </ul>
March 31, 2020	EOC Preparation	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Algebra EOC Prep 1</a></li> </ul>
April 1, 2020	EOC Preparation	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Algebra EOC Prep 1</a></li> </ul>
April 2, 2020	EOC Preparation	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Algebra EOC Prep 2</a></li> </ul>
April 3, 2020	EOC Preparation	Students should complete practice questions <ul style="list-style-type: none"> <li>• <a href="#">Algebra EOC Prep 2</a></li> </ul>

# 1 Topic Assessment Form B

1. Which of the sets shown includes the elements of Set Z that are both negative numbers and multiples of 4?

$$Z = \{-34, -28, -16, -2, 4, 8, 12, 26\}$$

- (A)  $\{-28, -16\}$   
(B)  $\{-28, -16, 4, 8, 12\}$   
(C)  $\{-28, -16, -2, 4, 8, 12\}$   
(D)  $\{-34, -28, -16, -2, 4, 8, 12, 26\}$

2. Order the numbers from least to greatest.

$$\frac{45}{11}, 4.5, \sqrt{20}, \sqrt{\frac{45}{4}}$$

3. Which of the following will result in a rational number? Select all that apply.

- (A)  $\frac{5}{6} + \frac{\sqrt{12}}{3}$       (B)  $\frac{5}{6} - \frac{\sqrt{36}}{3}$   
(C)  $\frac{5}{6} \cdot \frac{\sqrt{12}}{3}$       (D)  $\frac{5}{6} \div \frac{\sqrt{36}}{3}$

4. What is the value of  $x$  in this equation?

$$3(2x - 5) - 4x + 8 = -1$$

- (A)  $-6$   
(B)  $-2$   
(C)  $3$   
(D)  $4$

5. The sum of three consecutive even integers is 72. What are the three numbers?

6. LaTanya buys 5 yards of blue fabric and 8 yards of green fabric. The blue fabric costs \$2 more per yard than the green fabric. She pays a total of \$62. What would be the combined cost of 1 yard of blue fabric and 1 yard of green fabric?

- (A) \$6      (B) \$10  
(C) \$9      (D) \$14

7. How many solutions are there to this equation?

$$5x + 2 - 2(x - 1) = 3x + 4$$

- (A) no solution  
(B) exactly one solution  
(C) at least two solutions  
(D) infinitely many solutions

8. Corey combines  $x$  pounds of herbal tea at \$12 per pound with 8 pounds of regular tea at \$9 per pound. He makes a mixture that averages \$10.50 per pound. Write an equation to model the situation.

9. Find the value of  $x$  in this equation.

$$\frac{3}{4}(6x + 1) - 3x = \frac{1}{4}(2x - 1)$$

10. Solve the equation  $s = a + lw$  for the variable  $w$ .

- (A)  $w = \frac{s-a}{l}$       (B)  $w = \frac{s}{l} - a$   
(C)  $w = \frac{s}{l} + a$       (D)  $w = \frac{a-s}{l}$

11. The velocity  $v$  that an object  $r$  units from Earth's center must have in order to escape Earth's gravity is given by  $v^2 = \frac{2GM}{r}$ , where  $G$  is a constant. Solve for the object's mass  $M$ .

12. Write the formula for the volume of a square prism,  $V = \frac{1}{3}s^2h$ , in terms of  $h$ . Then find the height  $h$  of a square prism with volume  $V = 60 \text{ cm}^3$  and side length  $s = 6 \text{ cm}$ .

Formula:

Height:

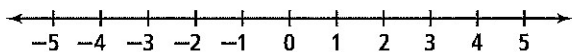
13. Solve the inequality.

$$-2(x - 3) - 4 \geq 3x - 5(x - 1)$$

- Ⓐ  $x \geq 2$   
 Ⓑ  $x \geq 5$   
 Ⓒ no solution  
 Ⓓ all real numbers

14. Graph the solution of the inequality on the number line.

$$-2x + 5(x - 2) > 7x - 6$$

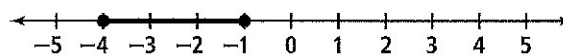


15. Solve the compound inequality.

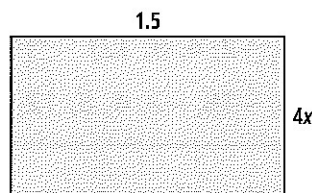
$$2(x - 2) + 7 > -1 \text{ and } 5 - 4x > 9$$

- Ⓐ  $x < -2$  and  $x < 1$   
 Ⓑ  $x > -2$  and  $x < 1$   
 Ⓒ  $x < -2$  and  $x < -1$   
 Ⓓ  $x > -2$  and  $x < -1$

16. Write a compound inequality for the graph below.



17. The area  $A$  of the rectangle shown is described with the inequality  $36 \leq A \leq 72$ . Write and solve a compound inequality for  $x$ .



18. Solve the absolute value equation.

$$3 = |6 - x|$$

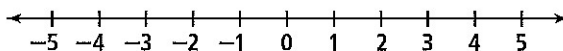
- Ⓐ  $x = \pm 3$       Ⓑ  $x = \pm 9$   
 Ⓒ  $x = 3, 9$       Ⓓ  $x = -3, 9$

19. Isabel is buying 6 angelfish, and she wants her total cost to be no more than \$2 above or below \$36. Which inequality models the cost  $x$ , in dollars, of an angelfish?

- Ⓐ  $|36 + 6x| \leq 2$     Ⓑ  $|6x + 2| \leq 36$   
 Ⓒ  $|6x - 2| \leq 36$     Ⓓ  $|36 - 6x| \leq 2$

20. Graph the solution of the absolute value inequality on the number line.

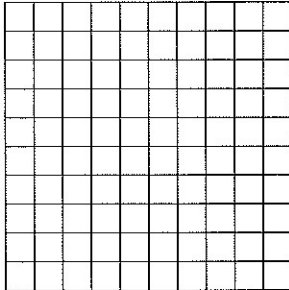
$$2|x + 3| + 1 > 3$$



Name \_\_\_\_\_

## 2 Topic Assessment Form B

1. What is the graph of  $y = 2x + 3$ ?



2. Which of the following is an equation of the line through  $(3, -1)$  and  $(-2, 14)$ ?

- (A)  $y = \frac{1}{3}x - 2$       (B)  $y = -\frac{1}{3}x$   
 (C)  $y = 3x - 10$       (D)  $y = -3x + 8$

3. Each day, Lourdes reads 30 pages of a 450-page book. Write a linear equation to represent the number of pages Lourdes has left to read after  $x$  days.

4. For the graph of the equation you wrote in Item 3, what does the  $y$ -intercept represent?

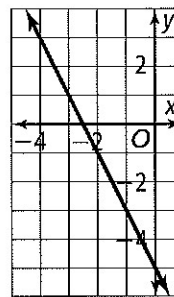
- (A) pages already read  
 (B) pages in the book  
 (C) pages read each day  
 (D) days it takes to finish the book

5. What is an equation of the vertical line that passes through  $(-2, -9)$ ?

6. For which values of  $A$ ,  $B$ , and  $C$  will  $Ax + By = C$  be a vertical line through the point  $(9, 3)$ ?

- (A)  $A = 1, B = 0, C = 3$   
 (B)  $A = 0, B = 1, C = 3$   
 (C)  $A = 1, B = 0, C = 9$   
 (D)  $A = 0, B = 1, C = 9$

7. What is an equation in point-slope form of the line shown in the graph, using the point  $(-2, -1)$ ?



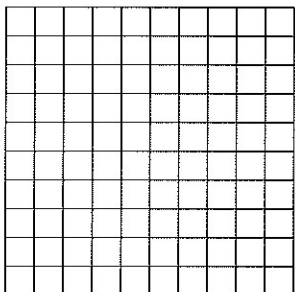
8. What is an equation in point-slope form of the line that passes through the point  $(-2, 10)$  and has slope  $-4$ ?

- (A)  $y + 10 = 4(x - 2)$   
 (B)  $y + 10 = -4(x - 2)$   
 (C)  $y - 10 = 4(x + 2)$   
 (D)  $y - 10 = -4(x + 2)$

9. What is an equation in point-slope form of the line that passes through  $(-1, -4)$  and  $(2, 5)$ ?

- (A)  $y + 1 = 3(x + 4)$   
 (B)  $y - 1 = 3(x - 4)$   
 (C)  $y + 4 = 3(x + 1)$   
 (D)  $y - 4 = 3(x - 1)$

10. What is the graph of  $4x + 8y = 16$ ?



11. Write the equation in standard form of the line that has x-intercept 6 and y-intercept  $-2$ .

12. What is the equation in standard form of the line  $y - 5 = \frac{3}{2}(x + 6)$ ?

- (A)  $2y - 10 = 3x + 18$
- (B)  $2y = 3x + 28$
- (C)  $3x - 2y = -28$
- (D)  $3x = 2y - 28$

13. What are the x-intercept and the y-intercept of the graph of  $5x + 8y = 20$ ?

- (A) x-intercept:  $\frac{5}{2}$ ; y-intercept: 4
- (B) x-intercept: 4; y-intercept:  $\frac{5}{2}$
- (C) x-intercept: 5; y-intercept: 8
- (D) x-intercept: 8; y-intercept: 5

14. Jake needs to buy 120 beverages for a party. What equation, in standard form, determines the number  $x$  of 8-packs of juice and the number  $y$  of 12-packs of water that Jake can buy?

15. For the situation in Item 14, which of the following represents a combination of juice and water that Jake can buy? Select all that apply.

- (A)  $(0, 10)$
- (B)  $(7\frac{1}{2}, 5)$
- (C)  $(12, 2)$
- (D)  $(30, -10)$

16. Determine whether the lines are *parallel*, *perpendicular*, or *neither*.  
 $x + 7y = -3$  and  $y = 7x + 25$

17. Which lines are perpendicular to  $6x + 18y = 5$ ? Select all that apply.

- (A)  $y = 3x - 10$
- (B)  $x = 3$
- (C)  $y + 6 = 3(x - 15)$
- (D)  $3x + 9y = 8$

18. Write the equation in slope-intercept form of the line that passes through  $(-1, 11)$  and is parallel to the graph of  $y = -8x - 2$ .

19. Line  $j$  passes through point  $(2, 0)$  and is perpendicular to the graph of  $y = \frac{1}{4}x - 3$ . Line  $k$  is parallel to line  $j$  and passes through point  $(-1, 6)$ . What is the equation in slope-intercept form of line  $k$ ?

20. What is the y-intercept of the line  $y + 4 = -4(x + 3.5)$ ?

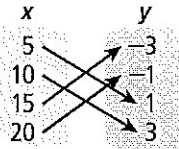
Name \_\_\_\_\_

**3 Topic Assessment Form B**

1. Which relation is not a function?

- (A) (7, 3), (7, 6), (7, 9), (7, 12), (7, 15)  
 (B) (-4, 6), (0, 6), (7, 6), (4, 6), (-7, 6)  
 (C) (4, 1), (8, 2), (12, 3), (16, 4), (20, 4)  
 (D) (1, 3), (3, 5), (5, 7), (7, 9), (9, 1)

2. Identify the domain and range of the relation.



domain: \_\_\_\_\_

range: \_\_\_\_\_

3. What is the best description of the function in Item 2?

- (A) a function that is one-to-one  
 (B) a function that is many-to-one  
 (C) a function that is one-to-many  
 (D) a relation that is not a function

4. Sasha sells T-shirts. Each day she earns a set amount, plus a commission. Write a linear function  $f$  to determine Sasha's pay.

T-shirts	1	2	3	4	5
Total Pay	68	71	74	77	80

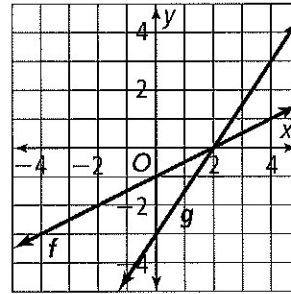
 $f(x) =$  \_\_\_\_\_

5. Which is a reasonable domain for the function in Item 4?

- (A)  $0 < x < 3$       (C)  $68 < x < 80$   
 (B)  $0 < x < 50$       (D) all real numbers

6. In Item 4, assume Sasha sells 24 T-shirts in one day. How much would she earn that day?

- (A) \$36      (C) \$101  
 (B) \$72      (D) \$137

7. Given  $f(x) = 4x - 6$  and  $g(x) = f(2x)$ , write an equation for  $g$ .8. Given  $g(x) = kf(x)$ , identify a value of  $k$  that transforms  $f$  into  $g$ . $k =$  \_\_\_\_\_9. For  $f(x) = -x + 8$ , which statement is true?

- (A)  $f(x + k) = f(x) + k$   
 (B)  $f(x - k) = f(x) - k$   
 (C)  $f(x + k) = f(x) + f(k)$   
 (D)  $f(x - k) = f(x) + k$

10. Which of the following is an arithmetic sequence?

- (A) 1, 3, 6, 10, 15, ...  
 (B) -8, -11, -14, -17, -20, ...  
 (C) 48, 24, 12, 6, 3, ...  
 (D) 1, 12, 123, 1234, 12345, ...

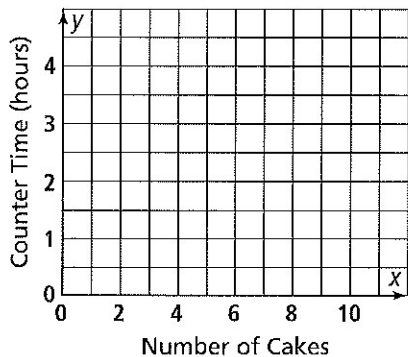
11. A pizza with one topping costs \$11. Each additional topping costs \$2 more. Write a recursive formula and an explicit formula for the situation.

explicit formula: \_\_\_\_\_

recursive formula: \_\_\_\_\_

12. Each day at the bakery, Jack bakes cakes and helps out at the counter. Make a scatter plot of the hours Jack spends at the counter as a function of the number of cakes he bakes. Draw a trend line.

Cakes	2	3	5	6	7
Time (h)	4	4	1.5	2.5	1.5



13. What type of correlation does the scatter plot in Item 12 show?

- (A) positive correlation
- (B) negative correlation
- (C) no correlation
- (D) cannot be determined

14. Which could be an equation of a trend line for the data in Item 12?

- (A)  $y = -0.5x + 5$
- (B)  $y = -0.8x + 8$
- (C)  $y = -0.5x + 3.5$
- (D)  $y = -0.8x + 5$

15. What does the y-intercept of the line in Item 12 represent?

- (A) average time it takes to bake one cake
- (B) average number of cakes per hour Jack can bake
- (C) total time spent baking cakes
- (D) total number of hours Jack works each day

16. Compute the residuals for the trend line in Item 14.

x	2	3	5	6	7
Residual					

17. In Item 12, estimate the time Jack spends at the counter when he bakes 4 cakes.

estimate: about \_\_\_\_\_ h

18. Is the estimate in Item 17 an *interpolation* or an *extrapolation*?

19. Which *r*-value suggests a strong positive correlation?

- (A)  $r = 0.1847$
- (B)  $r = -0.1847$
- (C)  $r = 0.9974$
- (D)  $r = -0.9974$

20. The table shows test scores for six students. Do the data show a *positive* or a *negative* correlation? Can the data be used to show *causation*?

History	76	79	83	88	91	92
Math	85	87	89	90	93	93



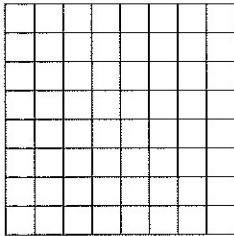
Name \_\_\_\_\_

## 4 Topic Assessment Form B

1. Solve the system by graphing.

$$y = 2x + 2$$

$$y = x$$



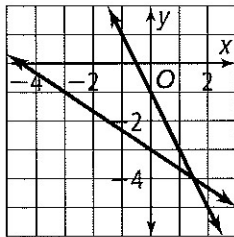
solution: \_\_\_\_\_

2. Does the system have *no solution* or *infinitely many solutions*?

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

$$-2x + 3y = 6$$

3. Estimate the solution of the system of equations.



solution: \_\_\_\_\_

4. Raul bikes 6 mi home from school at a rate of 3 mi/h. Leah leaves school 30 min after Raul and bikes the same route at a rate of 4 mi/h. How many hours does it take Leah to catch up with Raul?

- (A) 1.5 h                      (C) 6 h  
 (B) 3 h                        (D)  $\frac{2}{3}$  h

5. What is the solution of the system of equations?

$$y = \frac{3}{2}x + \frac{5}{4}$$

$$-2x + 8y = -25$$

6. What is the solution of the system of equations?

$$2x + 5y = 20$$

$$y = -\frac{2}{5}x - 1$$

7. Luke sells toy cars for \$12 each. His expenses are \$3.50 per car, plus \$34 for tools. How many cars must he sell for his revenue to equal his expenses?

- (A) 3      (B) 10      (C) 4      (D) 3.5

8. What is the solution of the system?

$$2x + 5y = 14$$

$$x + 3y = 16$$

9. Which system has the same solution as the system of equations shown?

$$3x + 2y = -5$$

$$2x + 3y = 5$$

- (A)  $6x + 4y = -5$       (C)  $6x + 4y = -10$   
 $6x + 9y = 5$                $-6x + 9y = 15$   
 (B)  $9x + 6y = -15$       (D)  $6x + 4y = -10$   
 $4x + 6y = 10$                $6x + 9y = 5$

10. What is the solution of the system?

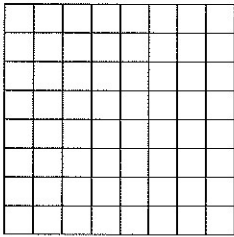
$$5x + 2y = 9$$

$$4x - 3y = 44$$

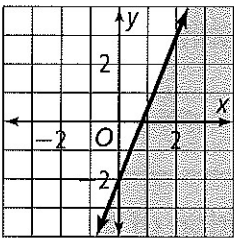
11. The price of 6 slices of pizza and 4 drinks is \$37. The price of 4 slices of pizza and 6 drinks is \$33. How much does one drink cost?

(A) \$1.75                      (C) \$3.50  
 (B) \$2.50                      (D) \$4.50

12. Graph the inequality  $y > 3x + 3$ .



13. Which inequality does the graph represent?



(A)  $y < 2.5x - 2$                       (C)  $y \leq 2.5x - 2$   
 (B)  $y > 2.5x - 2$                       (D)  $y \geq 2.5x - 2$

14. In the graph of an inequality, the area below a dashed line through the points  $(-2, -2)$  and  $(3, -2)$  is shaded. Which inequality does the graph represent?

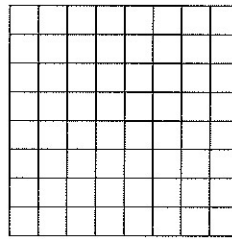
(A)  $y \geq -2$                       (C)  $y < -2$   
 (B)  $y \leq -2$                       (D)  $x < -2$

15. In the graph of an inequality, the region to the right of a dashed vertical line through the point  $(-4, 0)$  is shaded. What inequality does the graph represent?

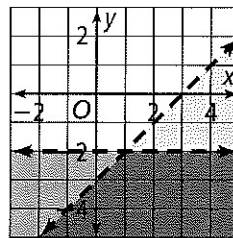
16. Graph the system of inequalities.

$$x - y \leq 1$$

$$x + 2y < 4$$



17. What system of inequalities is shown in the graph?



(A)  $y < -2$  and  $y < x - 3$   
 (B)  $x < -2$  and  $y < x - 3$   
 (C)  $y \leq -1$  and  $y \leq x - 3$   
 (D)  $y \leq -1$  and  $y \leq x - 3$

18. At a theater, the price of 4 adult tickets and 3 child tickets is \$156. The price of 3 adult tickets and 4 child tickets is \$145. What is the ticket price for one adult and for one child?

adult: \_\_\_\_\_ child: \_\_\_\_\_

19. The owner of the theater in Item 18 wants to make at least \$400 at each performance. Let  $x$  be the number of adult tickets and  $y$  be the number of child tickets sold. Write an inequality to show the number of tickets that need to be sold.

## 6 Topic Assessment Form B

1. Write  $\sqrt[3]{10}$  using rational exponents.

(A)  $3^{10}$                       (C)  $3^{\frac{1}{10}}$   
 (B)  $10^3$                       (D)  $10^{\frac{1}{3}}$

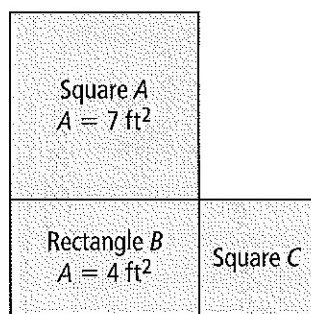
2. Solve the equation  $(5^{\frac{x}{3}})(5^{\frac{x}{5}}) = 5^4$ .

3. Solve the equation

$$\left(\frac{1}{49}\right)^{x+2} = (7)^{x-3}.$$

(A)  $x = -7$   
 (B)  $x = -\frac{1}{3}$   
 (C)  $x = \frac{1}{3}$   
 (D) the equation has no solution

4. The diagram shows two squares constructed on the sides of a rectangle. What is the area of Square C?



5. Solve the equation  $\frac{(10^x)^{\frac{2}{3}}}{10^{\frac{1}{3}}} = 10$ .

(A)  $x = 0$                       (C)  $x = \frac{2}{3}$   
 (B)  $x = \frac{1}{2}$                       (D)  $x = 2$

6. Identify the key features of the exponential function  $f(x) = 10^x$  and its graph.

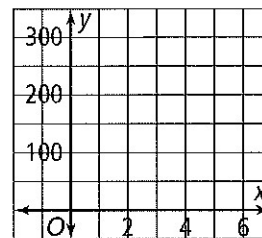
The domain is \_\_\_\_\_.

The range is \_\_\_\_\_.

The asymptote is \_\_\_\_\_.

The y-intercept is \_\_\_\_\_.

7. Graph  $f(x) = 6^x$ .



8. Write an exponential function for the set of points.

$x$	0	1	2	3	4
$f(x)$	6	12	24	48	96

9. Ines has saved \$5. She doubles the amount she saves each week. Does this represent an exponential function?

Complete: This \_\_\_\_\_ represent an exponential function, because her savings increase by a constant \_\_\_\_\_.

10. The population of a town is 14,000, and it grows at a rate of 4% per year. What will the population be in 6 years?

(A) about 87,360    (C) about 17,714  
 (B) about 17,360    (D) about 14,560

11. Tia invests \$2,500 at an interest rate of 4%, compounded quarterly. How much is the investment worth at the end of 5 years?

(A) \$2,600.00      (C) \$3,041.63  
(B) \$3,000.00      (D) \$3,050.48

---

12. The population of a town is 18,000. It decreases at a rate of 8% per year. In about how many years will the population be fewer than 11,000?

(A) 6                      (C) 4  
(B) 5                      (D) 3

---

13. There are 4,200 bacteria in a lab dish. The population decreases 8% per day. Compare the decrease in the population for days 1 to 3 with the decrease for days 4 to 6.

Complete the sentence with "more quickly," "less quickly," or "at the same rate." The population decreases \_\_\_\_\_ from day 4 to day 6 than from day 1 to day 3.

---

14. Is the sequence 10, 15, 22.5, 33.75, ... a geometric sequence?

Complete: The sequence has a common \_\_\_\_\_, so it \_\_\_\_\_ a geometric sequence.

---

15. What are the explicit and recursive formulas for the sequence 540, 180, 60, 20, ...?

explicit: \_\_\_\_\_

recursive: \_\_\_\_\_

---

16. The explicit formula for a geometric sequence is  $a_n = 6(3)^{n-1}$ . What is the recursive formula for the sequence?
- 

17. The recursive formula for a geometric sequence is  $a_n = \frac{1}{5}a_{n-1}$  with an initial value of  $a_1 = 125$ . What is the explicit formula for the sequence?
- 

18. How does the graph of the function  $g(x) = 2^x + 6$  differ from the graph of  $f(x) = 2^x$ ?

(A) It is moved up 6 units.  
(B) It is moved down 6 units.  
(C) It is moved right 6 units.  
(D) It is moved left 6 units.

---

19. How does the graph of the function  $g(x) = 3^{x+2}$  differ from the graph of  $f(x) = 3^x$ ?

(A) It is moved up 2 units.  
(B) It is moved down 2 units.  
(C) It is moved right 2 units.  
(D) It is moved left 2 units.

---

20. Function  $g$  is a transformation of  $f(x) = 2^x$ . Compare the graphs of the functions. Select all that apply.

$x$	0	1	2	3	4
$g(x)$	5	6	8	12	20

(A) They have the same domain.  
(B) They have the same range.  
(C) They have the same y-intercept.  
(D) They have the same asymptote.



## 7 Topic Assessment Form B

1. Which of the following expression(s) are third-degree binomials? Select all that apply.

(A)  $2y - xy^3 + 7$   
(B)  $3x^2y + 5xy$   
(C)  $3y^3 + 3x^3y^4$   
(D)  $3xy - 3xy^2$

2. Write  $3x^3 - 5x + 7x^4 - 9 - x^2$  in standard form.

(A)  $-9 + 7x^4 - 5x + 3x^3 - x^2$   
(B)  $3x^3 - 5x + 7x^4 - 9 - x^2$   
(C)  $7x^4 + 3x^3 - x^2 - 5x - 9$   
(D)  $-9 - 5x - x^2 + 3x^3 + 7x^4$

3. Simplify:  $(3x^3 + 7x - 1) + (4x^3 - 9x^2 - 11x + 1)$ . Write your answer in standard form.

4. Simplify:  $(-5x + 7) - (x^2 - 3x + 2)$ . Write your answer in standard form.

5. Find the product.  
 $-7y^2(-2y^4 + y^2 - 1)$

(A)  $14y^8 - 7y^4 + 7y$   
(B)  $14y^6 - 7y^4 + 7y^2$   
(C)  $-14y^6 + 7y^4 - 7y^2$   
(D)  $-9y^6 - 6y^4 - 8y^2$

6. Find the product.  
 $(4x^2 + 6)(x^2 - 3x + 8)$

7. A portrait without its frame has a height 1.5 times its width  $w$ , in inches. Its frame is 4 in. wide all along its perimeter. What is an expression for the area of the framed portrait in terms of  $w$ ? Simplify your expression and write it in standard form.

8. Find the product.  
 $(2y - 6)^2$

(A)  $4y^2 - 24y + 36$   
(B)  $4y^2 + 24y - 36$   
(C)  $4y^2 + 36$   
(D)  $4y^2 - 16y - 12$

9. Find the product.  
 $(3x - 2)(3x + 2)$

10. A square picture has a 2-in. frame around it. If the area of the frame alone is  $72 \text{ in.}^2$ , what is the area of the picture?

11. What is the greatest common factor of the terms of the polynomial  $-25y^3 + 15y^2 - 5y$ ?

12. What is the prime factorization of 140?

- (A)  $2 \cdot 5 \cdot 7$
  - (B)  $4 \cdot 5 \cdot 7$
  - (C)  $2 \cdot 2 \cdot 35$
  - (D)  $2 \cdot 2 \cdot 5 \cdot 7$
- 

13. Factor out the greatest common factor from the terms of the polynomial  $6x^3 - 12x^2 + 18x$ .

- (A)  $x^2(6x - 12) + 18$
  - (B)  $6x(x^2 - 2x + 3)$
  - (C) The expression is already fully factored.
  - (D)  $6x^3 - 6x(2x - 3)$
- 

14. What pair of factors of  $-45$  has a sum of 4?

---

15. What is the factored form of  $x^2 - 3x - 10$ ?

- (A)  $(x + 2)(x - 5)$
  - (B)  $(x - 2)(x + 5)$
  - (C)  $x(x - 3) - 10$
  - (D) The expression is already fully factored.
- 

16. What is the factored form of  $x^2 - 2xy - 24y^2$ ?

- (A)  $(x - 4y)(x + 6y)$
- (B)  $(x + 4y)(x - 6y)$
- (C)  $x(x - 2y) - y(2x + 24y)$
- (D) The expression is already fully factored.

17. Complete the following to factor the trinomial  $8x^2 + 26x + 15$ .

$$\begin{aligned} & 8x^2 + \underline{\hspace{2cm}}x + \underline{\hspace{2cm}}x + 15 \\ &= \underline{\hspace{2cm}}(4x + 3) + \underline{\hspace{2cm}}(4x + 3) \\ &= (\underline{\hspace{2cm}} + \underline{\hspace{2cm}})(\underline{\hspace{2cm}} + \underline{\hspace{2cm}}) \end{aligned}$$

---

18. Factor  $12y^2 - 6y - 90$ .

- (A)  $6y(2y - 1) - 15$
  - (B)  $(6y - 18)(2y - 5)$
  - (C)  $6(2y - 5)(y + 3)$
  - (D)  $6(y - 3)(2y + 5)$
- 

19. If  $9x^2 - 6x + 5$  is rewritten as  $p^2 - 2p + 5$ , what is  $p$  in terms of  $x$ ?

---

20. Factor the perfect square trinomial  $x^2 - 18x + 81$ .

- (A)  $(x - 9)^2$
  - (B)  $(x - 9)(x + 9)$
  - (C)  $(x + 9)^2$
  - (D)  $(x - 18)^2$
- 

21. Factor the perfect square trinomial  $y^2 - 14y + 49$ .

---

22. Factor the expression  $36y^2 - 1$ .

---

23. A cone with height  $h$  and radius  $r$  has volume  $V = \frac{1}{3}\pi r^2 h$ . If  $h$  is 9 in., and  $V$  is equal to  $3\pi y^2 + 30\pi y + 75\pi$  in.<sup>3</sup>, what is the cone's radius  $r$  in terms of  $y$ ?

**Algebra 1 - EOC PREP #1**

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

1. Alonso has a garden with a length that is exactly twice the width. He decides to increase both the width and the length by 2 yards. What will be the area of the new garden in terms of the original width,  $w$ ?

A.  $2w^2 + 6w + 4$

B.  $2w^2$

C.  $3w + 4$

D.  $6w + 8$

2. Subtract.

$$(x^2 + xy - 3y^2) - (4x^2 - 2xy + y^2)$$

A.  $-3x^2 - xy - 2y^2$

B.  $-3x^2 + 3xy - 4y^2$

C.  $-4x^3y^3$

D.  $-6x^3y^3$

3. Multiply.

$$(x^2 + 3x + 2)(x^2 - x - 1)$$

A.  $x^4 - 3x^2 - 2$

B.  $x^4 + 2x^3 - 2x^2 - 5x - 2$

C.  $-6x^{10}$

D.  $-4x^6$

4. Which of the following sequences is generated by the formula below?

$$a_n = -3n + 4; \text{ for } n \geq 1$$

- A. 1, -2, -6, -18, ...
- B. 7, 10, 13, 16, ...
- C. 1, -2, -5, -8, ...
- D. 7, 4, 1, -2, ...

5. Write a function to represent the sequence below if the first term represents  $n = 1$ .

$$-\frac{1}{3}, -\frac{2}{3}, -1, -1\frac{1}{3}, \dots$$

A.  $A(n) = \frac{1}{3}n$

B.  $A(n) = -\frac{1}{3}n$

C.  $A(n) = \frac{2}{3} - n$

D.  $A(n) = \frac{n}{3} - \frac{2}{3}$

6. The perimeter of a rectangle with a length of 10 units is 55 units. Which equation can be used to find the width,  $w$ , of the rectangle?

A.  $w + 10 = 55$

B.  $w + 20 = 55$

C.  $2w + 10 = 55$

D.  $2w + 20 = 55$

7. Claire has \$210 to spend on clothes. She wants to buy a pair of shorts and some shirts. The cost of a pair of shorts is \$25, and the cost of a shirt is \$40. If she gets a discount of 50% on one shirt, which inequality can be used to find the maximum number of shirts,  $n$ , that she can buy?

A.  $40n + 20 + 25 \leq 210$

B.  $40(n - 1) + 20 + 25 \leq 210$

C.  $20n + 20 + 25 \leq 210$

D.  $20(n - 1) + 20 + 25 \leq 210$



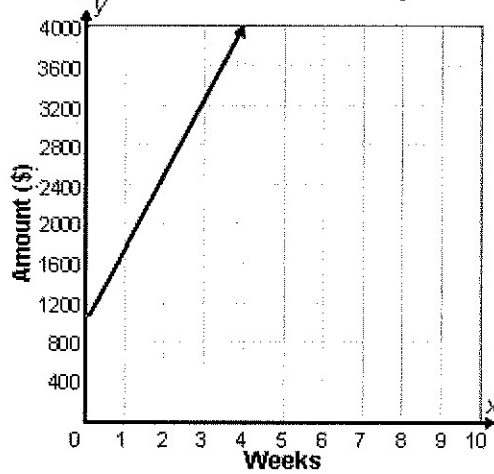
8. A car rental agency charges \$25 per day plus an initial deposit of \$50 to rent a car. How many days did Lyla rent the car for if she paid a total of \$325?
- A. 13 days
  - B. 7 days
  - C. 11 days
  - D. 15 days
9. The coach of a soccer team wants to have at least 4 water bottles for each team member and 1 each for the 3 coaches. If there are  $t$  members of the team members and the coach has 19 bottles of water, which inequality represents the most number of players he can serve?
- A.  $19 \leq 4t + 3$
  - B.  $19 \leq 3t + 4$
  - C.  $19 \geq 3t + 4$
  - D.  $19 \geq 4t + 3$

10. Cindy deposited money to open an account and then tracked the balance in the table below.

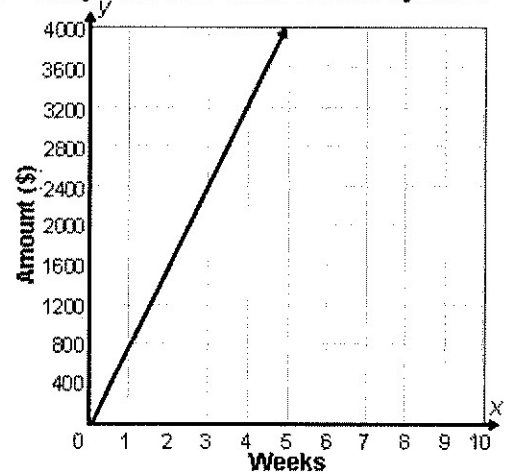
End of Week	Amount (\$)
1	1,800
2	2,500
3	3,200

Which of the following graphs represents Cindy's balance over time?

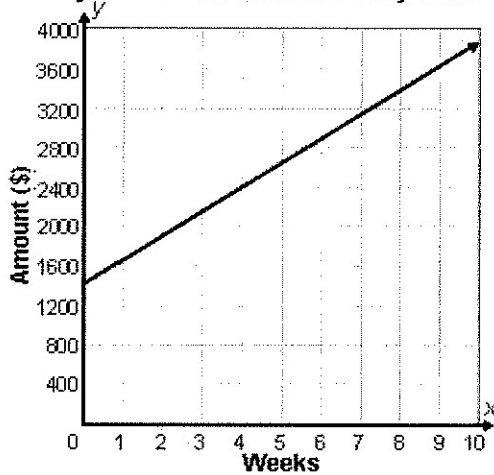
A. Cindy's Account at the End of Every Week



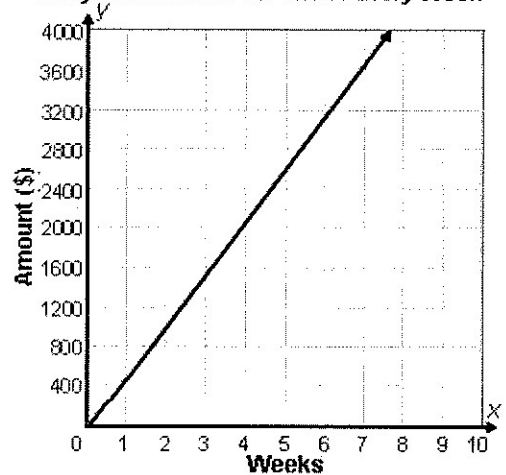
B. Cindy's Account at the End of Every Week



C. Cindy's Account at the End of Every Week



D. Cindy's Account at the End of Every Week

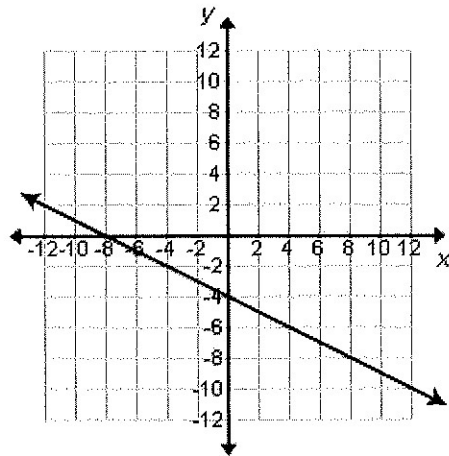


11. Jonique exercises using an exercise ball every day. She starts with a short warm-up then increases her workout time each day.

Day	Total # of Minutes On Exercise Ball
1	13
2	21
3	29
4	37
5	45
6	53

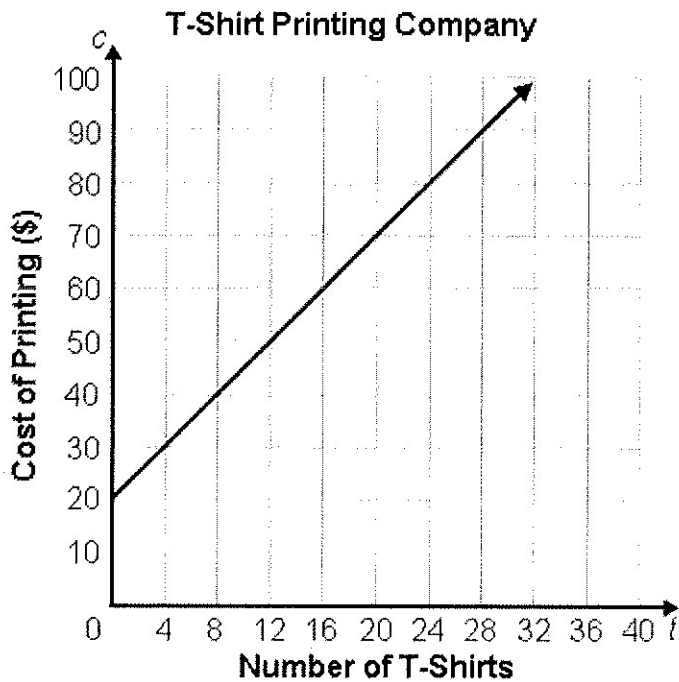
Which equation below can be used to represent the pattern of the data in the chart?

- A.  $y = 5x + 8$   
 B.  $y = 9x + 4$   
 C.  $y = 7x + 6$   
 D.  $y = 8x + 5$
12. Which equation below represents the line on the coordinate graph?



- A.  $y = -\frac{1}{2}x - 8$   
 B.  $y = \frac{1}{2}x - 8$   
 C.  $y = -\frac{1}{2}x - 4$   
 D.  $y = \frac{1}{2}x - 4$

13. A T-shirt printing company has created a graph of the cost of printing.



Which of the following equations best relates the cost,  $c$ , in dollars of printing  $t$  number of T-shirts?

- A.  $c = 20t + 2.5$   
 B.  $c = 22.5t$   
 C.  $c = 2.5t + 20$   
 D.  $c = 50t$
14. Stuart was working the cash register at the snack bar for the school football game when he realized the computer had stopped tracking the items sold. He knows that he sold 135 items totaling \$391.25 worth of popcorn and soda during the game. If soda sells for \$3.50 and popcorn sells for \$2.25, which system of equations can be used to determine how many of each Stuart sold?

- A. 
$$\begin{cases} x + y = 135 \\ 2.25x + 3.5y = 391.25 \end{cases}$$
- B. 
$$\begin{cases} 5.75(x + y) = 391.25 \\ 2.25x + 3.5y = 135 \end{cases}$$
- C. 
$$\begin{cases} x + y = 391.25 \\ 2.25x + 3.5y = 135 \end{cases}$$
- D. 
$$\begin{cases} 5.75(x + y) = 391.25 \\ x + y = 135 \end{cases}$$

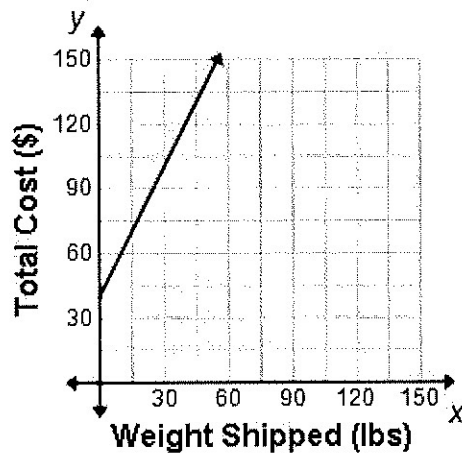
15. Javier is doing his Physics homework. He has 10 problems in one section that require him to use the following formula.

$$v = v_0 + at$$

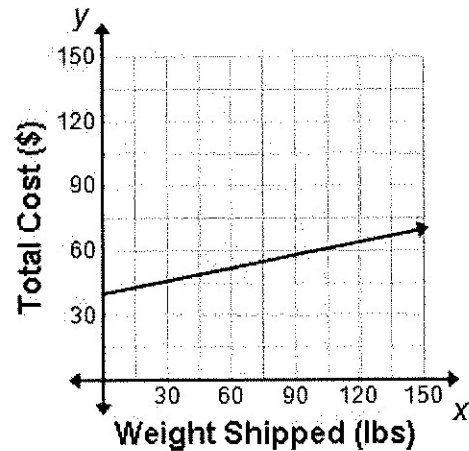
His work will go faster if he first solves the formula for  $a$ . Which of the following correctly solves the formula for  $a$ ?

- A.  $v - v_0 = a$   
 B.  $\{(v - v_0) = a$   
 C.  $\frac{(v - v_0)}{t} = a$   
 D.  $\frac{v}{t} - v_0 = a$
16. Claire pays a packaging fee of \$20.00 per box plus an additional 20 cents per pound for shipping. Which of the following includes the equation and graph that represent the total cost,  $C$ , Claire has to pay to ship two boxes weighing  $x$  pounds?

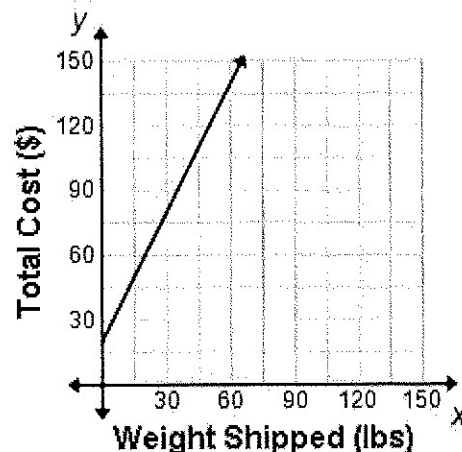
A.  $C = 40 + 0.2x$



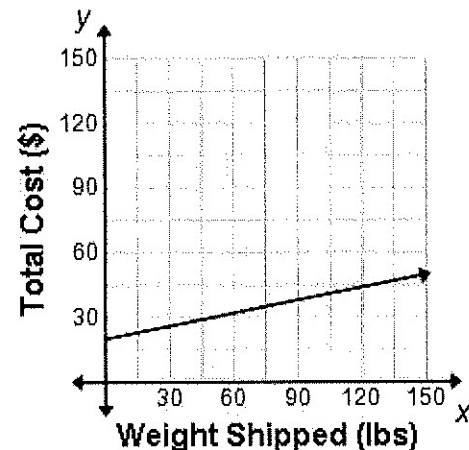
B.  $C = 40 + 0.2x$



C.  $C = 20 + 0.2x$



D.  $C = 20 + 0.2x$



17. Find the domain of the following relation  $r$ .

$$r = \{(0, -4), (-7, 5), (2, 2), (4, 7), (-1, -6)\}$$

A.  $\{-6, -4, 2, 5, 7\}$

B.  $\{-7, -1, 0, 2, 4\}$

C.  $\{-7, -6, -4, -1, 0, 2, 2, 4, 5, 7\}$

D.  $\{-7, -6, -4, -1, 0, 2, 4, 5, 7\}$

18. Find the slope of the line through the points  $(-8, -3)$  and  $(-5, -9)$ .

A.  $\frac{6}{13}$       C.  $\frac{-9 - 3}{-5 - 8}$

B.  $\frac{-9 + 3}{-5 + 8}$       D.  $-\frac{1}{2}$

A. A

B. B

C. C

D. D

19. Write an equation for the line that passes through the points  $(-6, 0)$  and  $(2, -4)$ . Use the form

$$y = mx + b.$$

A.  $y = -2x - 12$

B.  $y = -x + 6$

C.  $y = x - 6$

D.  $y = -\frac{1}{2}x - 3$

20. Solve for  $t$ .

$$4(t - 5) + 3 = t + 1$$

A.  $t = 6$

B.  $t = -3/16$

C.  $t = -16/5$

D.  $t = -22/3$

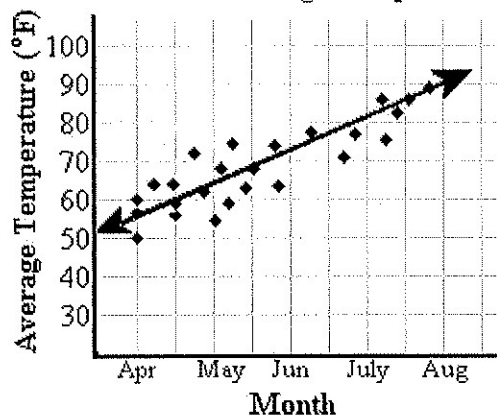
21. You are planning a vacation for you and a friend and you must choose the most economical places to stay and eat. The Colonial Bed and Breakfast has two vacation plans. Vacation Plan A includes two nights stay and one meal for \$106.00. Vacation Plan B includes two nights stay and four meals for \$130.00. How much is the Colonial Bed and Breakfast charging for each night's stay and each meal?
- A. \$93.00 per night / \$23.00 per meal  
 B. \$49.00 per night / \$8.00 per meal  
 C. \$56.40 per night / \$47.20 per meal  
 D. \$81.00 per night / \$8.00 per meal

22. **Choose the correct equation to represent the following problem and solve.**

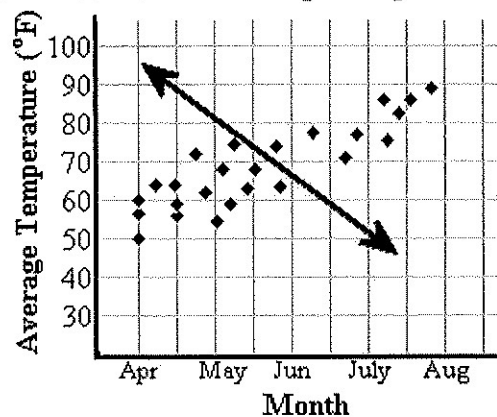
Jerome has 602 stamps in his collection. This is 78 more stamps than 4 times the amount of stamps that Elliot has. How many stamps does Elliot have? Let  $s$  = the amount of stamps Elliot has.

- A.  $4s = 602 + 78$ ;  $s = 171$  stamps  
 B.  $4s + 78 = 602$ ;  $s = 131$  stamps  
 C.  $4s + 78 = 602$ ;  $s = 524$  stamps  
 D.  $4s = 602 + 78$ ;  $s = 680$  stamps
23. The graphs below show the date and the average temperature for several cities in Florida. Which graph illustrates the line of best fit for this data?

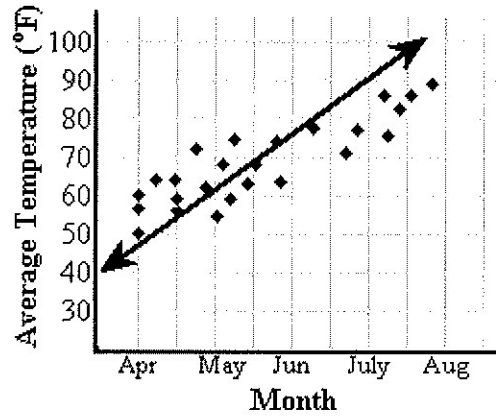
- A. **Month vs. Average Temperature**



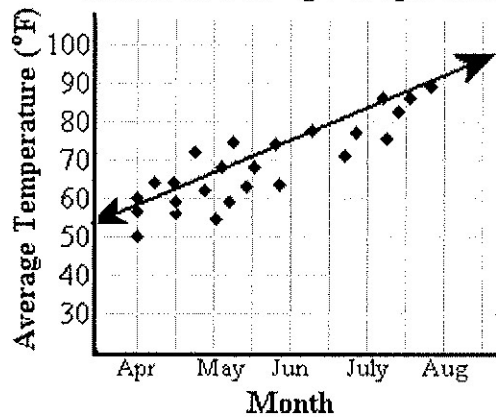
- B. **Month vs. Average Temperature**



C. Month vs. Average Temperature



D. Month vs. Average Temperature



24. Simplify.

$$\frac{48x^3y^{-5}z^8}{16x^{-5}y^2z^4}$$

A.  $\frac{3x^2z^4}{y^3}$

B.  $3x^2y^3z^4$

C.  $3xyz^{19}$

D.  $\frac{3x^8z^4}{y^7}$



25. Simplify.

$$\frac{(2x^2)^{-3}}{(6x)^{-2}}$$

A.  $\frac{9x}{2}$

B.  $\frac{2}{9x}$

C.  $\frac{2x^4}{9}$

D.  $\frac{9}{2x^4}$

26. Find the missing term.

$$(x^{5b}) \cdot (?) = x^{7b}$$

- |    |          |
|----|----------|
| A. | $x^2$    |
| B. | $b^{2x}$ |
| C. | $2x$     |
| D. | $x^{2b}$ |

A. A

B. B

C. C

D. D

27. Simplify.

$$(4^0) \cdot \left(\frac{1}{2^{-1}}\right) \cdot (2 \cdot 3)^0 + 5^{-1}$$

- |    |                |    |                |
|----|----------------|----|----------------|
| A. | $\frac{24}{5}$ | B. | 10             |
| C. | 5              | D. | $\frac{11}{5}$ |

A. A

B. B

C. C

D. D

28. Simplify.

$$(9x^4y^6)(3x^2y^3)$$

- A.  $27x^6y^9$
- B.  $12x^6y^9$
- C.  $27x^2y^3$
- D.  $\frac{27x^2}{y^3}$
29. Tim wants to find an equation of the line that includes the point (2, 6) and has a y-intercept of 5. His work to find the slope is below.

$$\text{slope} = \frac{0-6}{5-2} = -2$$

Tim used the slope to write the equation  $y = -2x + 5$ . Which of the following is true about Tim's work?

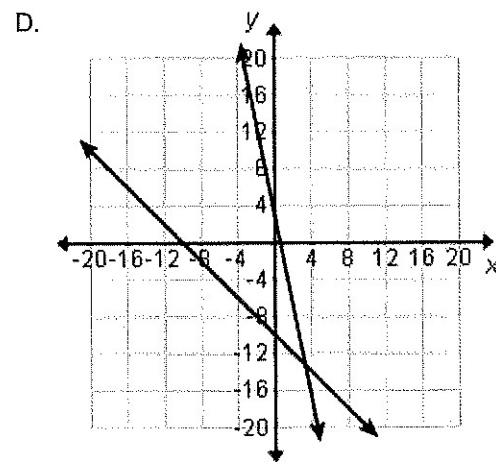
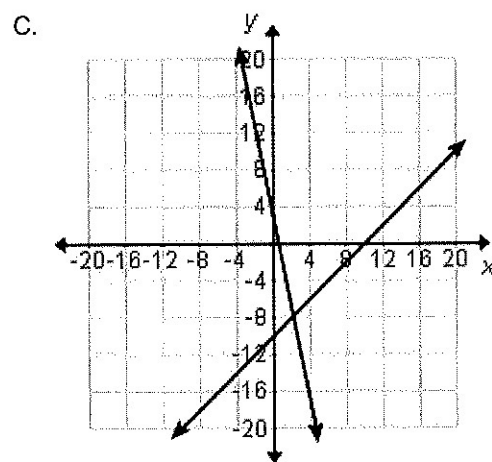
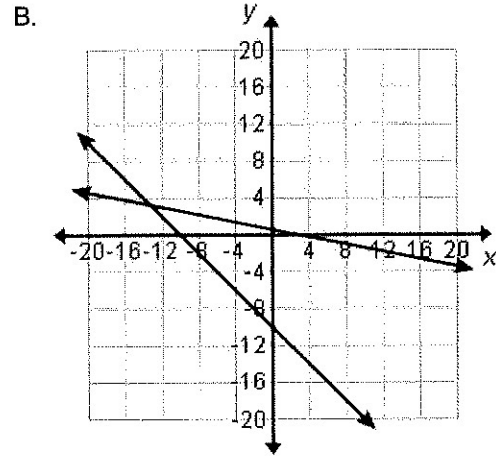
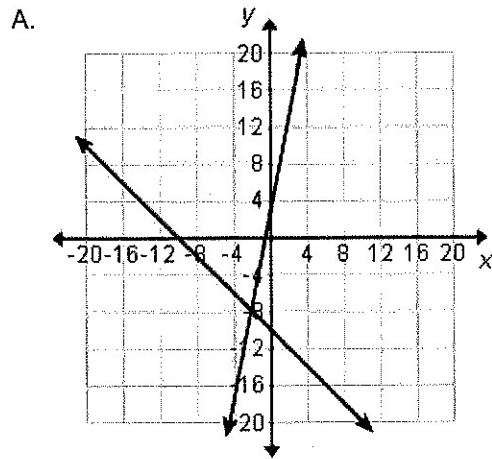
- A. Tim found the slope correctly but made a mistake in writing the equation.
- B. Tim found the correct slope and wrote the correct equation.
- C. Tim made a mistake finding the slope because the slope is  $\frac{0-6}{2-5} = 2$ .
- D. Tim made a mistake finding the slope because the slope is  $\frac{5-6}{0-2} = \frac{1}{2}$ .
30. Solve.

$$\frac{2}{3}\left(6x + \frac{1}{2}\right) = 5x - \frac{2}{3}$$

- A.  $x = 1$
- B.  $x = \frac{1}{3}$
- C.  $x = \frac{11}{6}$
- D.  $x = -\frac{1}{3}$

31. Which graph represents the solution to the system of equations below?

$$\begin{aligned} 5x + y &= 3 \\ -x - y &= 10 \end{aligned}$$



32. Brian buys three hats and four shirts for \$95.00 at a store. His friend buys one hat and two shirts at the same store for \$45.00. If each hat costs the same and each shirt costs the same, which of the following shows the system of equations that can be used to find the cost of a hat and a shirt and includes the solution?

A.  $3x + 4y = 95$   
 $2x + y = 45$

solution: \$17 per hat  
 \$11 per shirt

B.  $3x + 4y = 95$   
 $2x + y = 45$

solution: \$11 per hat  
 \$17 per shirt

C.  $3x + 4y = 95$   
 $x + 2y = 45$

solution: \$5 per hat  
 \$20 per shirt

D.  $3x + 4y = 95$   
 $x + 2y = 45$

solution: \$20 per hat  
 \$5 per shirt

33. Factor the polynomial completely.

$$6x^3 - 78x^2 + 252x$$

- A.  $x = 6, x = 7, x = 0$   
 B.  $(x + 6)(x + 7)$   
 C.  $6(x - 6)(x + 7)$   
 D.  $6x(x - 6)(x - 7)$

34. Which function rule relates the values of the input variable,  $x$ , to the values of the output variable,  $y$ , in the table below?

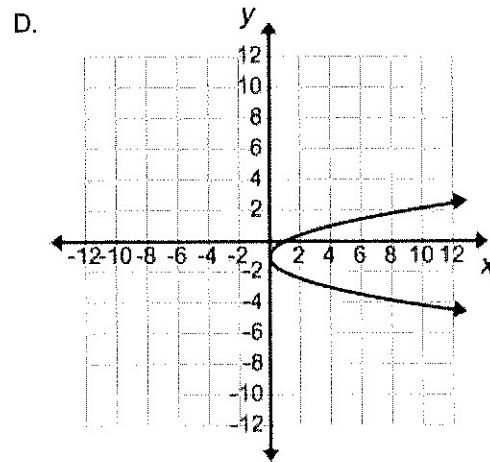
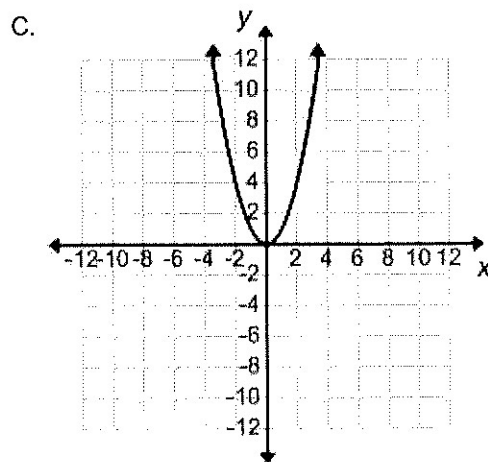
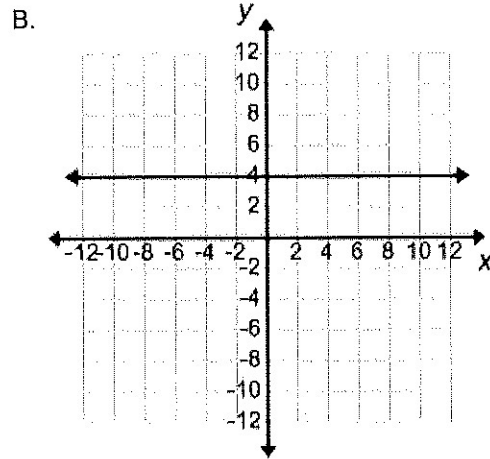
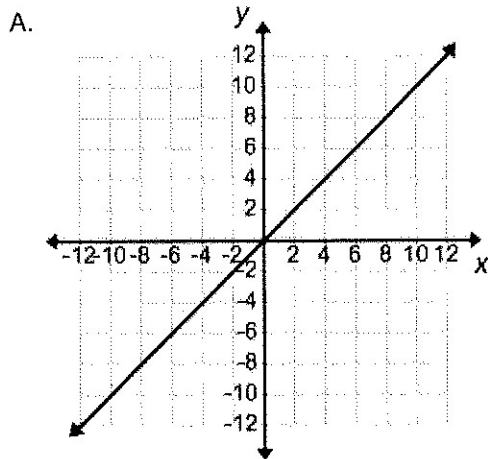
$x$	$y$
0	-3
1	-2
2	-1
3	0

- A.  $y = x - 1$   
 B.  $y = x - 2$   
 C.  $y = x + 4$   
 D.  $y = x - 3$

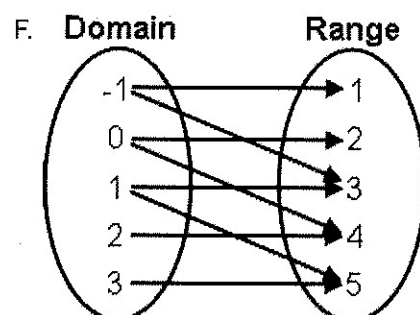
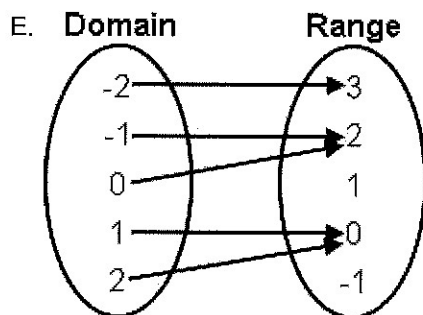
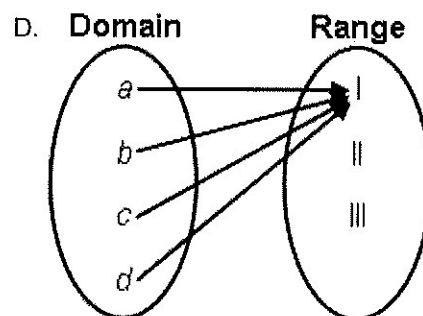
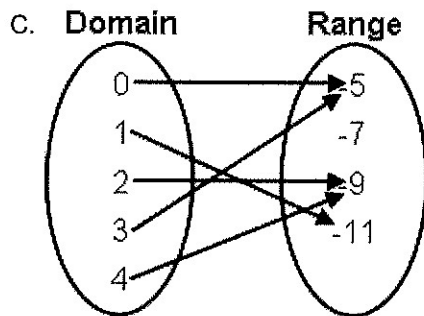
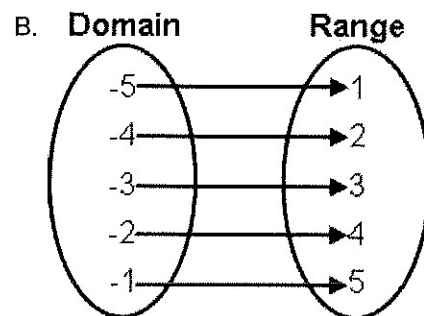
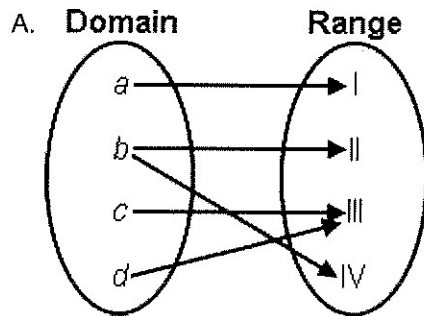
35. Which of the following relations is not a function?

- A.  $\{(-4, 3), (-2, 3), (0, 3), (2, 3)\}$
- B.  $\{(2, -4), (2, -2), (2, 0), (2, 2)\}$
- C.  $\{(-1, 7), (0, 5), (1, 3), (2, 1)\}$
- D.  $\{(-5, -3), (-4, 0), (-3, 3), (-2, 6)\}$

36. Which of the following relations does not represent a function?



37. Choose all of the mapping diagrams that represent functions.

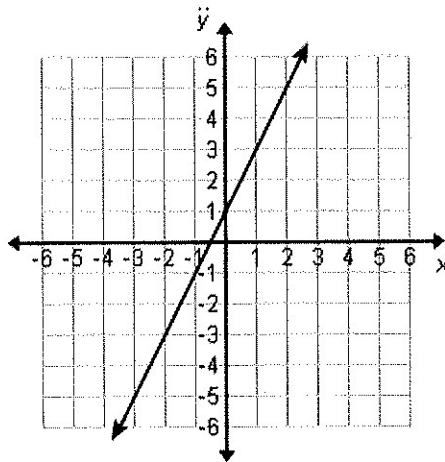


38. Given the two functions represented below, determine which function has a greater rate of change.

**Function 1**

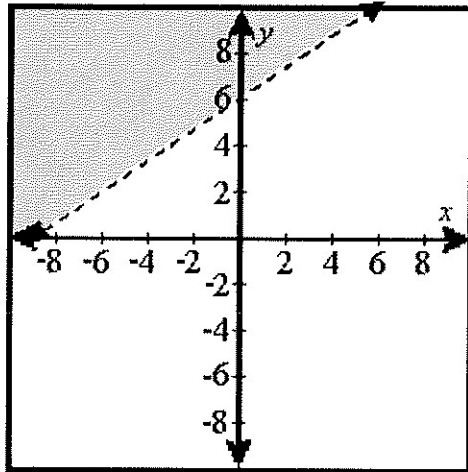
$$f(x) = x + 3$$

**Function 2**



- A. Function 1
- B. Function 2
- C. Both functions have the same rate of change.
- D. The rate of change can not be determined with the information given.

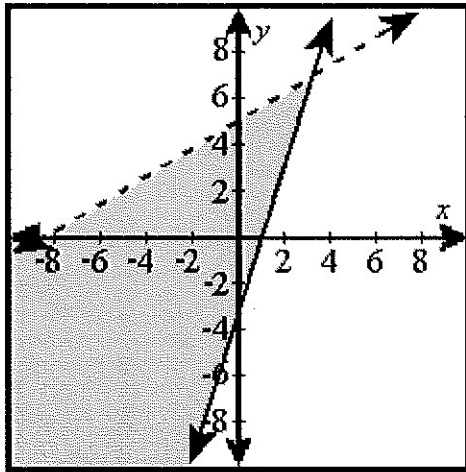
39. Choose the correct inequality for the graph below.



- A.  $y > \frac{2}{3}x + 6$
- B.  $y \leq \frac{2}{3}x + 6$
- C.  $y < \frac{2}{3}x + 6$
- D.  $y \geq \frac{2}{3}x + 6$



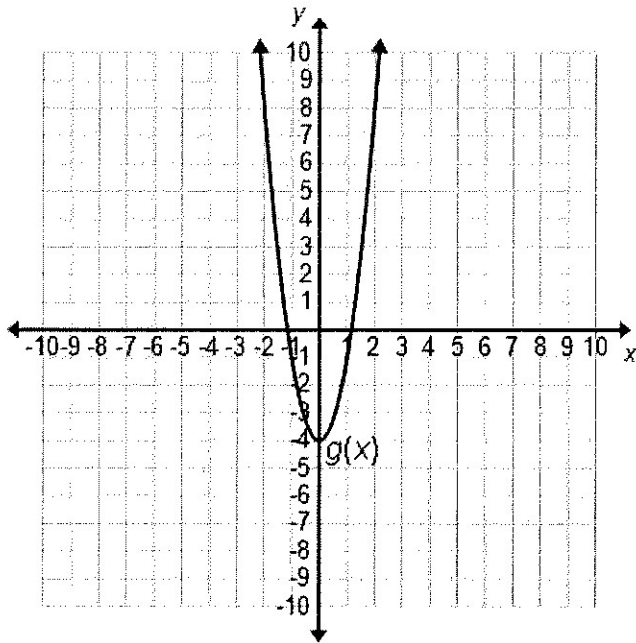
40. Choose the system of inequalities represented by the following graph.



- A.  
 $y > \frac{1}{2}x + 5$   
 $y \leq 3x - 3$
- B.  
 $y \leq \frac{1}{2}x + 5$   
 $y > 3x - 3$
- C.  
 $y \geq \frac{1}{2}x + 5$   
 $y < 3x - 3$
- D.  
 $y < \frac{1}{2}x + 5$   
 $y \geq 3x - 3$

41. Use the information to determine which statement is true.

$$f(x) = -\frac{1}{2}x^2 - 4$$



- A. The maximum of  $f(x)$  is equal to the maximum of  $g(x)$ .
- B. The minimum of  $f(x)$  is equal to the maximum of  $g(x)$ .
- C. The maximum of  $f(x)$  is equal to the minimum of  $g(x)$ .
- D. The minimum of  $f(x)$  is equal to the minimum of  $g(x)$ .

42. The table below shows the number of questions and the total number of minutes it takes Vonnie to complete different tests.

**Vonnie's Tests**

Number of Questions	Total Number of Minutes
15	18
25	30
30	36
40	48

The equation below can be used to find the total number of minutes it takes Ronald to complete the same tests.

$$m = 1.5q$$

Which person can complete the same test of 45 questions first?

- A. Vonnie because it will take her 53 minutes
  - B. Vonnie because it will take her 54 minutes
  - C. Ronald because it will take him 46.5 minutes
  - D. Ronald because it will take him 67.5 minutes
43. Using the grocery receipt below, which of the following measures of central tendency is false?

Apple's Grocery Mart	
Milk	2.39
Bread	1.10
Cheese	2.50
Juice	2.50
Cereal	3.50
Pizza	5.99

- A. range = \$4.89
- B. mean = \$2.98
- C. median = \$2.50
- D. mode = \$2.50

44. A number machine changes the numbers in column A into the numbers in column B. Using this number machine, what will 20 be changed into?

A	B
3	9
8	24
15	45
20	?

- A. 60  
B. 225  
C. 3  
D. 5
45. Mr. Rivera has a jar full of nickels, dimes, and quarters. There are three times as many nickels as there are dimes. There are 20 more quarters than dimes. The jar contains 56 quarters. How many nickels are there?
- A. 116 nickels  
B. 168 nickels  
C. 228 nickels  
D. 108 nickels

**Algebra 1 - EOC PREP #2**

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Date: \_\_\_\_\_

1. Simplify.

$$(x-3)(3x-1) - (x+4)$$

A.  $3x^2 - 11x + 7$

B.  $3x^2 - 11x - 1$

C.  $3x^2 - 9x + 7$

D.  $3x^2 - 9x - 1$

2. Add.

$$(3x^2y + 4xy) + (-2x^2y - 7x + 12y)$$

A.  $x^2y + 4xy - 7x + 12y$

B.  $x^2y + 9xy$

C.  $5x^2y + 4xy - 7x + 12y$

D.  $5x^2y + 9xy$

3. Subtract.

$$(6ab + 7bc) - (-2a + 7bc)$$

A.  $22a^2b^2c$

B.  $8a^2b$

C.  $6ab + 2a + 14bc$

D.  $6ab + 2a$

4. Multiply.

$$(3a^2 + 5a - 1)(a^2 - a + 2)$$

- A.  $-4a^6$   
B.  $14a^8$   
C.  $3a^4 - 5a^2 - 2$   
D.  $3a^4 + 2a^3 + 11a - 2$
5. Which of the following sequences is generated by the formula below?

$$a_n = 4n - 7; \text{ for } n \geq 1$$

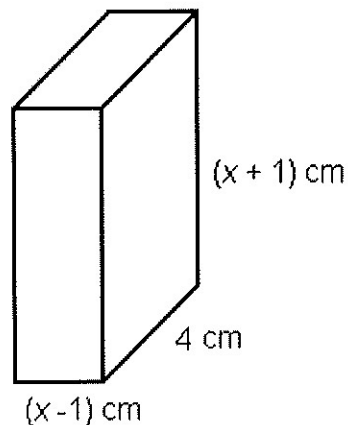
- A. 1, -6, -13, -20, ...  
B. -7, -11, -15, -19, ...  
C. -3, 1, 5, 9, ...  
D. -24, -20, -16, -12, ...
6. Write a function to represent the sequence below if the first term represents  $n = 1$ .

$$1, 0, -1, -2, -3, \dots$$

- A.  $A(n) = 3n - 2$   
B.  $A(n) = n$   
C.  $A(n) = -(n) + 2$   
D.  $A(n) = \frac{1}{2}n + \frac{1}{2}$
7. Dorian bought flowers for \$120 and sold them for \$200. He paid his employees \$8 per hour for  $h$  hours of work. Which of the following equations can be used to find  $m$ , the money Dorian had left after buying the flowers and paying his employees?

- A.  $m = 200 - (120 + 8h)$   
B.  $m = 200 - (120 + h)$   
C.  $m = 200 - 120h$   
D.  $m = 200 - (120)(8h)$

8. The running back ran a total of 258 yards during the football game last Sunday. That was ten less than three times the amount of yards,  $y$ , that he ran two weeks ago. Which equation can be used to find the number of yards that he ran two weeks ago?
- A.  $258 = 3(y - 10)$   
B.  $258 = 10 - 3y$   
C.  $258 = 3y - 10$   
D.  $258 = 10(y - 3)$
9. Contestants on a game show can win no more than \$500 per round plus \$1,000 in the bonus round. If  $r$  represents the rounds of regular play and a contestant won \$3,000, which inequality can be used to find out how many rounds could have been played?
- A.  $3,000 \leq 1,000r + 500$   
B.  $3,000 \leq 500r + 1,000$   
C.  $3,000 \geq 500r + 1,000$   
D.  $3,000 \geq 1,000r + 500$
10. The volume,  $v$ , of the box below can be determined using the equation  $v = 4(x^2 - 1)$ .



If the volume of the box is  $32 \text{ cm}^3$ , what is the length of the longest side?

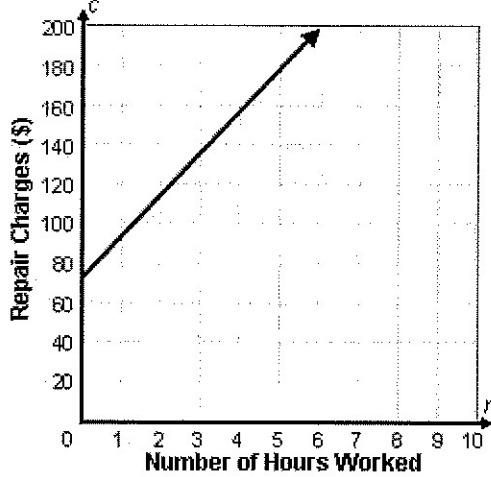
- A. 2 cm  
B. 3 cm  
C. 4 cm  
D. 5 cm

11. The amount Brandon charges for computer repair services is given in the table below. This includes a fixed amount plus an hourly service rate.

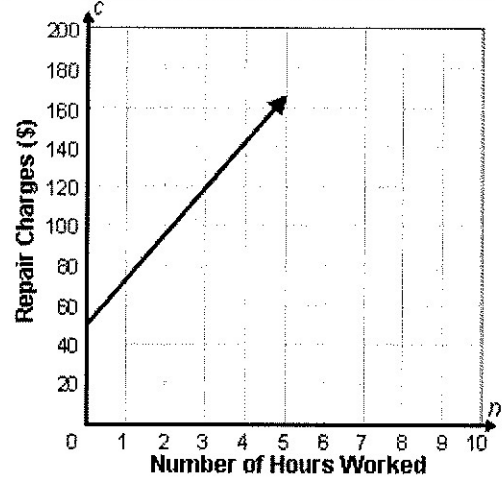
Hours Worked	Repair Charges (\$)
1	77
2	99
3	121
4	143
5	165

Which of the following graphs represents the data in the table?

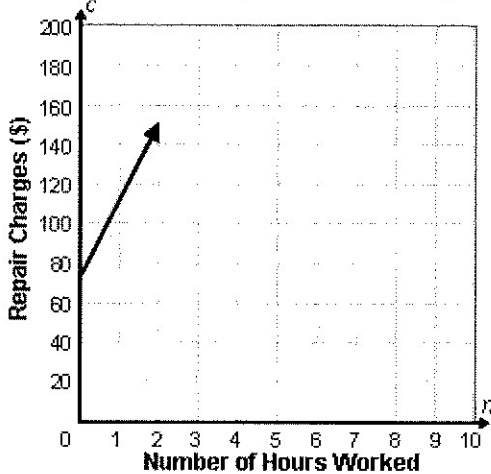
A. Brandon's Computer Service Charges



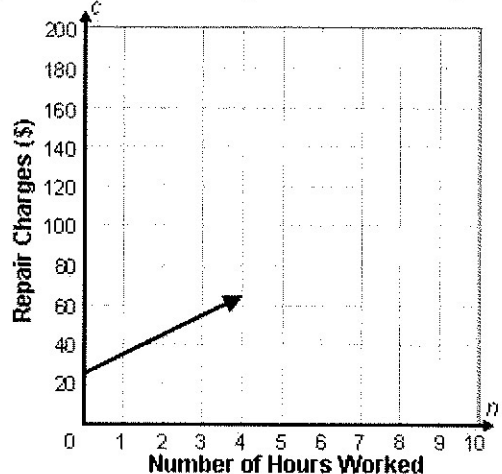
B. Brandon's Computer Service Charges



C. Brandon's Computer Service Charges



D. Brandon's Computer Service Charges





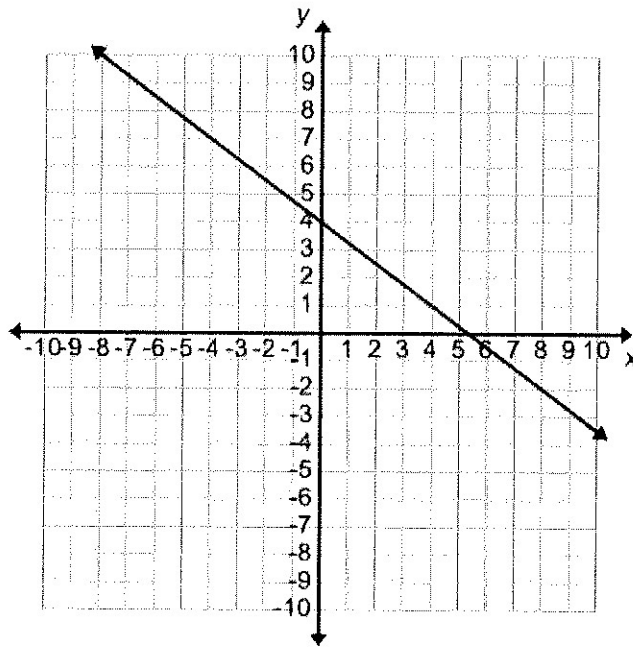
12. Dane volunteers at an animal shelter. He feeds the animals and helps prepare the weekly order for pet food. How much food he orders depends on the number of animals in the shelter that week. The table below is a guideline that Dane uses.

Number of Animals ( $x$ )	Pounds of Food ( $y$ )
10	100
20	170
30	240
40	310
50	380
60	450

Which equation below can be used to represent the pattern of the data in the chart?

- A.  $y = 6x + 40$
- B.  $y = 5x + 70$
- C.  $y = 7x + 30$
- D.  $y = 8x + 20$

13. Which function represents the graph below?



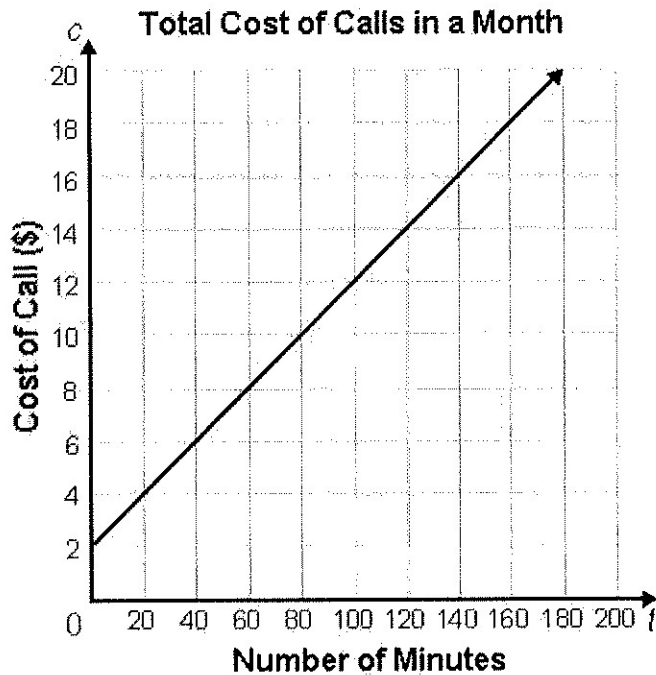
A.  $y = -\frac{3}{4}x + 4$

B.  $y = -\frac{4}{3}x + 4$

C.  $y = -\frac{3}{4}x + 5$

D.  $y = -\frac{4}{3}x + 5$

14. A cell phone service provider charges a fixed amount for the insurance on the phone and a certain amount for every minute used. The graph below shows the total cost,  $c$ , for a customer, including the insurance.



Which of the following equations best gives the monthly cost?

- A.  $c = 0.80t + 48$   
 B.  $c = 0.10t - 52$   
 C.  $c = 0.80t - 60$   
 D.  $c = 0.10t + 2$
15. Amanda sold 90 cups of coffee on a Monday morning to make \$335.00. If the cost of a regular cup of coffee is \$2.50 and the cost of a large cup is \$4.50, which system of equations can be used to determine the number of regular cups and large cups of coffee that Amanda sold?
- |  |   |
|--|---|
| <p>A. <math>x + y = 335</math><br/><math>2.5x + 4.5y = 90</math></p> | <p>B. <math>x + y = 335</math><br/><math>7(x + y) = 90</math></p> |
| <p>C. <math>x + y = 90</math><br/><math>2.5x + 4.5y = 335</math></p> | <p>D. <math>x + y = 90</math><br/><math>7(x + y) = 335</math></p> |

16. The area of a trapezoid is given by the formula below.

$$A = \frac{1}{2}h(b_1 + b_2)$$

Solve this equation for  $h$ .

A.  $h = \frac{1}{2}A(b_1 + b_2)$

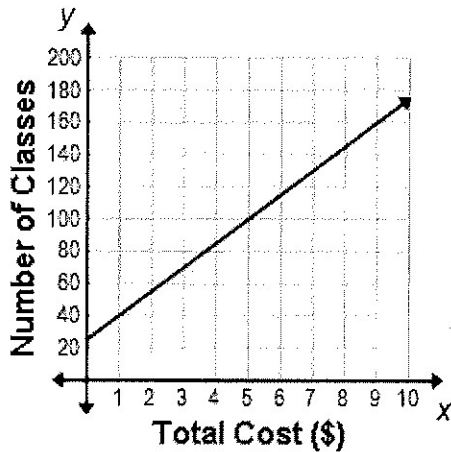
B.  $h = \frac{2A}{(b_1 + b_2)}$

C.  $h = 2A - (b_1 + b_2)$

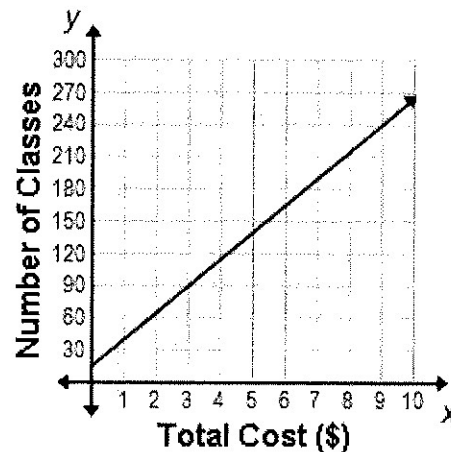
D.  $h = \frac{2(b_1 + b_2)}{A}$

17. Alan wants to enroll for table tennis classes at a club. The club charges \$15.00 per class and a one-time registration fee of \$25.00. Which equation can be used to find the total cost,  $C$ , Alan has to pay to enroll for  $n$  classes, and what is the graph of the equation?

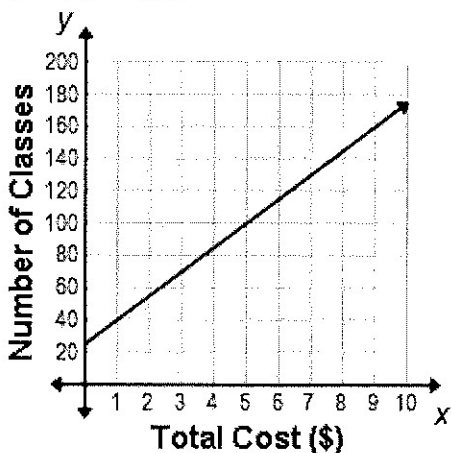
A.  $C = 15 + 25n$



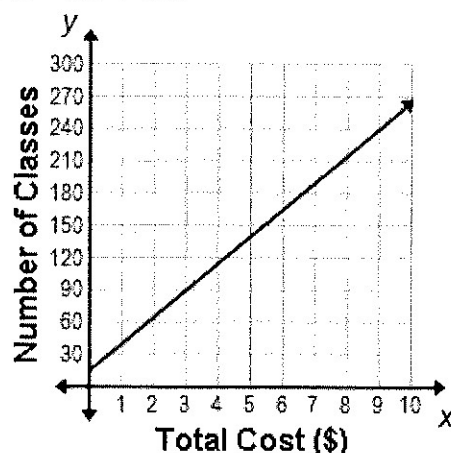
B.  $C = 15 + 25n$



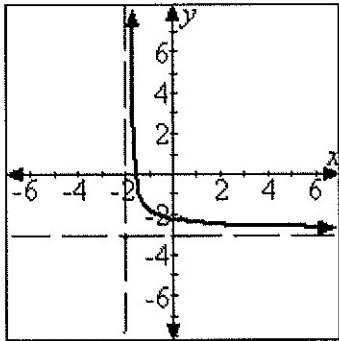
C.  $C = 25 + 15n$



D.  $C = 25 + 15n$

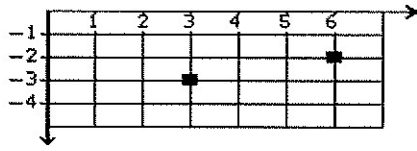


18. State the domain and range of the function.



- A. D:  $(-3, \infty)$   
R:  $(-2, \infty)$
- B. D:  $[-2, \infty)$   
R:  $[-3, \infty)$
- C. D:  $(-2, \infty)$   
R:  $(-3, \infty)$
- D. D:  $[-3, \infty)$   
R:  $[-2, \infty)$
19. Find the domain of the following relation  $r$ .
- $r = \{(1, 3), (5, 1), (0, 8), (-5, -9)\}$
- A.  $\{-9, -5, 0, 1, 3, 5, 8\}$
- B.  $\{-9, 1, 3, 8\}$
- C.  $\{-9, -5, 0, 1, 1, 3, 5, 8\}$
- D.  $\{-5, 0, 1, 5\}$
20. A line runs through I(3, -6) and J(-5, 1). Find the equation of the line.
- A.  $y = 7/8x - 27/8$
- B.  $y = 7/8x + 3$
- C.  $y = -7/8x - 27/8$
- D.  $y = -7/8x$

21. Which equation of the line corresponds to the graph?



- A.  $y = -1/3x - 4$   
 B.  $y = 3/4x$   
 C.  $y = 1/3x - 4$   
 D.  $y = 3x - 4$
22. Solve for t.  
 $-9(5 - 7t) + 4 = 12t$
- A.  $t = -\frac{41}{75}$   
 B.  $t = -\frac{41}{51}$   
 C.  $t = \frac{41}{51}$   
 D.  $t = -2\frac{3}{19}$
23. Four pancakes and three eggs at Candy's Cafe cost \$7.95. Two pancakes and three eggs at Burger Palace cost \$5.95. Which option shows the best method for calculating the amount that each restaurant is charging for each pancake and each egg?
- A.  $-2p = \$13.90$   
 B.  $6p = \$13.90$   
 C.  $4p + 3e = \$7.95$  and  $2p + 3e = \$5.95$   
 D.  $4 + 3(p + e) = \$7.95$  and  $2 + 3(p + e) = \$5.95$
24. Solve this system of equations.  
 $x = y + 2$   
 $2y - 3x = 15$
- A.  $x = 11, y = 9$   
 B.  $x = -7, y = -9$   
 C.  $x = 23, y = 21$   
 D.  $x = -19, y = -21$

25. Choose the correct equation to represent the following problem and solve.

Zara's garden has 87 plants in it. This is three more than seven times the amount of plants in Griffin's garden. How many plants are in Griffin's garden? Let  $p$  = the amount of plants in Griffin's garden.

- A.  $3p + 7 = 87$ ;  $p = 27$  plants
- B.  $7p = 87 + 3$ ;  $p = 13$  plants
- C.  $7p + 3 = 87$ ;  $p = 12$  plants
- D.  $3p = 87 + 7$ ;  $p = 31$  plants

26. Simplify.

$$\frac{17x^{-2}y^{-4}z^8}{51x^{-5}y^2z^{-4}}$$

A.  $\frac{x^7z^4}{3y^2}$

B.  $\frac{x^3y^6z^{12}}{3}$

C.  $\frac{x^3z^{12}}{3y^6}$

D.  $\frac{xy^{21}z}{3}$

27. Simplify.

$$\frac{20(y^{-3})^5}{160(y^2)^{-3}}$$

A.  $\frac{y^9}{8}$

B.  $\frac{1}{8y^9}$

C.  $8y^9$

D.  $\frac{y^{15}}{8}$

28. Find the missing term.

$$(?) \cdot (y^x)^2 = y^{14x}$$

A.	$(y^4)^{3x}$
B.	$y^7$
C.	$(y^x)^7$
D.	$y^{7x}$

- A. A  
B. B  
C. C  
D. D

- 29.

$$\left(\frac{2^\circ}{3}\right) \cdot \left(\frac{1}{3^{-2}} \cdot 5^\circ\right) + \frac{3}{5^\circ}$$

A.	6
B.	5
C.	1
D.	$\frac{1}{3}$

Simplify.

- A. A  
B. B  
C. C  
D. D

30. Margo earns \$9 per hour plus \$27 per week for uniform cleaning expenses. The equation below can be used to determine how many hours Margo must work to earn a salary of \$342 per week.

$$9h + 27 = 342$$

How many hours,  $h$ , must Margo work to earn \$342?

- A. 9.5 hours  
B. 35 hours  
C. 38 hours  
D. 41 hours

31. Eli spent \$47.96 before tax on pizzas for his family. He bought 1 cheese pizza and the rest were pepperoni pizzas. Each pizza costs \$11.99 before tax. Using the equation  $11.99(1 + p) = 47.96$ , how many pepperoni pizzas did Eli buy before taxes?

- A. 2  
B. 3  
C. 4  
D. 5



32. Which linear equation has only one real solution?

- A.  $2(x + 7) = 2x + 7$
- B.  $2x + 3 = 0$
- C.  $4x - 2 = 2x - 2 + 2x$
- D.  $3x + 4 = 2x + x + 4$

33. Solve.

$$\frac{1}{2}x + 4 = \frac{3}{4}(2x - 8)$$

- A.  $x = -10$
- B.  $x = 12$
- C.  $x = -12$
- D.  $x = 10$

34. Look at the steps used to solve the equation below.

$$-5(x - 2) = 4x - 9$$

Step 1:  $-5x - 2 = 4x - 9$

Step 2:  $-5x - 4x = -9 + 2$

Step 3:  $-9x = -7$

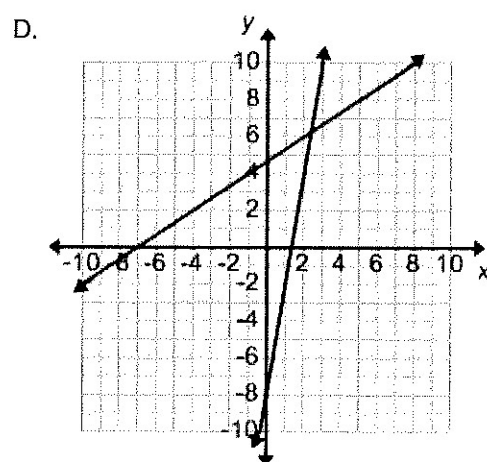
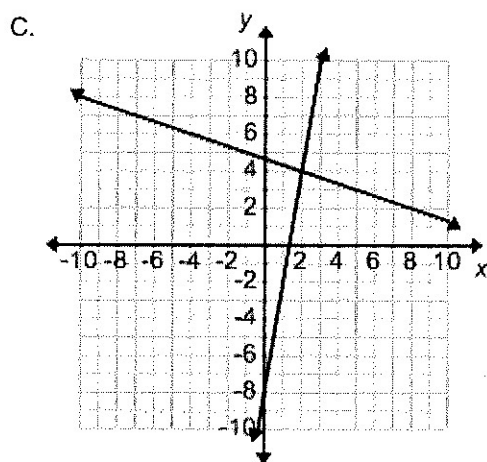
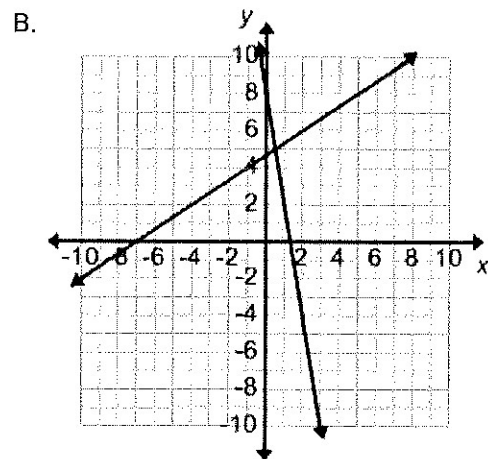
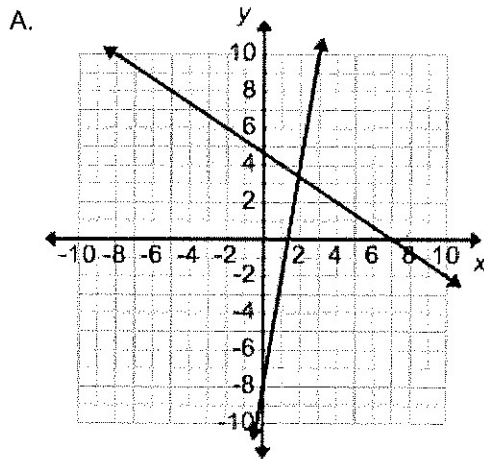
Step 4:  $x = 63$

Which step has the first error, and what is the correct step?

- A. Step 2:  $-5x + 4x = -9 + 2$
- B. Step 2:  $-5x + 4x = -9 - 2$
- C. Step 1:  $-5x + 10 = 4x - 9$
- D. Step 1:  $-5x - 10 = 4x - 9$

35. Which graph represents the solution to the system of equations below?

$$\begin{aligned} -2x + 3y &= 14 \\ 6x - y &= 8 \end{aligned}$$



36. Choose the option which gives the length and width of this rectangle.

$$\text{Area} = 9x^2 - 14x - 8$$

- A.  $(3x + 2)(3x - 2)$
- B.  $(9x + 4)(9x + 4)$
- C.  $(9x + 4)(x - 2)$
- D.  $(9x - 4)(9x + 2)$

37. Factor the polynomial completely.

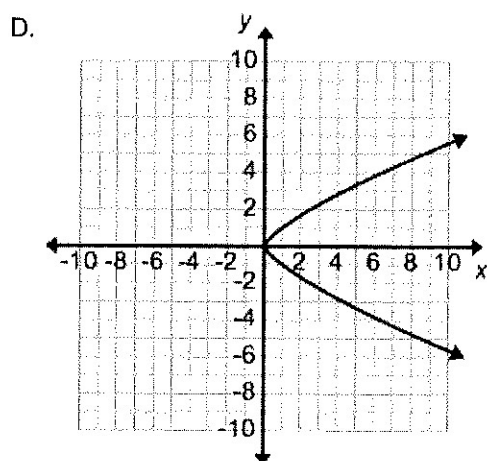
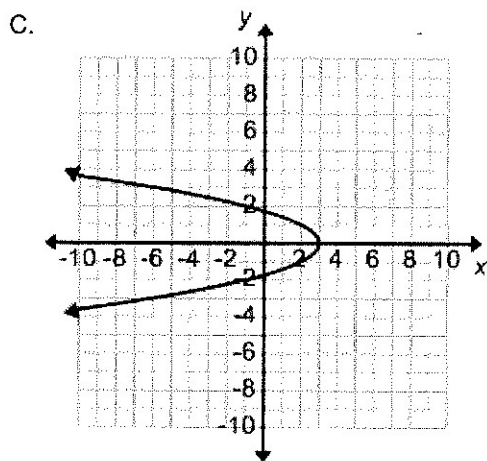
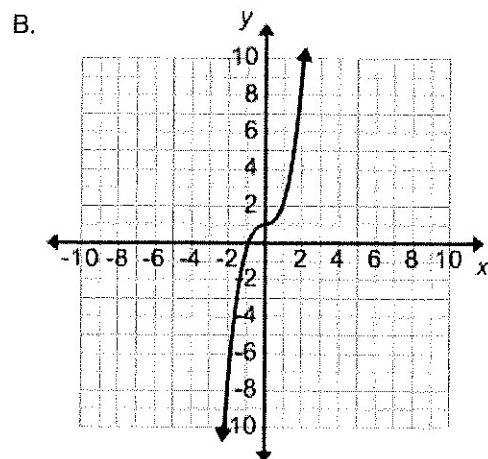
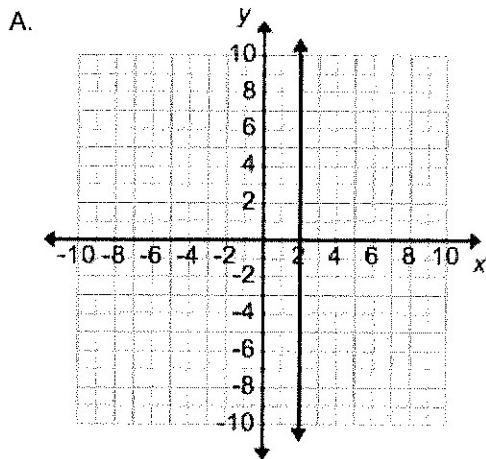
$$18x^2 - 15x - 18$$

- A.  $3(6x + 2)(x - 3)$   
B.  $(x - 9)(18x + 1)$   
C.  $(6x + 9)(3x - 2)$   
D.  $3(2x - 3)(3x + 2)$
38. Which function rule relates the values of the input variable,  $x$ , to the values of the output variable,  $y$ , in the table below?

$x$	$y$
-2	1
-1	2
0	3
1	4

- A.  $y = x + 3$   
B.  $y = x - 4$   
C.  $y = x + 2$   
D.  $y = x + 1$

39. Which relation represents a function?



40. Select all the pairs of values that  $a$  and  $b$  can take in the set of input-output pairs below to represent a function.

$$\{(2, 5), (3, 8), (a, 6), (b, 8), (-5, b), (-3, a)\}$$

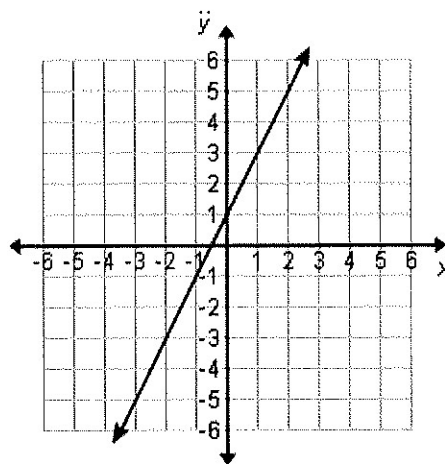
- A.  $a = 3$  and  $b = 1$
- B.  $a = -1$  and  $b = 6$
- C.  $a = 10$  and  $b = 10$
- D.  $a = -5$  and  $b = -5$
- E.  $a = 4$  and  $b = 3$
- F.  $a = 6$  and  $b = 1$

41. Given the two functions represented below, determine which function has a greater rate of change.

**Function 1**

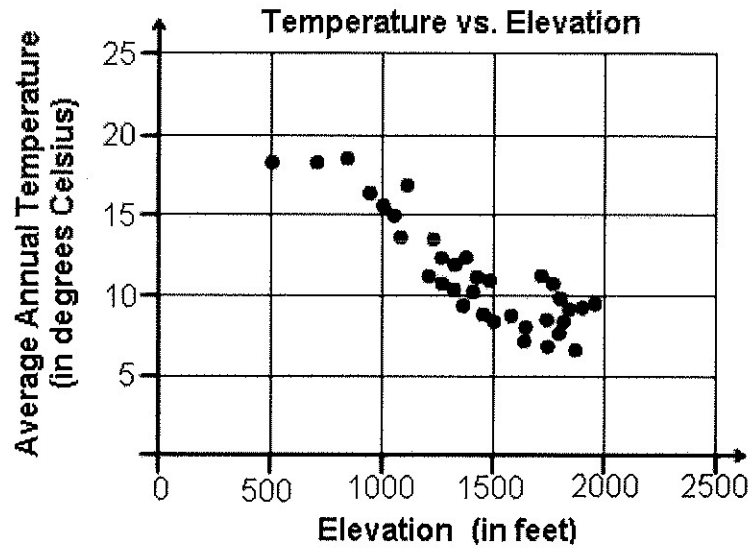
$$f(x) = x + 3$$

**Function 2**



- A. Function 1
- B. Function 2
- C. Both functions have the same rate of change.
- D. The rate of change cannot be determined with the information given.

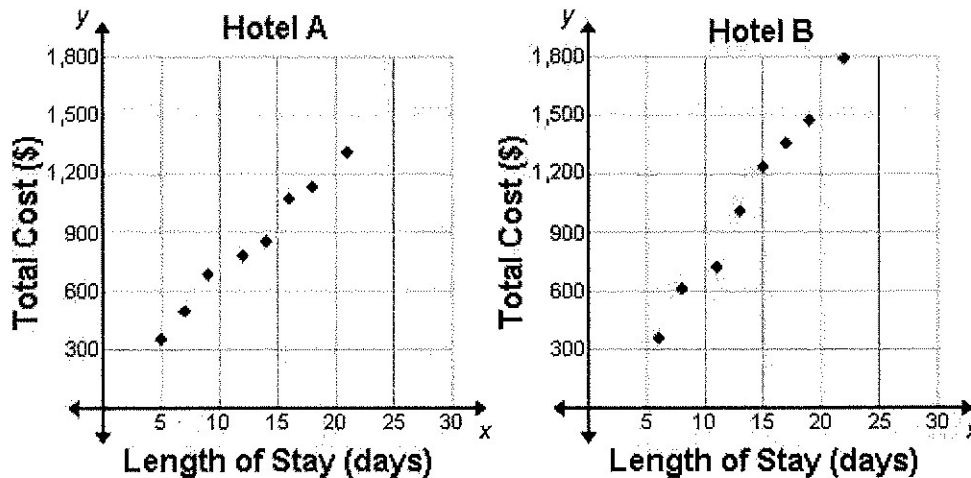
42. The scatterplot below shows the relationship between the average annual temperature and the elevation of a land region.



Based on information from the scatterplot, the average annual temperature

- \_\_\_\_\_.
- A. increases when the elevation increases
  - B. decreases when the elevation increases
  - C. becomes stable after the elevation of 1,000 feet
  - D. decreases when the elevation decreases

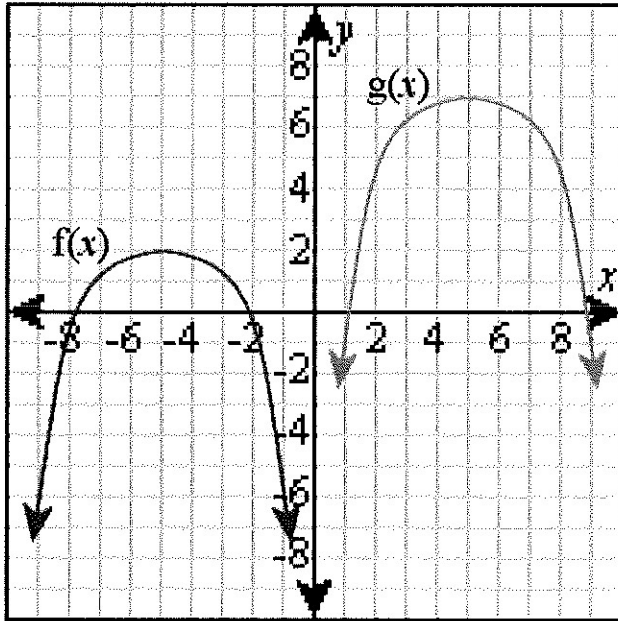
43. Valerio is planning a trip to Germany for his German class. He has a choice of two hotels for his students. He collects data on the lengths of stays and total cost at both locations from a travel site and displays the data in the scatter plots below.



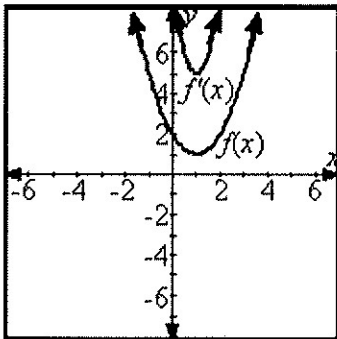
Which of the following can be used to determine which hotel is cheaper if the students are staying for more than a month?

- The intercept of the trend line for hotel A will be higher than the intercept of the trend line for hotel B. Therefore, it is cheaper to stay at hotel B for more than a month.
- The intercept of the trend line for hotel A will be higher than the intercept of the trend line for hotel B. However, the slope of the trend line for hotel A will be much lower than the slope of the trend line for hotel B. Therefore, it is cheaper to stay at hotel A for more than a month.
- The slope of the trend line for hotel A will be higher than the slope of the trend line for hotel B. Therefore, it is cheaper to stay at hotel B for more than a month.
- The slope of the trend line for hotel A will be higher than the slope of the trend line for hotel B. However, the intercept of the trend line for hotel A will be much lower than the intercept of the trend line for hotel B. Therefore, it is cheaper to stay at hotel A for more than a month.

44. The graph of  $f(x)$  underwent a transformation to form the graph of  $g(x)$ . What is  $g(x)$ ?



- A.  $g(x) = f(x + 10) + 5$   
 B.  $g(x) = f(x + 5) + 10$   
 C.  $g(x) = f(x - 10) + 5$   
 D.  $g(x) = f(x + 5) - 10$
45. The graph of  $f(x)$  underwent a transformation resulting in the graph of  $f'(x)$ . What is  $f'(x)$ ?



- A.  $f'(x) = f(4x) + 1$   
 B.  $f'(x) = 4f(x) + 4$   
 C.  $f'(x) = f(4x + 1)$   
 D.  $f'(x) = 4f(x) + 1$



# High School Science



# St. Louis Public Schools Continuous Learning Plans High School Science

<b>WEEK</b> <b>1</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment*</b> <i>How will you show your teacher that you learned the material?</i>
<b>Monday</b> <b>March 23</b>	SWBAT analyze the spread of the disease and develop a model of its spread.  SWBAT design a solution to determine the cause of disease outbreaks	9-12.ETS1.A.2 Design a solution to a complex real world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.	<a href="#">Lesson 1: John Snow The First Epidemiologist</a>  Read the scenario and complete the worksheet	Print: Lesson 1  Online: BBC <a href="http://www.bbc.co.uk/history/historic_figures/snow_john.shtml">http://www.bbc.co.uk/history/historic_figures/snow_john.shtml</a>  Informational Video <a href="https://www.youtube.com/watch?v=TLpZHHbFrHY">https://www.youtube.com/watch?v=TLpZHHbFrHY</a>	Complete the questions and graphic organizers after reading the article about cholera spread and the factors involved in epidemiology.
<b>Tuesday</b> <b>March 24</b>	SWBAT use a model to analyze the spread of disease.	9-12.ETS1.A.2 Design a solution to a complex real world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.	<a href="#">Lesson 2: Spread of Pathogens POGIL</a>	Print: <a href="#">Spread of Pathogens</a>	Complete the "Spread of Pathogens" packet using the models to answer the questions.
<b>Wednesday</b> <b>March 25</b>	SWBAT differentiate between viruses, understand viral structure and calculate viral size.	9-12.ETS1.A.1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that	<a href="#">Lesson 3: Virus Explorer (HHMI)</a>	Website: <a href="#">Virus Explorer</a> Print: <a href="#">Virus Explorer Worksheet</a>	Complete the Virus Explorer Worksheet by using the Click and Learn Website provided.

For questions related to this instructional plan, please contact: Valentina Bumbu Science Curriculum Specialist  
 Taylor Mirka, Kristen Dowling, Jeremy Resmann Science Teacher Leaders  
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		account for societal needs and wants.				
	ALTERNATE LESSON 3 <i>Only complete if student has no access to internet.</i> SWBAT evaluate informational text to develop understanding of the COVID-19 virus.	9-12.ETS1.A.1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.	Alternate Lesson 3: <a href="#">COVID-19 Reading Comprehension</a>	Print: <a href="#">Alternate Lesson 3</a> CDC Website: <a href="https://www.cdc.gov/coronavirus/2019-nCoV/cascs-updates/cases-in-us.html">https://www.cdc.gov/coronavirus/2019-nCoV/cascs-updates/cases-in-us.html</a>	Read and annotate the article, then answer the comprehension questions.	
<b>Thursday March 26</b>	SWBAT describe the life cycle and structure of a virus. SWBAT describe how viruses replicate using the host's own cells.	9-12.LS4.C.2 Evaluate evidence supporting claims that changes in environmental conditions may result in increases in the number of individuals of some species.	Lesson 4: <a href="#">Virus Life Cycle</a>	Video <a href="#">Where Did Corona Virus Come From?</a> Video <a href="#">Flu Attack: How a Virus Invades the Body</a>	Students will watch the videos and complete the reading on the viral life cycle and infection mechanisms. The students will answer the questions and label the diagram of the infection and life cycle.	
<b>Friday March 27</b>	SWBAT graph and analyze data of bacterial growth over time. SWBAT compare and contrast data for different bacterial growth trends. SWBAT use data to make predictions.	9-12.LS4.C.2 Evaluate evidence supporting claims that changes in environmental conditions may result in increases in the number of individuals of some species.	Lesson 5: Microbe Multiplication Magic	Print Resources: Microbe Multiplication Magic Online Resources: How to Graph by Hand <a href="https://www.youtube.com/watch?v=GUYRMdcEs00">https://www.youtube.com/watch?v=GUYRMdcEs00</a>	Students will analyze all graphs and use the starter questions at the top of the worksheets to extract as much information as possible from them. An emphasis should be placed on applying this data to the current state of the pandemic.	

**\*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 High School Science

<b>WEEK</b> <b>2</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment*</b> <i>How will you show your teacher that you learned the material?</i>
<b>Monday</b> <b>March 30</b>	SWBAT design a strategy to use data to determine the source of an outbreak.	9-12.ETS1.A.1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.	Lesson 6: Identifying Patient Zero	<a href="#">Print: Patient Zero Activity</a>	Follow the instructions to complete the activity and answer the questions.
<b>Tuesday</b> <b>March 31</b>	SWBAT evaluate informational text and models related to the chemistry of microbes and soap.	9-12.PS1-3. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.	Lesson 7: Why Soap Works Active reading/ reading reflection.	<a href="#">Print: Why Soap Works</a> <a href="#">Print: Article 6-Pack</a>	Read and annotate the article entitled <i>Why Soap Works</i> . Fill out the Article 6-Pack graphic organizer based on your interpretation of the text.
<b>Wednesday</b> <b>April 1</b>	SWBAT develop and model and construct an explanation for the importance of herd immunity.	9-12.ETS1.A.1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.	Lesson 8: Herd Immunity	<a href="#">Print: Herd Immunity</a>	Read and annotate the article, then design a visual model or analogy that explains the importance of vaccination. Complete this model on a separate sheet of paper to be submitted.
<b>Thursday</b> <b>April 2</b>	SWBAT construct an argument from data and textual evidence about COVID-19.	9-12.ETS1.A.1 Analyze a major global challenge to specify qualitative and quantitative criteria and	Lesson 9: Claims, Evidence, & Reasoning	<a href="#">Print: CER Coronavirus</a>	Complete the CER graphic organizer after each data set/article. Use supporting evidence from the chart and text.

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<p><b>Friday April 3</b></p>	<p>SWBAT read and interpret graphs of data related to COVID-19 and other infectious diseases.</p> <p>SWBAT use models of data to make predictions about the repercussions of COVID - 19</p>	<p>constraints for solutions that account for societal needs and wants.</p> <p>9-12.ETS1.A.1 Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.</p>	<p>Lesson 10: <a href="#">Graph Interpretation Worksheets</a></p>	<p>Print: Lesson 10: Graph Interpretations</p> <p>Online: How to Read Scientific Graphs <a href="https://study.com/academy/lesson/how-to-read-scientific-graphs-charts.html">https://study.com/academy/lesson/how-to-read-scientific-graphs-charts.html</a></p>	<p>Students will demonstrate mastery by analyzing the multiple graphs and using the prompts at the top of the worksheets to find all the relevant information and record all they see. Students should make an intentional effort to connect these graphs to our current situation in the COVID - 19 pandemic.</p>
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***\*Please be prepared to submit these assignments to your teacher upon returning to school.***

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## John Snow: The World's First Epidemiologist

### Finding the Real Cause of Cholera

Cholera (KOLL-er-uh) is a terrible disease. People who have been infected with cholera have diarrhea so badly that they get dehydrated. Within a short time—two or three days—nearly half the patients will die.

On the night of the 31st of August, 1854, cholera broke out in the Soho section of London. It was, according to a local doctor, “the most terrible outbreak of cholera which ever occurred in the kingdom.” In a single night, doctors reported 56 new cases of cholera—all within a few blocks of each other. Before the outbreak was over, nearly 500 people had lost their lives.

In those days, people did not have running water in their homes. They carried in water from pumps located around the neighborhood.

At the time, most people—even the best scientists—thought that cholera was spread through the air. But one local doctor did not agree. His name was John Snow. He believed that cholera was caused by a microbe and was spread by contaminated water.

But at the time, no one knew how this terrible disease was spread. That’s what you are going to do. In this activity, you will become “disease detectives,” trying to figure out how cholera is spread so you can prevent infection in more people.

### Glossary

Contaminated (cun-TAM-in-ay-tud): Polluted, poisoned.

Dehydrated (dee-HY-dray-tud): What happens when there’s not enough water in your body. If people lose too much water, then can even die!

**Part A:** Pretend you are John Snow or a doctor who agrees with him. You want to prove that the cholera in your neighborhood is being caused by contaminated water. How would you prove that?

1. What are some things you would want to know about the people who got sick and died in the neighborhood?

- 1.
- 2.
- 3.

2. What would you want to know about people who lived in the neighborhood who did not die?

- 1.
- 2.
- 3.

What would you want to know about people who died and lived away from the neighborhood?

- 1.
- 2.

Figure out the information you might need to prove your case. Later, you will present your ideas before the class.

### John Snow's Methods

Snow carefully mapped the location of each death. Nearly all lived close to the pump at the corner of Cambridge and Broad Streets. Two women who had died lived many miles away. But Snow learned they had drunk water from the pump.

Some people who lived in the area had not gotten sick. Snow learned that most of them drank water from other wells.

Snow presented the map to local authorities. This time, they paid attention. He asked them to take the handle off the pump, and eventually, they did. The number of new cases of cholera went down (although it had been declining already since so many people had left the area).

Later, people learned that the well below the pump was about 28 feet deep. But close by ran a sewer that was only 22 feet below ground level. A few days before people got sick, some people remembered a bad smell near the pump. The raw sewage had seeped through the ground and into the well. As more people got sick, the sewage contained more of the microbes that caused cholera. That made the water even more contaminated.

Today, John Snow is recognized as one of the first "disease detectives." His methods of gathering information are still used by epidemiologists. One of the first things epidemiologists do when they get to the site of an outbreak of a new disease is to map it. They figure out in detail where all the sick people live, work, and play. They also keep track of anyone with whom a sick person has had contact.

### Disease-Causing Microbes

Microbe that Causes Disease	Environment in which the Microbe Thrives	How to Break the Environmental Chain and Control the Spread of the Disease
<i>Salmonella</i> —bacterium that causes salmonellosis	Intestines of people and animals—lives in raw eggs, poultry, and meat.	
<i>Borrelia burgdorferi</i> —bacterium that causes Lyme disease	Lives in deer ticks.	
Group A Streptococcus—bacterium that causes "strep" infections	Lives in the mucus from the nose or throat of an infected person.	
<i>Giardia</i> —protozoan that causes giardiasis	Lives in feces of infected people and animals. Spread by contact with contaminated water.	
Rabies virus	Lives in the saliva of infected animals. Spread when an infected animal bites another animal or person.	

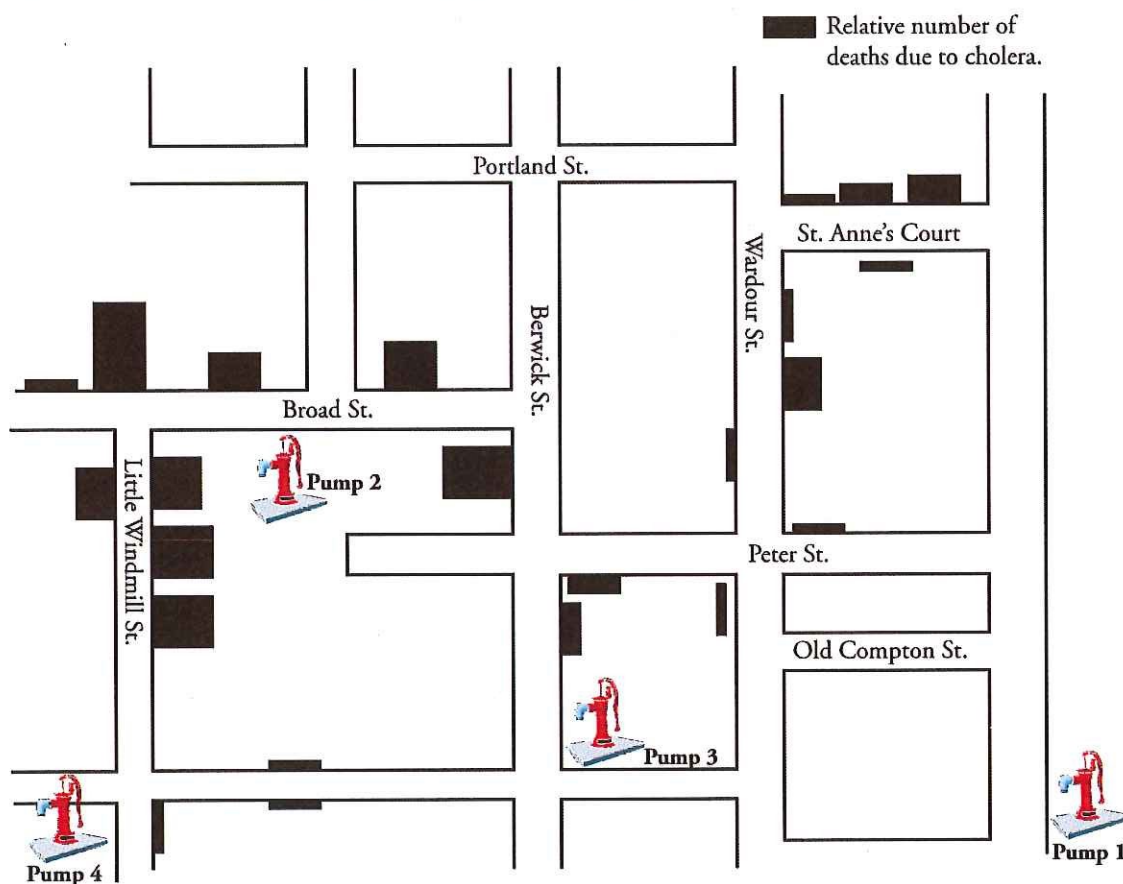
# The Spread of Pathogens

How do we get sick?

## Why?


Communicable diseases are spread between individuals by different methods, but they are all caused by **pathogens**, which are commonly called “germs.” Knowledge of pathogens and the ways in which they can be spread helps humans understand and prevent disease outbreaks.

## Model 1 – The 1854 London Cholera Outbreak



1. Model 1 is a map of an area in London where a large number of cases of cholera occurred in 1854.
  - a. How many water pumps are shown on the map?
  - b. What do the black boxes represent on the map?
  - c. What do the relative sizes of the boxes represent?



2. Is the concentration and size of boxes the same at all locations on the map? Explain your answer.
3. Where exactly on the map does the size and concentration of the boxes appear to be the highest?
4. Is there a relationship between the number of black boxes and any of the water pumps? Be specific and detailed in your answer.
5. Based on the information provided in the map, propose a way cholera may be transmitted.
-  6. Based on this information, what action would you have taken if you had been responsible for public health in London in 1854?



### Read This!

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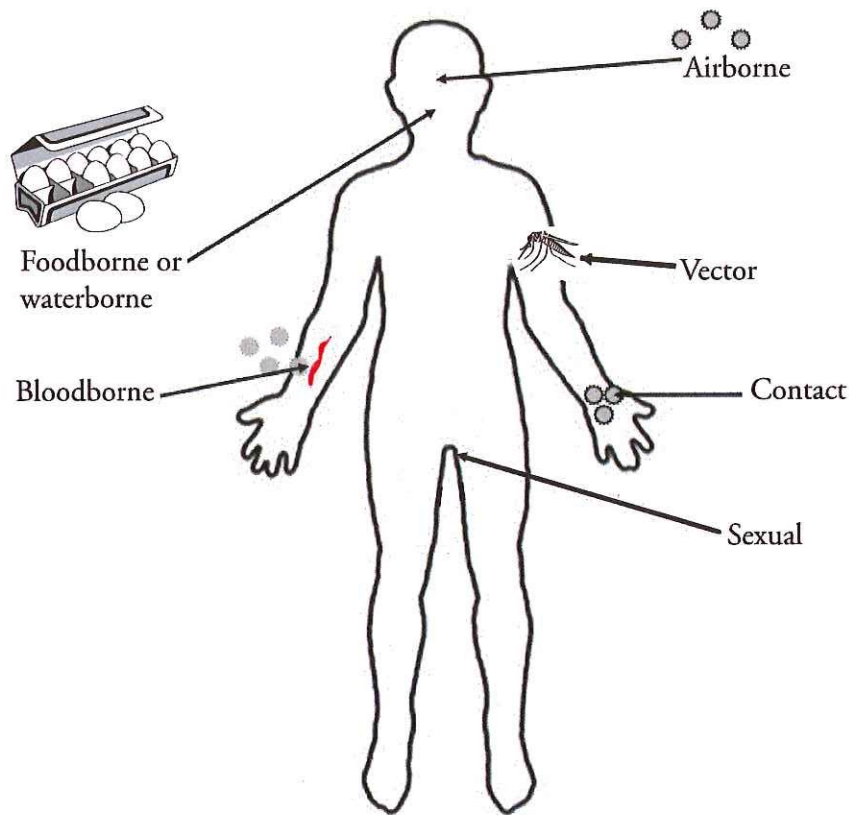
Dr. John Snow is often referred to as the “father of epidemiology.” **Epidemiology** is the study of the causes and spread of infectious diseases. Dr. Snow’s study of the cholera outbreak of 1854 led to the discovery of the cause of this epidemic.

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7. Cholera is caused by bacteria found in the fecal material of infected individuals. Brainstorm with your group the possible ways that cholera could have been transmitted from an infected individual into the water. Consider the distribution of deaths shown on the map as you develop your response.



## Model 2 – Six Modes of Disease Transmission



8. Model 2 illustrates several methods by which diseases may be transmitted.
- List the six modes of disease transmission shown in Model 2.
  - Which of these modes of transmission require a bodily opening, either natural or artificial?
9. An organism that is used by a pathogen to move from one person to another is called a vector.
- What vector is shown in Model 2?
  - With your group, brainstorm a list of other organisms besides the one shown in the diagram that could be vectors for transmitting pathogens.

10. Considering all of the different ways disease may be transmitted, which modes are more likely to cause large numbers of individuals to get sick in the United States? Explain your reasoning.

11. Consider the information given below concerning several diseases. Identify the mode(s) of transmission from Model 2 that is most appropriate based on the description.

Name of Disease	Class of Pathogen	Scientific Name of Pathogen	Disease Transmission (How it is spread)	Mode of Transmission from Model 2
<b>Cholera</b>	Bacteria	<i>Vibrio cholerae</i>	Fecal contamination of water	
<b>Syphilis</b>	Bacteria	<i>Treponema pallidum</i>	Sexual contact with body fluids (can include saliva)	
<b>Common cold</b>	Virus	<i>Rhinovirus</i>	Touching contaminated objects and surfaces, and then touching eyes/nose; inhaling air contaminated from a cough or sneeze	
<b>AIDS</b>	Virus	Human immunodeficiency virus (HIV)	Body fluids, which include blood, semen, vaginal fluids, and breast milk	
<b>Athlete's foot</b>	Fungus	<i>Trichophyton sp.</i>	Moist areas where people walk barefoot	
<b>Tuberculosis (TB)</b>	Bacteria	<i>Mycobacterium tuberculosis</i>	Inhalation of respiratory secretions	
<b>Malaria</b>	Protist	<i>Plasmodium sp.</i>	Being bitten by certain mosquitoes	
<b>Food poisoning</b>	Primarily bacteria (and some viruses)	<i>Salmonella</i> is a common cause	Improperly handled food, fecal contamination of food.	
<b>Lyme Disease</b>	Bacteria	<i>Borrelia sp.</i>	Being bitten by deer ticks	



12. Below are several methods used by society to control disease. Under each method of control, list the diseases from Question 11 that could be prevented with that method. (You may list a disease under more than one category.)

a. Preventing the contamination of food and water supplies.

b. Hand washing and good personal hygiene.

c. Avoiding contact with body fluids.

d. Controlling insect populations.

13. Why might diseases transmitted by vectors be harder to control than those transmitted by other means?

14. In the 14th century in Europe, the bubonic plague killed approximately one third of the population. Bubonic plague is caused by the bacteria *Yersinia pestis*, which is spread by an insect vector carried by rats and other rodents. This disease can be spread to other animals besides humans. How is control of a disease such as bubonic plague complicated by the fact that it spreads across multiple animal species?



## Extension Question

15. In a recent *Scientific American* article (February 2010), *The Art of Bacterial Warfare*, the authors state that 33% of humans are carrying the *Mycobacterium tuberculosis* bacteria—many without actually getting sick. In addition, 50% of the human population is carrying the bacteria *Helicobacter pylori* (which causes stomach ulcers), and 50% is carrying *Staphylococcus aureus* (which causes skin infections). Knowing that carriers are individuals who often do not show any visible signs of disease, what challenges can you think of for health care officials trying to control these types of communicable diseases?

## **CDC on COVID-19 Reading (adapted)**

### **Background**

CDC is responding to an outbreak of respiratory disease caused by a novel (new) coronavirus that was first detected in China and which has now been detected in more than 100 locations internationally, including in the United States. The virus has been named “SARS-CoV-2” and the disease it causes has been named “coronavirus disease 2019” (abbreviated “COVID-19”).

On January 30, 2020, the International Health Regulations Emergency Committee of the World Health Organization (WHO) declared the outbreak a “public health emergency of international concern” (PHEIC).

On January 31, Health and Human Services Secretary Alex M. Azar II declared a public health emergency (PHE) for the United States to aid the nation’s healthcare community in responding to COVID-19.

On March 11, the WHO characterized COVID-19 as a pandemic. On March 13, the President of the United States declared the COVID-19 outbreak a national emergency.

### **Source and Spread of the Virus**

Coronaviruses are a large family of viruses that are common in people and many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people.

Early on, many of the patients at the epicenter of the outbreak in Wuhan, Hubei Province, China had some link to a large seafood and live animal market, suggesting animal-to-person spread. Later, a growing number of patients reportedly did not have exposure to animal markets, indicating person-to-person spread. Person-to-person spread was subsequently reported outside Hubei and in countries outside China, including in the [United States](#). Some international [destinations now have ongoing community spread](#) with the virus that causes COVID-19, as do some parts of the United States. Community spread means some people have been infected and it is not known how or where they became exposed.

### **Severity**

The complete clinical picture with regard to COVID-19 is not fully known. Reported illnesses have ranged from very mild (including some with no reported symptoms) to severe, including illness resulting in death. While information so far suggests that most COVID-19 illness is mild, a report out of China suggests serious illness occurs in 16% of cases. Older people and people of all ages with severe chronic medical conditions — like heart disease, lung disease and diabetes, for example — seem to be at [higher risk of developing serious COVID-19 illness](#).

## COVID-19 Now a Pandemic

A pandemic is a global outbreak of disease. Pandemics happen when a new virus emerges to infect people and can spread between people sustainably. Because there is little to no pre-existing immunity against the new virus, it spreads worldwide. The virus that causes COVID-19 is infecting people and spreading easily from person-to-person. Cases have been detected in most countries worldwide and community spread is being detected in a growing number of countries. On March 11, the COVID-19 outbreak was [characterized as a pandemic by the WHO](#).

This is the first pandemic known to be caused by the emergence of a new coronavirus. In the past century, there have been four pandemics caused by the emergence of novel influenza viruses. As a result, most research and guidance around pandemics is specific to influenza, but the same premises can be applied to the current COVID-19 pandemic. Pandemics of respiratory disease follow a certain progression outlined in a "[Pandemic Intervals Framework](#)." Pandemics begin with an investigation phase, followed by recognition, initiation, and acceleration phases. The peak of illnesses occurs at the end of the acceleration phase, which is followed by a deceleration phase, during which there is a decrease in illnesses.

## Risk Assessment

Risk depends on characteristics of the virus, including how well it spreads between people; the severity of resulting illness; and the medical or other measures available to control the impact of the virus (for example, vaccines or medications that can treat the illness) and the relative success of these. In the absence of vaccine or treatment medications, [nonpharmaceutical interventions](#) become the most important response strategy. These are community interventions that can reduce the impact of disease.

The risk from COVID-19 to Americans can be broken down into risk of exposure versus risk of serious illness and death.

### Risk of exposure:

- The immediate risk of being exposed to this virus is still low for most Americans, but as the outbreak expands, that risk will increase. Cases of COVID-19 and instances of community spread are being reported in a growing number of states.
- People in places where ongoing community spread of the virus that causes COVID-19 has been reported are at elevated risk of exposure, with the level of risk dependent on the location.
- Healthcare workers caring for patients with COVID-19 are at elevated risk of exposure.
- Close contacts of persons with COVID-19 also are at elevated risk of exposure.
- Travelers returning from affected [international locations](#) where community spread is occurring also are at elevated risk of exposure, with level of risk dependent on where they traveled.

**Risk of Severe Illness:**

Early information out of China, where COVID-19 first started, shows that some people are at higher risk of getting very sick from this illness. This includes:

- [Older adults, with risk increasing by age.](#)
- [People who have serious chronic medical conditions like:](#)
  - Heart disease
  - Diabetes
  - Lung disease

**What May Happen**

More cases of COVID-19 are likely to be identified in the United States in the coming days, including more instances of community spread. CDC expects that widespread transmission of COVID-19 in the United States will occur. In the coming months, most of the U.S. population will be exposed to this virus.

Widespread transmission of COVID-19 could translate into large numbers of people needing medical care at the same time. Schools, childcare centers, and workplaces, may experience more absenteeism. Mass gatherings may be sparsely attended or postponed. Public health and healthcare systems may become overloaded, with elevated rates of hospitalizations and deaths. Other critical infrastructure, such as law enforcement, emergency medical services, and sectors of the transportation industry may also be affected. Healthcare providers and hospitals may be overwhelmed. At this time, there is no vaccine to protect against COVID-19 and no medications approved to treat it. [Nonpharmaceutical interventions](#) will be the most important response strategy to try to delay the spread of the virus and reduce the impact of disease.

**CDC Response**

Global efforts at this time are focused concurrently on lessening the spread and impact of this virus. The federal government is working closely with state, local, tribal, and territorial partners, as well as public health partners, to respond to this public health threat.

CDC is implementing its pandemic preparedness and response plans, working on multiple fronts, including providing specific guidance on measures to [prepare communities](#) to respond to local spread of the virus that causes COVID-19. There is an abundance of [pandemic guidance](#) developed in anticipation of an influenza pandemic that is being adapted for a potential COVID-19 pandemic.



## Reading Questions

### Vocabulary:

Use context clues to determine the definition of each of the following words

1. Chronic
2. Non-Pharmaceutical Interventions
3. Pandemic
4. Infrastructure

### Comprehension Questions

1. What is a "coronavirus"?
2. Which happened first:
  - A. Health and Human Services Secretary Alex M. Azar II declared a public health emergency (PHE) for the United States to aid the nation's healthcare community in responding to COVID-19.
  - B. The President of the United States declared the COVID-19 outbreak a national emergency.
  - C. The WHO characterized COVID-19 as a pandemic
3. Which is the correct order of the Pandemic Phases
  - A. Investigation, initiation, recognition, acceleration, deceleration
  - B. Acceleration, investigation, recognition, initiation, deceleration
  - C. Investigation, recognition, initiation, acceleration, deceleration
  - D. Acceleration, recognition, initiation, deceleration, investigation
4. Who are most at risk of severe illness from COVID - 19

### Short Answer:

Using the information in this post write a tweet (140 characters or less) explaining what people should do to stop the spread of COVID-19.



## INTRODUCTION

This handout complements the Click and Learn “Virus Explorer” developed in conjunction with the 2016 documentary, *Spillover: Zika, Ebola & Beyond* (<http://www.hhmi.org/biointeractive/virus-explorer>).

## PROCEDURE

Follow the instructions as you proceed through the Click and Learn, and answer the questions in the spaces provided.

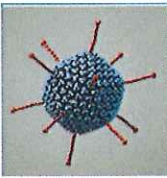
1. Let’s review. Click on the “About” tab at the bottom. Read the information and list four (4) ways in which viruses can differ from each other.

2. This interactive uses several abbreviations. Fill in what each abbreviation stands for in the table below.

Abbreviation	Description
nm	
bp	
ss	
ds	

3. Close the “About” window, and locate the **i** next to each viral characteristic tab across the top. Click on these icons and answer the questions below associated with each viral characteristic.

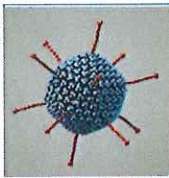
- a. **Envelope:** Not all viruses have an envelope. If a virus has this outer layer, explain how it forms.
  
  
  
  
  
  
  
  
  
  
- b. **Structure:** What determines the shape of the capsid, or core?



- c. **Host(s):** From the virus' perspective, why is the host important?
  
  
  
  
  
  
  
  
  
  
- d. **Genome Type:** Viral genomes may vary by four characteristics of their genetic information. What are they?
  
  
  
  
  
  
  
  
  
  
- e. **Transmission:** Define the terms "vector" and "zoonotic."
  
  
  
  
  
  
  
  
  
  
- f. **Vaccine:** What is one advantage of being vaccinated against a particular virus?

4. Virus Scavenger Hunt: Use the home page of the Virus Explorer and the various viral characteristic tabs across the top to answer the questions below.

- a. What is one difference between the rabies virus and the influenza virus?
  
  
  
  
  
  
  
  
  
  
- b. Of the nine viruses shown, which is the only one that infects plants?
  
  
  
  
  
  
  
  
  
  
- c. What are three characteristics that adenoviruses, T7 virus, and papillomaviruses have in common?
  
  
  
  
  
  
  
  
  
  
- d. Recently, Zika virus has been in the news. Treatment of it is of particular concern. Why?
  
  
  
  
  
  
  
  
  
  
- e. Which two viruses infect all the vertebrates included in the interactive?
  
  
  
  
  
  
  
  
  
  
- f. Of the nine viruses shown, which is the only one that infects bacteria?

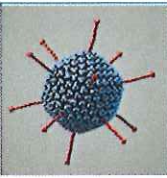


Click and Learn  
*Virus Explorer*

- g. List four characteristics that human immunodeficiency virus (HIV) and Ebola virus have in common. (Be specific.)
  
- h. List four characteristics that HIV and Ebola virus do not share. (Be specific.)

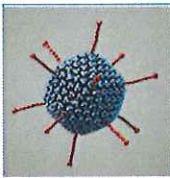
5. Locate the + next to each virus name. Click on these icons and answer the questions below associated with selected viruses.

- a. Rabies virus: People often associate rabies virus with dogs. Why is this incomplete?
  
- b. Influenza virus: Influenza virus has a segmented genome. Why is this an advantage for the virus?
  
- c. HIV: HIV infects immune cells. Why is this a disadvantage to the infected person?
  
- d. HIV: Where in the world is HIV most prevalent?
  
- e. Adenovirus: Adenoviruses can cause many mild clinical conditions in humans. What are three?
  
- f. Papillomavirus: What is the common name for papillomas?



Click and Learn  
***Virus Explorer***

- g. Papillomavirus: What kind of symptoms do some human papillomaviruses cause?
  
- h. Zika virus: Why is Zika virus of great concern to pregnant women?
  
- i. Tobacco mosaic virus (TMV): Name one unique characteristic of the tobacco mosaic virus.
  
- j. Ebola virus: What animal is associated with Ebola virus outbreaks?



**EXTENSION ACTIVITY: SIZE, SCALE, AND PROPORTION: HOW BIG IS A VIRUS ANYWAY?**

Instructions: Click on the “Show Relative Sizes of the Viruses” tab at the bottom of the interactive home page. Answer the questions below in the spaces provided. (You will need a calculator for some items.)

1. Using the white scale bar provided, approximately how long (tall) is TMV?
2. What is the approximate diameter of HIV?
3. What is the approximate diameter of Zika virus?
4. So, how big is a nanometer? Study the sample problem provided and then answer Questions 5–10, showing your work in the space provided for each.

**Sample Problem**

An average small paperclip measures 3.0 cm in length.

Calculate the length of the paperclip in millimeters, micrometers, and nanometers.

a. Millimeters (mm)? 30 mm

Since there are 10 mm in a centimeter, the calculation is completed in the following way:

$$3.0 \text{ cm} \times 10 \text{ mm}/1 \text{ cm} = 30/1 = 30 \text{ mm}$$

b. Micrometers ( $\mu\text{m}$ )? 30,000  $\mu\text{m}$

Since there are 1000  $\mu\text{m}$  in a millimeter, the calculation is completed in the following way:

$$30 \text{ mm} \times 1000 \mu\text{m}/1 \text{ mm} = 30,000 \mu\text{m}$$

c. Nanometers (nm)? 30,000,000 nm

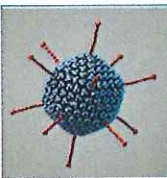
Since there are 1000 nm in a micrometer ( $\mu\text{m}$ ), the calculation is completed in the following way:  $30,000 \mu\text{m} \times 1000 \text{ nm}/1 \mu\text{m} = 30,000,000 \text{ nm}$

So, a small paperclip measures 3.0 cm in length, or you can say it measures 30,000,000 nm in length!

5. A single grain of salt measures 0.5 mm in width.

a. What is the width in micrometers ( $\mu\text{m}$ )? (Show your work.)

b. In nanometers (nm)? (Show your work.)



6. The average human skin cell measures  $30\ \mu\text{m}$  in diameter.

a. What is the diameter in millimeters (mm)?

(Show your work.)

b. In nanometers (nm)?

(Show your work.)

7. If you lined up human skin cells side-by-side, how many would fit along the length of the paperclip in the sample problem above? Justify your answer with math.

8. Using your response to item 1 above, if you lined up TMV particles end to end, how many would fit along the length of the same paperclip? Justify your answer with math.

9. Using your responses to item 6, if you lined up TMV particles end to end, how many would fit across the diameter of the average human skin cell? Justify your answer with math.

**10. Claim:** An individual virus docks on the surface of a cell, infects it, hijacks the cellular machinery inside, and replicates itself, sometimes thousands of times.

**Justification:** Based on what you learned about size, scale, and the component parts of a virus, justify with scientific reasoning how a virus is able to accomplish this.

# VIRUSES AND THE CYCLE OF REPLICATION

## **Directions:**

Read the passage below and answer all questions that follow.

Viruses cause damage when the viruses replicate inside the cells. The entry of the virus into the cell is not by itself harmful, but after the virus has replicated itself several hundred times and breaks out, the cell is destroyed. Organ damage in an organism can be severe if enough tissue is damaged by the virus. Any agent that causes disease is called a pathogen.

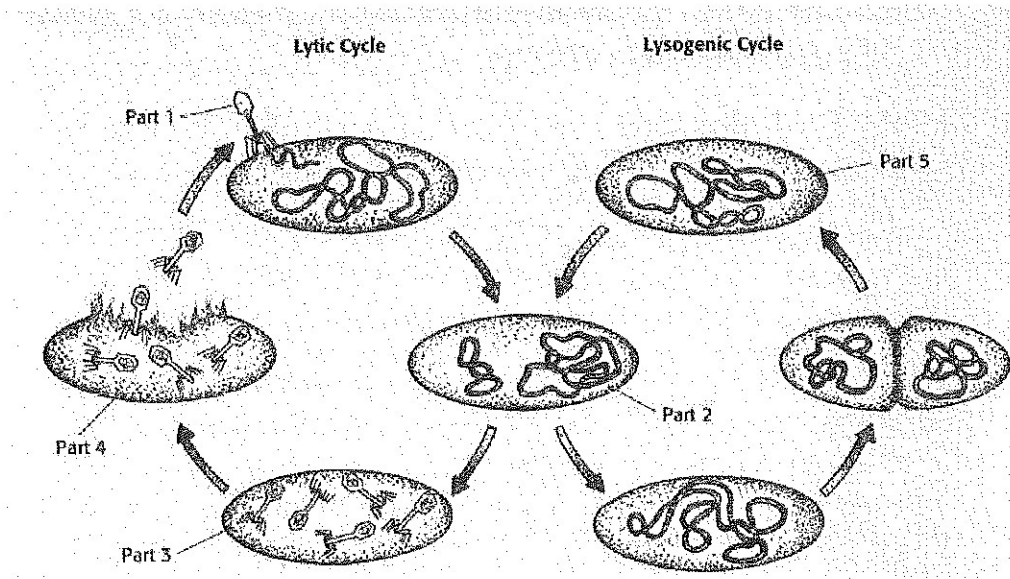
The cycle of viral infection, replication, and cell destruction is called the lytic cycle. After the viral genes have entered the cell, they use the host cell to replicate viral genes and to make viral proteins, such as capsids. The proteins are then assembled with the replicated viral genes to form complete viruses. The host cell is broken open and releases newly made viruses.

During an infection, some viruses stay inside the cells but do not make new viruses. Instead of producing virus particles, the viral gene is inserted into the host chromosome, and is called a provirus. Whenever the cell divides, the provirus also divides, resulting in two infected host cells. In this cycle, called the lysogenic cycle, the viral genome replicates without destroying the host cell.

1. How do viruses damage the cell?
2. What relationship exists between viruses and pathogens?
3. What sentence expresses main idea of the second paragraph?



4. The figure below shows the lytic and lysogenic cycles. In the spaces provided, describe what is occurring in each numbered part of the figure.



Part 1

Part 2

Part 3

Part 4

Part 5

Circle the letter of the phrase that best completes the statement.

Virus cause damage when they

- a. invade cells
- b. replicate inside cells.
- c. remain inside a host cell.
- d. Both (a) and (b).

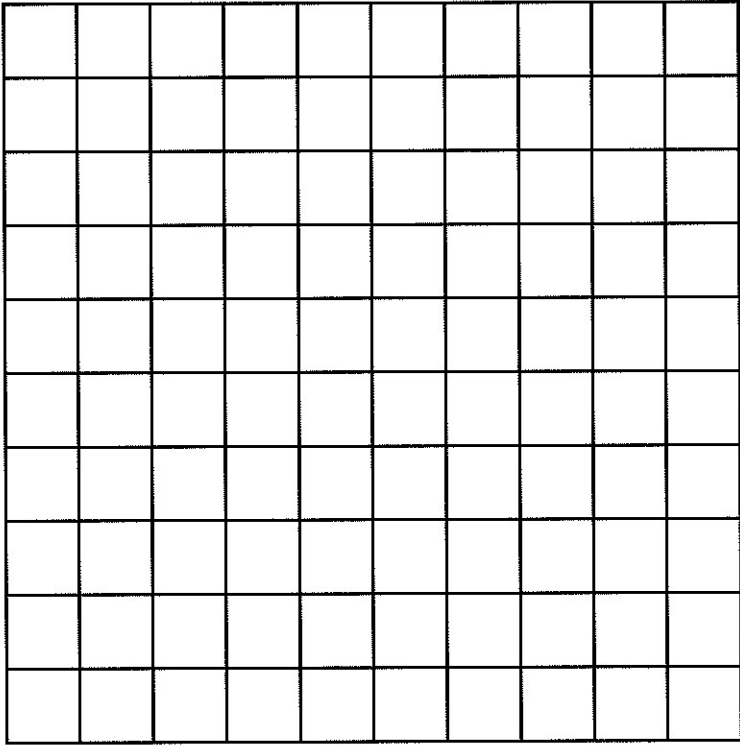
# Microbe Multiplication Magic

## Ideal Conditions

Assume that you begin with 2 *E. coli* bacteria and they reproduce (split into two separate bacteria) every 15 minutes.

Time	:15	:30	:45	1 hr.	1:15	1:30	1:45	2 hr.	2:15	2:30	2:45	3 hrs	3:15	3:30	3:45	4 hrs
Number of <i>E. coli</i>																

Make your graph below: Make sure you include title, labeled axes and appropriate scales.

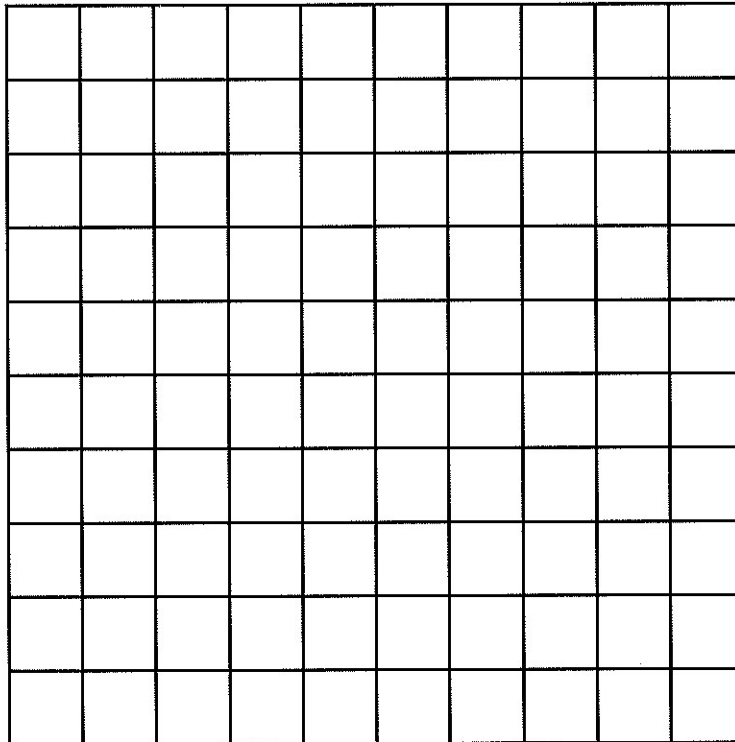


Less than Ideal Conditions

Assume that you begin with 2 *E. coli* bacteria and they reproduce (split into two separate bacteria) every hour.

Time	:15	:30	:45	1 hr.	1:15	1:30	1:45	2 hr.	2:15	2:30	2:45	3 hrs	3:15	3:30	3:45	4 hrs
Number of <i>E. coli</i>																

Make your graph below: Make sure you include title, labeled axes and appropriate scales.



Questions:

1. Compare and contrast the trends in both graphs.
2. What do you think would be a “non-ideal” condition for a bacteria?
3. How could you use your ideas for #2 to stop the spread of bacterial diseases?

# Identifying Patient Zero Activity

## Introduction

There has been an outbreak at Disney World causing a resort shut down. Millions of children are devastated as they have been looking forward to their trips for months! This new mysterious illness appears to be **communicable** and the **mode of transmission** appears to be through droplets (sneezing/coughing etc).

In this activity you will demonstrate the transmission of an unknown infectious agent from person to person as well as use deductive reasoning to determine "patient zero," the initial patient in the population to develop the infection and ultimately help reopen Disney World!

## Procedure

### Part 2: Contagion Activity

1. Epidemiologists have noticed that multiple Disney workers have down with a mysterious infection that causes coughing, fever, and difficult breathing. They believe the illness is **communicable** and the **mode of transmission** appears to be through droplets (sneezing/coughing etc). They have collected the last couple week's work schedule to assess which workers came into contact with each other.

<u>Employee</u>	<u>Week 1</u>	<u>Week 2</u>	<u>Week 3</u>
Cinderella	Soarin'	Castle	Space Mountain
Ariel	Astro Orbiter	Soarin'	Splash Mountain
Olaf	Soarin'	Astro Orbiter	Haunted Mansion
Simba	Splash Mountain	Splash Mountain	Soarin'
Mickey	Haunted Mansion	Castle	Splash Mountain
Anna	Splash Mountain	Haunted Mansion	Castle
Sneezy	Castle	Haunted Mansion	Haunted Mansion
Minnie	Castle	Astro Orbiter	Space Mountain
Belle	Astro Orbiter	Space Mountain	Astro Orbiter
Elsa	Space Mountain	Space Mountain	Soarin'
Beast	Haunted Mansion	Soarin'	Castle
Goofy	Space Mountain	Splash Mountain	Astro Orbiter

2. They also have tested each of the workers.

<u>Employee</u>	<u>Test Result</u>
Cinderella	-
Ariel	-
Olaf	+
Simba	+
Mickey	-
Anna	+
Sneezy	+
Minnie	-
Belle	+
Elsa	+
Beast	+
Goofy	+

3. Devise a way to determine *Patient Zero*. Determine your *Patient Zero options* by showing your work below (include image if you did this by hand):

4. Now that you have narrowed down your patient zero to 1 or a couple individuals, generate a list of 5 questions that you want to ask when you interview the workers. Your questions should be designed to help you identify who patient zero is, as well as learn more about how this new mysterious disease spreads.

a.

b.

c.

d.

e.

5. *Why do you think the CDC (Center of Disease Control) attempts to determine patient zero when there is a disease outbreak?*

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Article 6-Pack**

Find at least two important pieces of information from the article and explain why they are so central to what the author is trying to say.

**Determining Importance**

Write at least two connections between the article and your own experience.

**Making Connections**

Select a sentence or passage from the article that made you think. Explain why it caught your attention and how it connected to the rest of the text.

**Drawing Inferences**

Create an open-ended question about the article.

**Questioning**

Identify some new or unfamiliar words or phrases you encountered. Explain the meaning of the words from the context.

Create a drawing or graphic that helps you understand or organize the ideas presented in the article.

**Build Vocabulary**

**Visualize**

# Why Soap Works

*At the molecular level, soap breaks things apart. At the level of society, it helps hold everything together.*

**By Ferris Jabr**

March 13, 2020

It probably began with an accident thousands of years ago. According to one legend, rain washed the fat and ash from frequent animal sacrifices into a nearby river, where they formed a lather with a remarkable ability to clean skin and clothes. Perhaps the inspiration had a vegetal origin in the frothy solutions produced by boiling or mashing certain plants. However it happened, the ancient discovery of soap altered human history. Although our ancestors could not have foreseen it, soap would ultimately become one of our most effective defenses against invisible pathogens.

People typically think of soap as gentle and soothing, but from the perspective of microorganisms, it is often extremely destructive. A drop of ordinary soap diluted in water is sufficient to rupture and kill many types of bacteria and viruses, including the new coronavirus that is currently circling the globe. The secret to soap's impressive might is its hybrid structure.

Soap is made of pin-shaped molecules, each of which has a hydrophilic head — it readily bonds with water — and a hydrophobic tail, which shuns water and prefers to link up with oils and fats. These molecules, when suspended in water, alternately float about as solitary units, interact with other molecules in the solution and assemble themselves into little bubbles called micelles, with heads pointing outward and tails tucked inside.

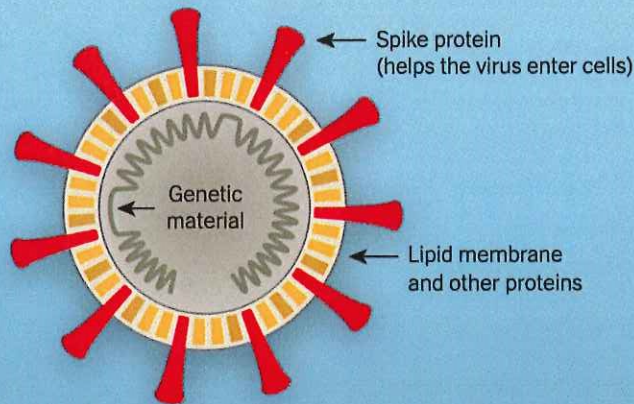
Some bacteria and viruses have lipid membranes that resemble double-layered micelles with two bands of hydrophobic tails sandwiched between two rings of hydrophilic heads. These membranes are studded with important proteins that allow viruses to infect cells and perform vital tasks that keep bacteria alive. Pathogens wrapped in lipid membranes include coronaviruses, H.I.V., the viruses that cause hepatitis B and C, herpes, Ebola, Zika, dengue, and numerous bacteria that attack the intestines and respiratory tract.

When you wash your hands with soap and water, you surround any microorganisms on your skin with soap molecules. The hydrophobic tails of the free-floating soap molecules attempt to evade water; in the process, they wedge themselves into the lipid envelopes of certain microbes and viruses, prying them apart.

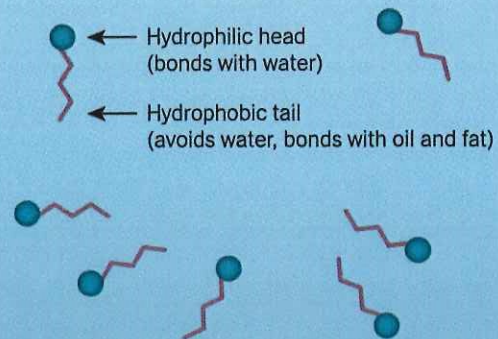
“They act like crowbars and destabilize the whole system,” said Prof. Pall Thordarson, acting head of chemistry at the University of New South Wales. Essential proteins spill from the ruptured membranes into the surrounding water, killing the bacteria and rendering the viruses useless.



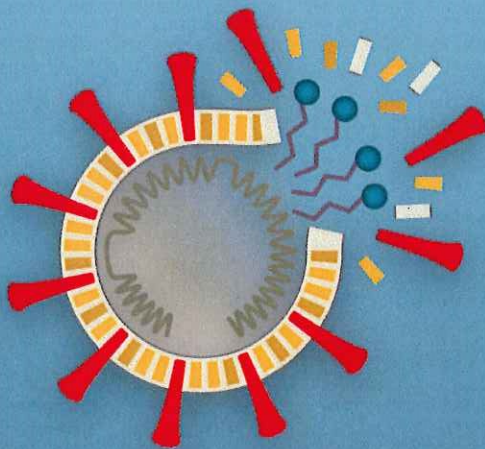
**THE CORONAVIRUS** has a membrane of oily lipid molecules, which is studded with proteins that help the virus infect cells.



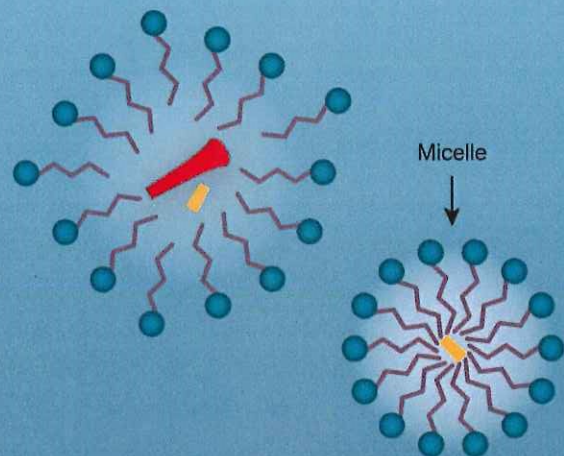
**SOAP MOLECULES** have a hybrid structure, with a head that bonds to water and a tail that avoids it.



**SOAP DESTROYS THE VIRUS** when the water-shunning tails of the soap molecules wedge themselves into the lipid membrane and pry it apart.



**SOAP TRAPS DIRT** and fragments of the destroyed virus in tiny bubbles called micelles, which wash away in water.



By Jonathan Corum and Ferris Jabr

In tandem, some soap molecules disrupt the chemical bonds that allow bacteria, viruses and grime to stick to surfaces, lifting them off the skin. Micelles can also form around particles of dirt and fragments of viruses and bacteria, suspending them in floating cages. When you rinse your hands, all the microorganisms that have been damaged, trapped and killed by soap molecules are washed away.

On the whole, hand sanitizers are not as reliable as soap. Sanitizers with at least 60 percent ethanol do act similarly, defeating bacteria and viruses by destabilizing their lipid membranes. But they cannot easily remove microorganisms from the skin. There are also viruses that do not depend on lipid membranes to infect cells, as well as bacteria that protect their delicate membranes with sturdy shields of protein and sugar. Examples include bacteria that can

cause meningitis, pneumonia, diarrhea and skin infections, as well as the hepatitis A virus, poliovirus, rhinoviruses and adenoviruses (frequent causes of the common cold).

These more resilient microbes are generally less susceptible to the chemical onslaught of ethanol and soap. But vigorous scrubbing with soap and water can still expunge these microbes from the skin, which is partly why hand-washing is more effective than sanitizer. Alcohol-based sanitizer is a good backup when soap and water are not accessible.

In an age of robotic surgery and gene therapy, it is all the more wondrous that a bit of soap in water, an ancient and fundamentally unaltered recipe, remains one of our most valuable medical interventions. Throughout the course of a day, we pick up all sorts of viruses and microorganisms from the objects and people in the environment. When we absentmindedly touch our eyes, nose and mouth — a habit, [one study](#) suggests, that recurs as often as every two and a half minutes — we offer potentially dangerous microbes a portal to our internal organs.

As a foundation of everyday hygiene, hand-washing was broadly adopted relatively recently. In the 1840s Dr. Ignaz Semmelweis, a Hungarian physician, discovered that if doctors washed their hands, far fewer women died after childbirth. At the time, microbes were not widely recognized as vectors of disease, and many doctors ridiculed the notion that a lack of personal cleanliness could be responsible for their patients' deaths. Ostracized by his colleagues, Dr. Semmelweis was eventually committed to an asylum, where he was severely beaten by guards and died from infected wounds.

Florence Nightingale, the English nurse and statistician, also promoted hand-washing in the mid-1800s, but it was not until the 1980s that the Centers for Disease Control and Prevention issued the world's [first](#) nationally endorsed hand hygiene guidelines.

Washing with soap and water is one of the key public health practices that can significantly slow the rate of a pandemic and limit the number of infections, preventing a disastrous overburdening of hospitals and clinics. But the [technique](#) works only if everyone washes their hands frequently and [thoroughly](#): Work up a good lather, scrub your palms and the back of your hands, interlace your fingers, rub your fingertips against your palms, and twist a soapy fist around your thumbs.

Or as the Canadian health officer Bonnie Henry [said recently](#), “Wash your hands like you’ve been chopping jalapeños and you need to change your contacts.” Even people who are relatively young and healthy should regularly wash their hands, especially during a pandemic, because they can spread the disease to those who are more vulnerable.

Soap is more than a personal protectant; when used properly, it becomes part of a communal safety net. At the molecular level, soap works by breaking things apart, but at the level of society, it helps hold everything together. Remember this the next time you have the impulse to bypass the sink: Other people's lives are in your hands.

# Infection Prevention and You



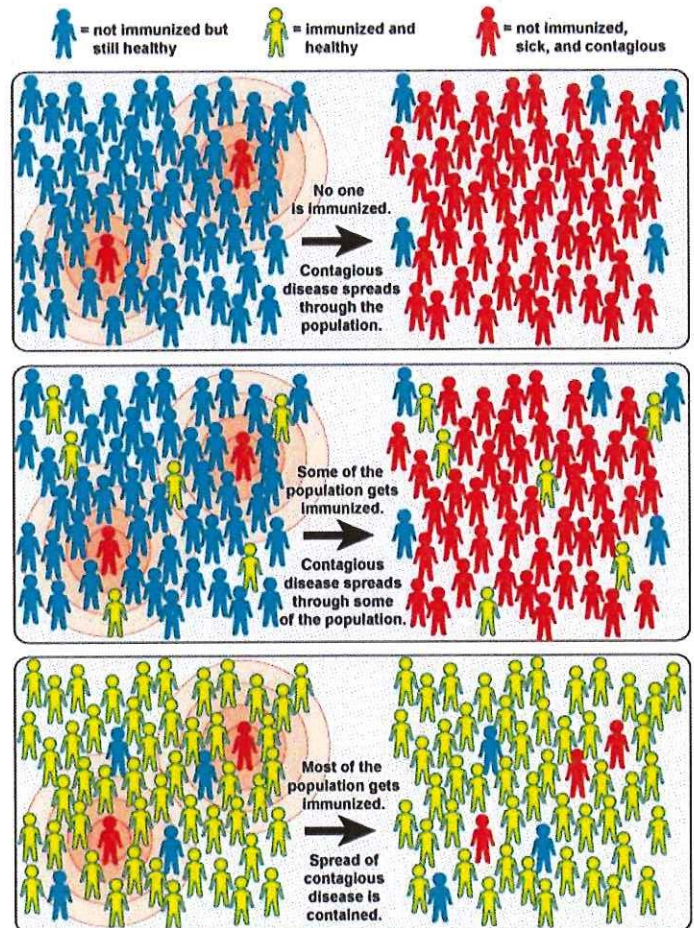
## Herd immunity

### What is herd immunity?

Herd immunity (or community immunity) occurs when a high percentage of the community is immune to a disease (through vaccination and/or prior illness), making the spread of this disease from person to person unlikely. Even individuals not vaccinated (such as newborns and the immunocompromised) are offered some protection because the disease has little opportunity to spread within the community.

Vaccines prevent many dangerous and deadly diseases. In the United States, smallpox and polio have both been stamped out because of vaccination. However, there are certain groups of people who cannot get vaccinated and are vulnerable to disease: babies, pregnant women, and immunocompromised people, such as those receiving chemotherapy or organ transplants. For example, the earliest a baby can receive their first pertussis or whooping cough vaccine is at two months, and the earliest a child can receive their first measles vaccine is at one year, making them vulnerable to these diseases.

Herd immunity protects the most vulnerable members of our population. If enough people are vaccinated against dangerous diseases, those who are susceptible and cannot get vaccinated are protected because the germ will not be able to “find” those susceptible individuals.



Credit: NIAID

### Why are there still outbreaks of vaccine-preventable diseases?

Measles was declared eliminated in 2000. Yet in 2014, there were 668 cases reported. The disease was spread when infected people traveled to the United States. These infected people then exposed unprotected people to the disease. There are a number of reasons why people are unprotected: some protection from vaccines “waned” or “faded” after a period of time. Some people don’t receive all of the shots that they should to be completely protected. For example you need two measles, mumps, and rubella (MMR) injections to be adequately protected. Some people may only receive one and mistakenly believe they are protected. Some people may object because of religious reasons, and others are fearful of potential side effects or are skeptical about the benefits of vaccines.

# Infection Prevention and You

## When doesn't herd immunity work?

One of the drawbacks of herd immunity is that people who have the same beliefs about vaccinations frequently live in the same neighborhood, go to the same school, or attend the same religious services, so there could be potentially large groups of unvaccinated people close together. Once the percentage of vaccinated individuals in a population drops below the herd immunity threshold, an exposure to a contagious disease could spread very quickly throughout the community.

## What can you do?

Talk to your healthcare provider. Ask about your immunization status and if you and your family members are up-to-date on your shots. Staying on schedule with vaccinations not only keeps you safe, but also keeps your loved ones and your community safe.

## Additional resources

Vaccination saves lives—APIC consumer alert <http://www.apic.org/For-Consumers/Monthly-alerts-for-consumers/Article?id=vaccination-saves-lives>

For parents: Vaccines for your children—CDC <http://www.cdc.gov/vaccines/parents/index.html>

Community immunity—Vaccines.gov <http://www.vaccines.gov/basics/protection/>

Measles death points to need for herd immunity—MedPage Today <http://www.medpagetoday.com/InfectiousDisease/GeneralInfectiousDisease/52473>

Community immunity—NIAID <http://www.niaid.nih.gov/topics/pages/communityimmunity.aspx>

Recommended immunizations for children from birth through 6 years old—CDC <http://www.cdc.gov/vaccines/parents/downloads/parent-ver-sch-0-6yrs.pdf>

Updated: 8/25/2015



# Claims, Evidence, & Reasoning about the Coronavirus

## Part 1: Coronavirus & the Flu

### Comparison of the Flu and Coronavirus

	Flu	Coronavirus
Illnesses	34 million in US	100,000 worldwide
Deaths	20,000 in US	3,000 Worldwide
Death rate	0.1% in the U.S	2.3% in mainland China
Virus transmission R0	1.3	2.5

basic reproduction number," or R0 (pronounced R-nought). This is an estimate of the average number of people who catch the virus from a single infected person

**BIG QUESTION:** Is the Coronavirus *just* the flu?

**Claim:** *Answer the Big Question in a complete sentence.*

**Evidence:** *What data or text supports your claim?*

**Reasoning:** *Why does the evidence you chose support your claim? Explain Why!!*

**Part 2: The New Coronavirus?** Read the article below and then fill out the CER.

In recent weeks, a new coronavirus disease called **COVID-19** has spread from where it was first detected in China to dozens of other countries. Now, several U.S. states have confirmed cases.

“Like any novel infection that’s reported, it’s certainly a public health concern,” says **Steven Gordon, MD**, Chairman of the Department of Infectious Disease. And there is still much to learn about this new coronavirus disease.

As the situation continues to evolve, infectious disease specialist **Frank Esper, MD**, encourages people to stay informed and follow common-sense practices like proper hand-washing to reduce the spread of viruses.

Coronavirus is a family of viruses that are common in people and animals. They can cause a variety of illnesses, ranging from the **common cold** to severe pneumonia.

Coronaviruses spread from person to person through droplets released when people who are infected cough or sneeze. These infected droplets can land on people nearby, who can then become infected if the virus gets into their body through their eyes, nose or mouth.

So you could get COVID-19 from coming in close contact with an infected person who is coughing and sneezing, Dr. Gordon says. Experts also suspect that you can get it from touching a surface that has been contaminated with virus-containing droplets.

Because of this, the Centers for Disease Control and Prevention recommends that people who have or might have COVID-19, or anyone caring for someone who has it, wear face masks to prevent the spread. However, you do not need to wear a face mask if you are not sick.

Symptoms are what one would expect from a typical upper respiratory infection, including cough and fever. Some people also have other symptoms that mimic the flu, such as muscle aches and sore throat, Dr. Esper notes.

*“Unfortunately there is no truly identifying feature of this coronavirus that separates it from other viruses out there,” he says.*

Most people who contract the virus will have mild symptoms and can recover on their own at home. But people over age 50 and people who have heart disease, lung disease or weakened immune systems seem to be more at risk for serious infections that could lead to pneumonia and difficulty breathing, Dr. Esper says.

The only way to confirm that someone has COVID-19 is through a swab test. Efforts are underway to make testing more widely available in U.S. hospitals and healthcare facilities. Because of this, Dr. Esper expects to see an uptick in the number of cases of COVID-19 being diagnosed and reported.

However, the CDC currently considers the immediate health risk to the American public to be low.

**The priority: Prevention**

While there is no specific treatment for COVID-19, the best way to protect against it and any other upper respiratory infection is to practice good cold and flu season hygiene, Dr. Gordon says.

Actions to prevent the spread of viruses include:

- **Washing your hands thoroughly with soap and water**, or using an alcohol-based hand sanitizer.
- **Properly covering your nose and mouth** with a tissue or your sleeve when you cough and sneeze.
- **Staying home from school or work** if you're not feeling well, whether you think you have something extremely contagious or not. Wear a mask if you are sick.
- **Disinfect surfaces** that are frequently touched, like doorknobs and handles.
- **Avoiding close contact** with people who are sick.
- **Avoid touching your face** to prevent the spread of viruses from your hands.
- **Follow travel guidelines** from the CDC.

If you think you may have been infected with the coronavirus, call your healthcare provider. They will ask about your symptoms and recent travel, and recommend what next steps you should take.

BIG QUESTION: Is the Coronavirus *new*? (Consider ways that it is and is not new, then state your claim!)

Claim: *Answer the Big Question in a complete sentence.*

Evidence: *What data or text supports your claim?*

Reasoning: *Why does the evidence you chose support your claim? Explain Why!!*







C. Based on your response in part B, what solution(s) can you investigate or what other information/resources can you gather to strengthen your argument?

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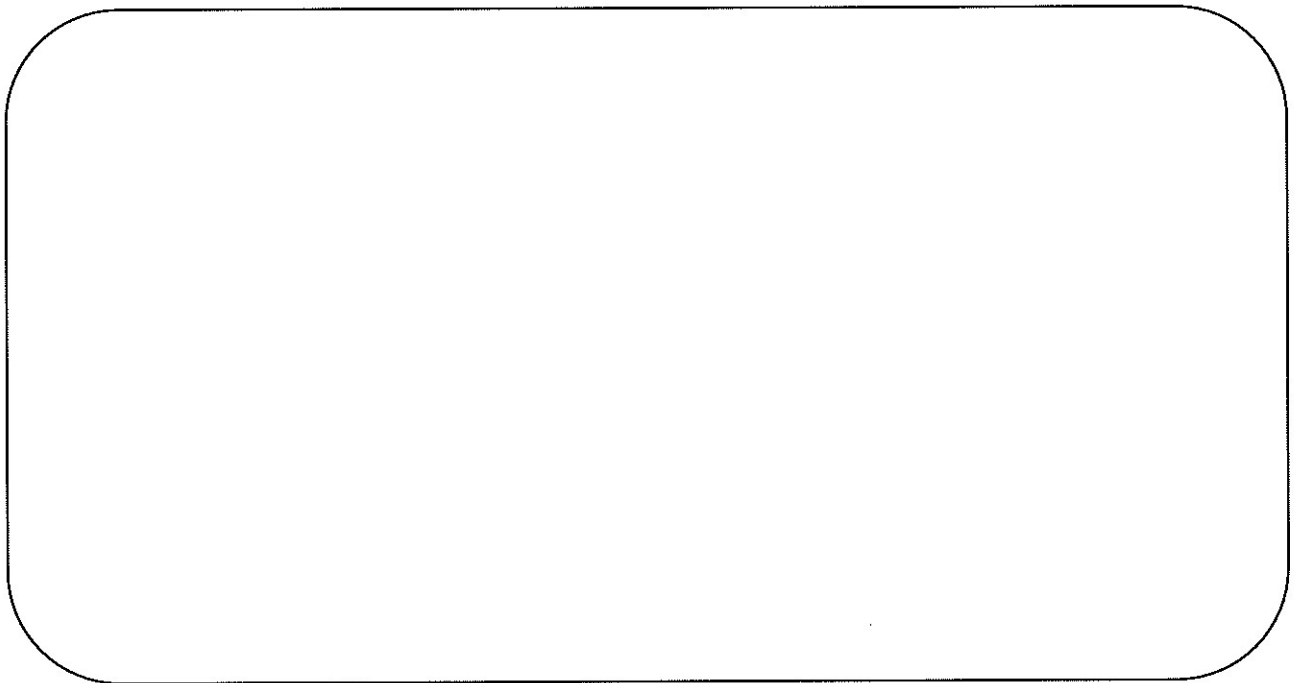
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Make an illustration or represent the data in your own way in the space below:



**High  
School  
Social  
Studies**



# St. Louis Public Schools Continuous Learning Plans High School Social Studies

<b>WEEK</b> <b>1</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment</b> <i>How will you show your teacher that you learned the material?</i>
<b>Monday</b> <b>March 23</b>	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: <a href="#">"7 Times in History When Students Turned to Activism"</a>	<b>Writing Prompt:</b> 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.
<b>Tuesday</b> <b>March 24</b>	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: <a href="#">"Why Demonstrating is Good for Kids"</a>	<b>Writing Prompt:</b> 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.
<b>Wednesday</b> <b>March 25</b>	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: <a href="#">"Young People Are Angry": The Teenage Activists Shaping Our Future"</a>	<b>Writing Prompt:</b> What tone is established in Emma Gonzalez's speech? Pull out at least three different words and phrases and explain how they establish tone.
<b>Thursday</b> <b>March 26</b>	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: <a href="#">"Seven Young Activists to Watch Ahead of the 2020 Elections"</a>	<b>Writing Prompt:</b> Introduce an activist to your class. Include the following: <ul style="list-style-type: none"> <li>• Name</li> <li>• Age</li> <li>• Location</li> <li>• Focus of activism</li> <li>• Actions they have taken</li> <li>• Impact of their actions</li> <li>• What their "ideal" future would look like</li> </ul>
<b>Friday</b> <b>March 27</b>	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	<b>Article of the Week:</b> 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 High School Social Studies

<b>WEEK</b>	<b>Lesson Objective</b> <i>What will you know and be able to do at the conclusion of this lesson?</i>	<b>Missouri Learning Standard</b> <i>What content standard will this learning align to?</i>	<b>Instructional Activities</b> <i>What needs to be done in order to learn the material?</i>	<b>Resources</b> <i>What print and electronic resources are available to support your learning?</i>	<b>Assessment / Assignment</b> <i>How will you show your teacher that you learned the material?</i>
<b>2</b>					
<b>Monday</b> <b>March 30</b>	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: <a href="#">How Government Works: What is citizenship?</a>	<b>Writing Prompt:</b> Why are the rights and responsibilities of citizens important to democracy in the United States?
<b>Tuesday</b> <b>March 31</b>	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: <a href="#">Checking the facts about U.S. birthright citizenship</a>	<b>Writing Prompt:</b> 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?
<b>Wednesday</b> <b>April 1</b>	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: <a href="#">With teens more politically active, support grows for lowering the voting age to 16</a>	<b>Writing Prompt:</b> 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.
<b>Thursday</b> <b>April 2</b>	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: <a href="#">Youth drive push to lower voting age in Somerville, Massachusetts</a>	<b>Writing Prompt:</b> Write a short paragraph that explains the central idea of the article. Use at least two details from the article to support your response.
<b>Friday</b> <b>April 3</b>	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	<b>Article of the Week:</b> 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.

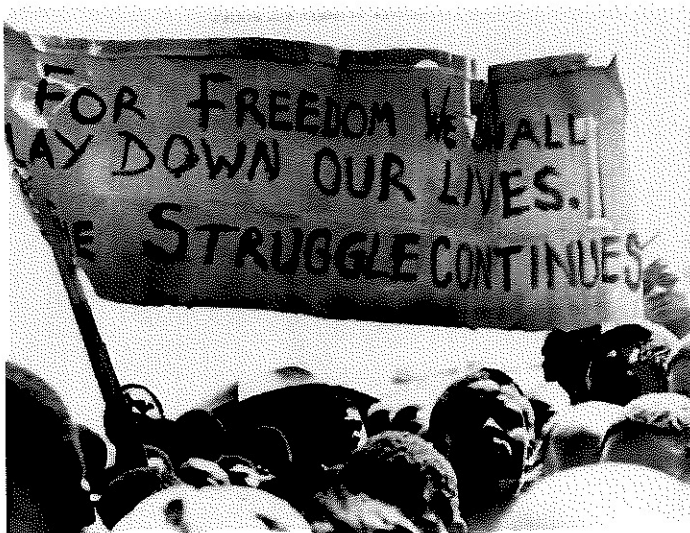
## University Uprisings, 1968

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 Pieterse (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.



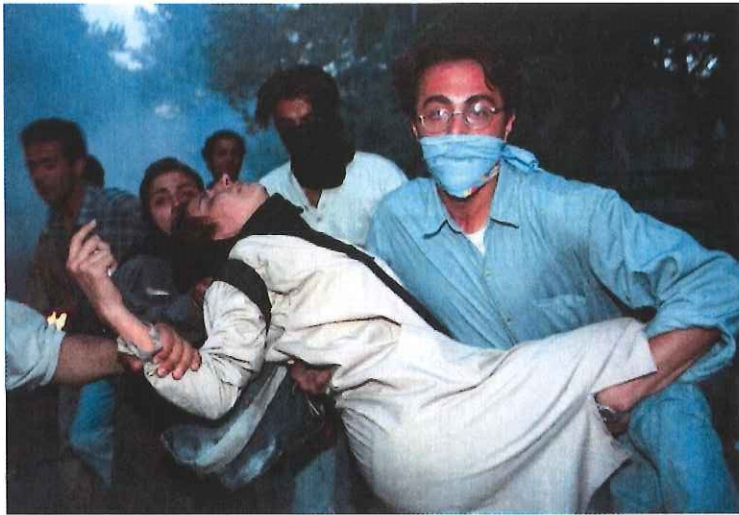
Vaclav Havel greeting supporters in Prague in December 1989. A dissident playwright, he would become president after the Velvet Revolution.

## 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](http://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."

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.*

<b>Word:</b>	<b>Part of Speech:</b>	
<b>Definition:</b>		
<b>Sentence:</b>		
<b>Visual Representation</b>	<b>Synonyms</b>	<b>Antonyms</b>

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# 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







# Checking the facts about U.S. birthright citizenship

By PBS NewsHour, adapted by Newsela staff on 11.05.18

Word Count 792

Level 1070L

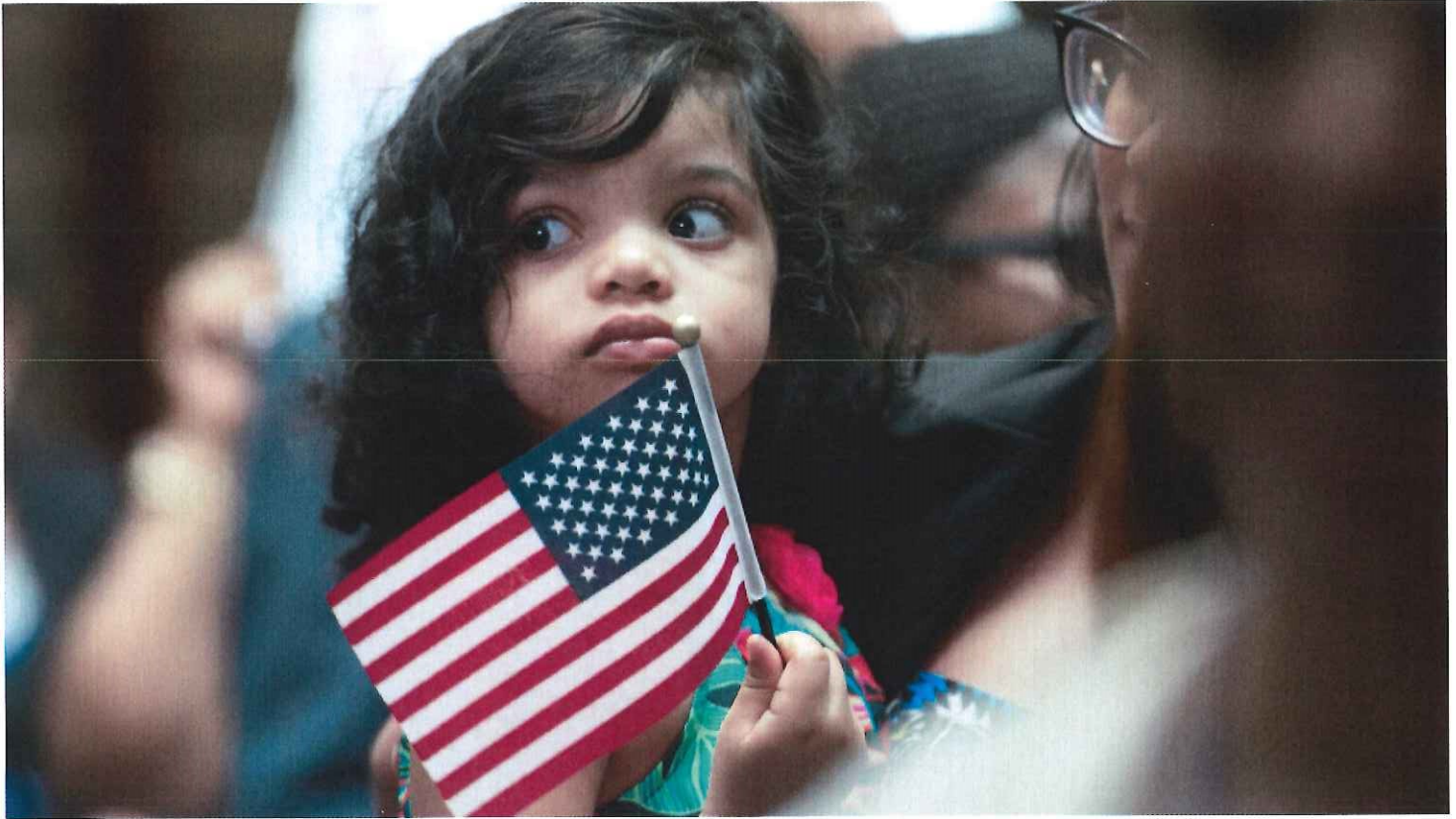


Image 1. A little girl holds the flag as the U.S. Citizenship and Immigration Services welcomes 200 new citizens from 50 countries during a ceremony in honor of Independence Day at the New York Public Library on July 3, 2018. Photo: Bryan R. Smith/Getty Images

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.

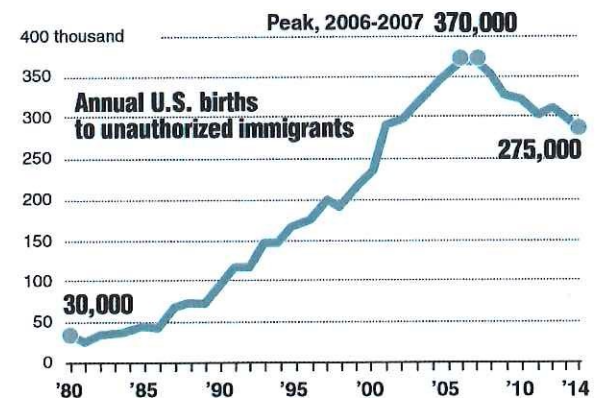
"It's been declining almost a decade now," he said, along with the overall U.S. birth rate. In 2017, 3.8 million babies were born in the United States, the lowest recorded number of births in three decades and the largest single-year drop since 2010.

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

### Unauthorized-immigrant births drop

About 275,000 babies were born to unauthorized-immigrant parents in 2014, or about 7% of the 4 million births in the U.S.



Source: Pew Research Center  
Graphic: Staff, Tribune News Service

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.



# 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.
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**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.*

<b>Word:</b>	<b>Part of Speech:</b>	
<b>Definition:</b>		
<b>Sentence:</b>		
<b>Visual Representation</b>	<b>Synonyms</b>	<b>Antonyms</b>

<b>Word:</b>		<b>Part of Speech:</b>
<b>Definition:</b>		
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