



*At Home Learning
Resources*

Grade 8

Week 2

Grab and Go Meals

Available for Lowell Public Schools

Students When School is Closed

Weekdays from March 16-March 27

Bartlett (11-11:30am)
79 Wannalancit St.

Moody (12-12:30pm)
158 Rogers St.

Butler (12:45-1:30pm)
1140 Gorham St.

Murkland (12:45-1:15pm)
350 Adams St.

Greenhalge (10:30-11am)
149 Ennell St.

Pawtucketville (12-12:30pm)
425 West Meadow Rd.

Lincoln (1:30-2pm)
300 Chelmsford St.

Robinson (11:15-11:45am)
110 June St.

STEM Academy (Rogers)*
10:30am-1 pm
43 Highland St.

**STEM meal service will
be available at back door
at the kitchen loading
dock area off South St.*

ELA Grades 5-8 At Home Learning Choices

Weeks 2 & 3

You can continue the reading, writing, and vocabulary work from Week 1 OR continue online learning using tools like iReady, Lexia, Scholastic Learn OR complete the “Choose Your Own Adventure” Learning

“Choose Your Own Adventure”

This is a two week English Language Arts and Literacy exploration. Students will choose between 4 different options to pursue. Each option still requires daily reading. The goal of the project is to honor student growth and increase their learning with a project of their choice. There are different levels of independence, as well as choices for how to share their learning. (This work is borrowed from educator Pernille Ripp). Enjoy!

So what are the choices?

Choice	To Do
Choice 1: The Independent Reading Adventure On this adventure, you will use a self-chosen fiction chapter book to show your reading analysis skills. Read and either write or record your answers to questions that show your deeper understanding of the text.	See instructions below for “The Independent Reading Adventure”
Choice 2: The Picture Book Read Aloud Adventure On this adventure, you will listen to a picture book being read aloud every day by lots of wonderful people. Then you will write or record a response to a specific question every day.	See instructions below for “The Picture Book Read Aloud Adventure”
Choice 3: The Inquiry Project Adventure Ever wanted a chance to pursue a major topic of interest for yourself? Now is the chance. Craft a learning plan, learn more about your topic, and then showcase your learning when you return to school or virtually.	See instructions below for “The Inquiry Project Adventure”
Choice 4: The Creative Writing Adventure Want a chance to explore creative writing? Decide how you want to grow as a writer, and then start writing. Write each day and be ready to share some of your great work when you return to school or virtually.	See instructions below for “The Creative Writing Adventure”

Choice 1: The Independent Reading Adventure

On this adventure, you will use a self-chosen fiction chapter book to show your reading analysis skills. Read and either write or record your answers to questions that show your deeper understanding of the text.

Connect Four boxes vertically, horizontally, or diagonally. The four boxes you choose must be included in your recorded or written response.

Choose Your Own Adventure - The Independent Reading Adventure

A one-pager is an analytical, creative, and written response to a novel that completely fills one side of a piece of paper. For your one-pager, you'll want to focus on the big ideas from the novel including theme, symbolism, and character change.

Book: Grab a chapter book to do this, if you do not have one at your house you can use Audible to listen to one or Epic Books or Libby/Overdrive.

Choice in completion:

You can either type this out in a document: Google Doc, Word, Etc. OR record this in a video or audio-only format.

Details for Written Response

- Write a healthy response for each section that requires a written answer, meaning a long paragraph - not only five sentences.
- Clearly label each element of your one-pager.
- Include the title, author, genre of your book on the paper.
- Choose 4 elements to complete from the grid that are connected - they can be connected vertically, diagonally, or horizontally.
- Do this by hand by printing it out or take a picture of it.

Required Details for Recorded Response

- Brainstorm what you want to say before you record.
- Make sure you name the book and the author in your recording.
- Start each section by saying the question you are answering.
- Make sure your response answers the questions fully.
- Choose 4 elements to complete from the grid that are connected - they can be connected vertically, diagonally, or horizontally.

Connect four boxes vertically, horizontally, or diagonally to select your other four required elements.

<p>Quotes: Copy down 3 meaningful quotes from the book and explain the significance of each quote. What does it infer, symbolize, suggest, relate to, etc.?</p>	<p>Character changes: How does your main character start out and how do they change throughout the story? Answer thoroughly using evidence to back up your thoughts. Add two images that symbolize your character.</p>	<p>Setting: Draw or describe a background that shows knowledge of the setting of one or more important scenes for the characters, add one symbol at least from the story - write what it symbolizes next to it.</p>	<p>Song: Find song lyrics that connect. Write the lyrics, including the song, artist, and a 2-3 sentence explanation of how the song related to the book.</p>
<p>Setting: Draw or describe a background that shows knowledge of the setting of one or more important scenes for the characters, add one symbol at least from the story - write what it symbolizes next to it.</p>	<p>Timeline: Create a timeline with 10 critical events in the book. The timeline must be linear or follow the plot diagram. Each event must be a complete sentence.</p>	<p>Quotes: Copy down 3 meaningful quotes from the book and explain the significance of each quote. What does it infer, symbolize, suggest, relate to, etc.?</p>	<p>Character changes: How does your main character start out and how do they change throughout the story? Answer thoroughly using evidence to back up your thoughts. Add two images that symbolize your character.</p>
<p>Lessons learned: Add images and/or words to show lessons your main character learns throughout the book. Write about what the lessons teach them. Does this teach you any lessons?</p>	<p>Setting: Draw or describe a background that shows knowledge of the setting of one or more important scenes for the characters, add one symbol at least from the story - write what it symbolizes next to it.</p>	<p>Character changes: How does your main character start out and how do they change throughout the story? Answer thoroughly using evidence to back up your thoughts. Add two images that symbolize your character.</p>	<p>Quotes: Copy down 3 meaningful quotes from the book and explain the significance of each quote. What does it infer, symbolize, suggest, relate to, etc.?</p>
<p>Character changes: How does your main character start out and how do they change throughout the story? Answer thoroughly using evidence to back up your thoughts. Add two images that symbolize your character.</p>	<p>Quotes: Copy down 3 meaningful quotes from the book and explain the significance of each quote. What does it infer, symbolize, suggest, relate to, etc.?</p>	<p>Theme: What is the theme statement of your book and how do you know? Answer thoroughly using evidence to back up your thoughts. Add an image that symbolizes the theme</p>	<p>Setting: Draw or describe a background that shows knowledge of the setting of one or more important scenes for the characters, add one symbol at least from the story - write what it symbolizes next to it.</p>

Choice 2: The Picture Book Read Aloud Adventure

On this adventure, you will listen to a picture book being read aloud every day by lots of wonderful people. Then you will write or record a response to a specific question every day.

Choose Your Own Adventure - Picture Book Read Alouds and Analysis

Love picture books being read aloud? Me too! Here is your chance to listen to a different picture book being read aloud every day and analyze the book using the question asked each day.

Project requirement:

- Watch the video posted for each day in the table below.
- Respond either in writing or by posting a recording of your answer.

Choice in completion:

You can either type this out in a document: Google Doc, Word, etc. OR record this in a video or audio-only format

Details for Written Response

- Write a healthy response for each question meaning a long paragraph - not only five sentences.
- You should use evidence from the read aloud to support your analysis. You can use either a quote (stop the video to write it down) or refer to a specific section of the picture book.
- Include the title of your book on the paper.

Details for Recorded Response

- Brainstorm what you want to say before you record.
- Make sure you name the book and the author in your recording.
- Start each recording by saying the question you are answering.
- Make sure your response answers the questions fully.

Day	Title of Picture Book	Video link	Questions to discuss
Day 1	A Tale of Two Beasts	https://www.storylineonline.net/books/tale-of-two-beasts/	In the picture book, we see two very different versions of the same story. Why did the girl believe her version of the story was the right one? What does this remind you of in your own life?
Day 2	Each Kindness	https://www.youtube.com/watch?v=kj7Oc0ZoOjM	What is the theme of <u>Each Kindness</u> ? How do you know?

Day 3	The Heart and the Bottle	https://www.youtube.com/watch?v=8FSuy-J_Pzk	What does placing her heart in a bottle symbolize? How do you know?
Day 4	The Bad Seed	https://www.youtube.com/watch?v=ugsGoiz-ufg&list=PLiYzMwyBPG96EDjv7MAohaCnXoQnqiBmG&index=20&t=0s	In the book, the people who surround our main character see a certain way - how do you think the perception of others influences him and his actions? How do you connect to this story?
Day 5	We are Water Protectors	https://youtu.be/N-zPU4iSpc0 AND https://bioneers.org/the-native-american-prophecy-of-the-black-snake/	What is the black snake that is poisoning the water, plants, animals, and land? Discuss how and why the Black Snake is used as a symbol of destruction throughout the book.
Day 6	Pride: The Story of Harvey Milk and the Rainbow Flag	https://www.readbrightly.com/brightly-storytime-pride/	The Rainbow Flag has been used as a symbol of hope since 1978. Why are symbols such as flags often used in movements, how can symbols pull us together around a cause?
Day 7	Wolfie the Bunny	https://www.youtube.com/watch?v=BiU0Z9P2E4s	What did Dot use as evidence for her perception of Wolfie? How did her perception influence how she viewed Wolfie? How does this tie in with your own life?
Day 8	On the Day You Begin	https://www.readbrightly.com/brightly-storytime-the-day-you-begin/	How does our main character change throughout the story? How do you know? How does this story connect with your own life?
Day 9	The True Story of The Three Little Pigs	https://www.youtube.com/watch?v=1Q01X8JU3GU	How does hearing the perspective from the Wolf show us what we have missed? What happens to our understanding of the world when we only believe or see one side of the story?
Day 10	Your Choice	Visit the LPS Virtual Read Aloud Page and choose a book to listen to. https://www.youtube.com/channel/UCMIqoXopDU-6yfq5pJIPRtg	What did the author want you to learn? What language stood out to you? How does the main character change throughout the story? How do you know?

Choice 3: The Inquiry Project Adventure

Ever wanted a chance to pursue a major topic of interest for yourself? Now is the chance. Craft a learning plan, learn more about your topic, and then showcase your learning when you return to school or virtually.

Choose Your Own Adventure - Inquiry Project

Passionate or curious about something? Now is the chance. Craft a learning plan, learn more about your topic, and then showcase your learning when you return to school or virtually.

Project Requirements:

- Identify an inquiry question you want to pursue (something you want to learn more about) - remember inquiry questions are not straight “Googleable,” they will need learning from many sources or experiences to answer.
- Fill in the learning plan to show what you will be learning and how you will challenge yourself.
- Do the learning on your own or with your family.
- Create a product to showcase your learning - you have many choices of what to create.

Independence Expectations:

- This is a project that will require a lot of discipline and focus. You are not creating a day-to-day project, so you are expected to produce a larger final product to share your learning.
- The inquiry question you choose to pursue can be one that you already know something about or one that you know very little about.
- There should be NEW learning throughout, not just a summary of what you already know.

Details for End Product

- Your end product can take many forms: A podcast, a story, a presentation, a speech, a stop motion animation, a PSA, or something else you imagine.
- Your end product should showcase new learning for you, as well as be accessible to your intended audience - your peers.
- Your end product should have citations of any information you have used.
- Your end product should take at least 5 minutes for an average peer to either listen to or explore.

Day	What is your plan for learning for this day?
Day 1	
Day 2	
Day 3	
Day 4	
Day 5	
Day 6	
Day 7	
Day 8	
Day 9	
Day 10	

What is your inquiry question?

How much do you already know about this topic?

_____ Very little

_____ Average amount - I know some stuff but not anything in-depth

_____ A lot - I have done inquiry into this

_____ Expert level (how will you challenge yourself then)

How will this project challenge you?

What types of resources do you plan on using?

How will you know you have successfully learned something?

What do you plan on creating to show off your newfound knowledge? What is your end project idea?

Choice 4: The Creative Writing Adventure

Want a chance to explore creative writing? Decide how you want to grow as a writer, and then start writing. Write each day and be ready to share some of your great work when you return to school or virtually.

Choose Your Own Adventure- Creative Writing

Have a story to tell? Here is your chance to use dedicated time to pursue your own writing craft and put some of those sweet writing moves you have been working on into action.

Project requirement:

- Identify your areas of strength as a writer - what do you already do well in writing?
- Identify areas of growth in writing for yourself - how will this project challenge you?
- Produce two or more pages each day in the writing form you choose - narrative, informational, opinion or argument, essay, poem, song, graphic novel

Independence expectations:

- This is a project that will require a lot of discipline and focus. You are not creating a day-to-day project, so you are expected to produce a larger final product to share your learning.
- The creative writing project you choose to pursue can be one that you already know something about or one that you know very little about.
- There should be NEW learning throughout, not just a summary of what you already know.

Day-by-Day Breakdown

Day	What is your plan for learning for this day?
Day 1	
Day 2	
Day 3	
Day 4	
Day 5	
Day 6	
Day 7	
Day 8	
Day 9	
Day 10	

How solid of a writer are you already?

- On shaky ground, I have a lot of growth to do
- Fairly average
- Pretty good
- Expert level (how will you challenge yourself then?)

How will this project challenge you?

What types of specific writing lessons do you want to focus on:

- Finding ideas of what to write about
- Expanding and strengthening your original idea
- Fully developing a plot
- Adding descriptive details to help your reader visualize
- Creating worthwhile characters
- Manipulating time to move your story along
- Adding dialogue to add interest
- Making it have a turning point or some sort of climax
- Adding details
- Cutting out details
- Making it make sense
- Spelling
- Punctuation
- Other:
- Other:

How will you know you have successfully learned applicable writing skills?

Applying Properties for Powers with the Same Base

► Rewrite each expression as a single power.

1 $6^4 \cdot 6^4$

2 $(-5^5)^2$

3 $\frac{2^9}{2^5}$

4 $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3^2$

5 $\frac{12^5 \cdot 12^7}{-12^4}$

6 $\left(\frac{7^5}{7^2}\right)^2$

► Evaluate each expression.

7 $\frac{4^8}{4^5}$

8 $(-10) \cdot (-10)^4$

9 $\left(\frac{(-3)^4}{(-3)^2}\right)^3$

► What value of x makes the equation true?

10 $\frac{8^x}{8^5} = 8^7$

11 $(-11)^x \cdot (-11)^4 = \frac{(-11)^{10}}{(-11)^3}$

12 $(6^x)^{10} = \frac{(6^{12})^2}{6^4}$

13 Explain how you solved for x in problem 12.

Applying Properties for Powers with the Same Exponent

► Rewrite each expression as a single power.

1 $9^4 \cdot 10^4$

2 $(12 \cdot 6)^3$

3 $\frac{3^3}{2^3}$

4 $\frac{6^2}{2^2}$

5 $(-5)^6 \cdot (-7)^6$

6 $\left(\frac{6^4}{12^4}\right)^2$

► Rewrite each expression as a product of two powers or quotient of two powers.

7 $5^5(16^2 \cdot 5^3)^3$

8 $\left(\frac{8^4 \cdot 5^3}{8^5}\right)^2$

9 $\left(\frac{5^8 \cdot 3^7}{5^4}\right)^{10}$

10 How does multiplying powers with the same base differ from multiplying powers with the same exponent but different bases?

Applying Properties of Negative Exponents

► Rewrite each expression using only positive exponents. The answers are mixed up at the bottom of the page. Cross out the answers as you complete the problems.

1 $7^3 \cdot 16^{-9}$

2 $\frac{8^{-6}}{21^{-4}}$

3 $\left(\frac{7}{16}\right)^{-3}$

4 $16^3 \cdot (-7)^{-3}$

5 $(8 \cdot 21)^{-4}$

6 $8 \cdot 21^{-3}$

7 $\frac{11^{-7} \cdot 5^9}{6^9}$

8 $\frac{11^{-7} \cdot 5^9}{6^{-9}}$

9 $6^9 \cdot 11^{-7} \cdot 5^{-9}$

10 $\frac{3^5 \cdot (-4)^{-10}}{7^9 \cdot 21^{-4}}$

11 $\frac{(-21)^{-4} \cdot (-4)^0}{3^{-5} \cdot 7^{-9}}$

12 $\left(\frac{3}{7}\right)^{-5} \cdot (-21)^{-4} \cdot (-4)^2$

Answers

$$\frac{1}{(8 \cdot 21)^4}$$

$$\frac{6^9}{11^7 \cdot 5^9}$$

$$\frac{16^3}{7^3}$$

$$\frac{7^5 \cdot (-4)^2}{3^5 \cdot (-21)^4}$$

$$\frac{21^4}{8^6}$$

$$\frac{6^9 \cdot 5^9}{11^7}$$

$$\frac{16^3}{(-7)^3}$$

$$\frac{3^5 \cdot 21^4}{7^9 \cdot (-4)^{10}}$$

$$\frac{3^5 \cdot 7^2}{(-21)^4}$$

$$\frac{8}{21^3}$$

$$\frac{5^9}{11^7 \cdot 6^9}$$

$$\frac{7^3}{16^9}$$

Applying Properties of Integer Exponents

► Evaluate each expression.

1 $18^{-4} \cdot 6^7$

2 $3^4 \cdot 3^{-6} \cdot 9^0$

3 $\left(\frac{3^{-4} \cdot 3^6}{6^3 \cdot 6^{-1}}\right)^{-2}$

► Write each expression using only positive exponents.

4 $19^{-3} \cdot 19 \cdot 19^{-4} \cdot 19^3$

5 $\frac{6^{-3} \cdot 17^3 \cdot 2}{6^5 \cdot 17^{-4} \cdot 2^{-1}}$

6 $24^{-3} \cdot 24^7 \cdot (24^{-3})^4 \cdot 24^9$

7 $\left(\frac{7^{-3} \cdot 3^{-8}}{7^{-2} \cdot 3^{-2}}\right)^{-4}$

8 $(2^{-1} \cdot 3^0)^{-3} \cdot (2^0 \cdot 5^3)^5$

9 $\left(\frac{5^6 \cdot 3^{-3}}{3^{-3}}\right)^4$

10 How could you have simplified problem 7 in a different way?

Writing Numbers in Scientific Notation

► Write each number in scientific notation.

1 8

2 54

3 0.02

4 229

5 187

6 0.452

7 0.006009

8 452

9 35,710

10 0.00005026

11 787,000

12 45.2

13 $934\frac{1}{2}$

14 0.000000452

15 11,235,000,000

16 How are the answers to problems 6, 8, 12, and 14 similar? How are they different?

Adding and Subtracting with Scientific Notation

► Find each sum or difference. Write your answer in scientific notation.

1 $(6 \times 10^0) + (9 \times 10^1)$

2 $32 - (2.1 \times 10^1)$

3 $(7 \times 10^0) + (3 \times 10^1)$

4 $100 - (1.4 \times 10^1)$

5 $(8.8 \times 10^2) + (3 \times 10^2)$

6 $(3.05 \times 10^2) + 64$

Adding and Subtracting with Scientific Notation *continued*

7 $(4 \times 10^2) + 120.5$

8 $(2.75 \times 10^3) - 100$

9 $(9.5 \times 10^2) - (4.3 \times 10^1)$

10 $18 - (2 \times 10^{-1})$

11 $0.071 + (6 \times 10^{-2})$

12 $2,000 + (8 \times 10^3)$

13 When adding or subtracting with scientific notation, why is it important to have the same power of 10?

Multiplying and Dividing with Scientific Notation

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

1 $(3.6 \times 10^1) \div 6$

2 $(2 \times 10^2) \times (3 \times 10^1)$

3 $7 \times (2 \times 10^1)$

4 $(2.5 \times 10^0) \times (1.5 \times 10^1)$

5 $(4 \times 10^2) \div (4 \times 10^1)$

6 $45 \div (5 \times 10^0)$

Multiplying and Dividing with Scientific Notation

continued

7 $(2.5 \times 10^2) \times 5$

8 $900 \div (4.5 \times 10^0)$

9 $(4 \times 10^5) \times 0.0375$

10 $(6 \times 10^{-10}) \div (2.5 \times 10^{-12})$

11 $(2.8 \times 10^{-7}) \times (7 \times 10^{12})$

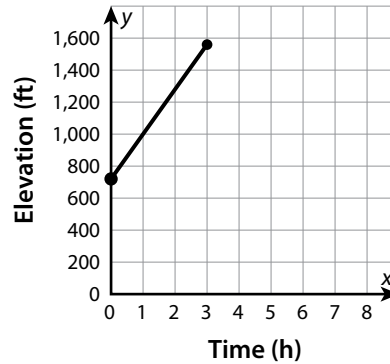
12 $0.000068 \div (2 \times 10^8)$

13 How do you divide two numbers in scientific notation?

Interpreting a Linear Function

► Interpret the linear function to solve the problems. Show your work.

- 1 A group of volunteers is spending a week cleaning up the trails in the Hudson Highlands. On day 2 the volunteers begin at the point on the trail where they ended the day before. The graph shows their elevation, in feet, as a function of the number of hours they work to clean the trails.



- a. What does the ordered pair $(1, 1000)$ on the graph represent?
- b. The graph begins at 720 on the y -axis. What does this value represent? Is this the rate of change or the initial value?
- c. By how many feet does the elevation increase for one hour of work? What does this value represent, rate of change or initial value?
- d. What is the equation that represents this function?

- 2 The table shows number of people as a function of time in hours. Write an equation for the function and describe a situation that it could represent. Include the initial value, rate of change, and what each quantity represents in the situation.

Hours	Number of People
1	150
3	250
5	350

Interpreting a Linear Function *continued*

- 3 Amber plans to cook a turkey and macaroni and cheese for a special dinner. Since she will need to use the oven for both dishes, and they won't both fit in the oven at the same time, she has to determine how much time all the cooking will take. The macaroni and cheese will take a set amount of time, while the turkey takes a certain number of minutes per pound that the turkey weighs.

The equation models the total cooking time Amber will need to prepare her dishes.

$$y = 15x + 40$$

- a. What do variables x and y represent? Use the phrase *is a function of* to describe how the two quantities relate to each other.

- b. What does the value 40 represent?

- c. What does the rate of change represent?

- d. What is the total cooking time for just the turkey if it weighs 12 pounds? How do you know?

Extreme Candy

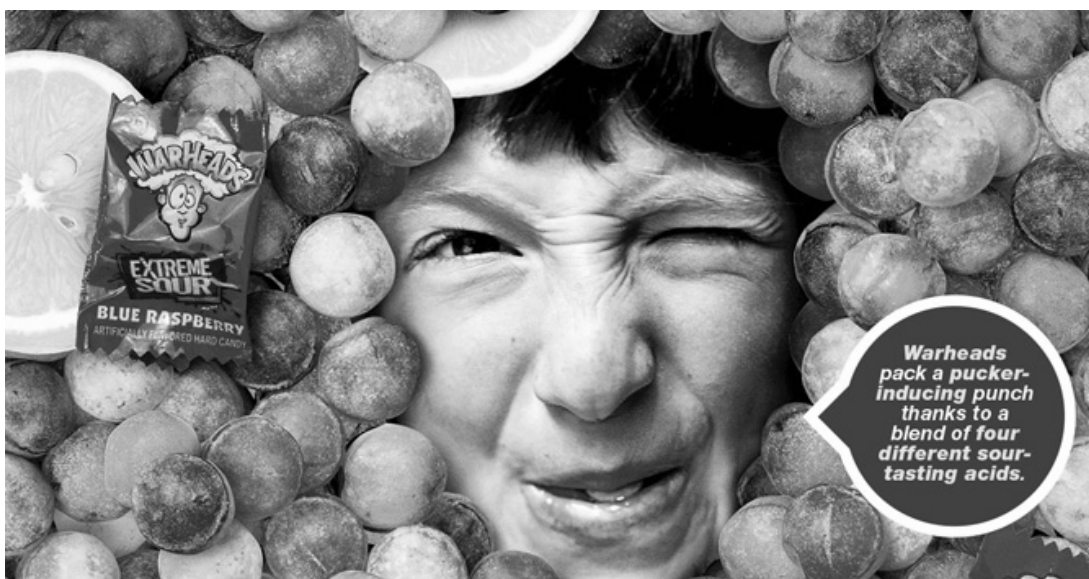
Food scientists use chemistry to create sour, fiery, fizzy, and weird-tasting treats to tantalize your taste buds.

By Hailee Romain

From Scholastic ScienceWorld, October 29, 2018

Essential Question: How do you think food scientists make extreme or odd candy flavors?

One of the best parts of Halloween is going door-to-door to collect a big haul of candy. But some sweets in your bag might seem more like tricks than treats. They include candies that pack a pucker punch, fiery jawbreakers, and gross-flavored jelly beans. These tongue-tingling, eye-watering, gag-inducing sweets wouldn't be possible without chemistry.



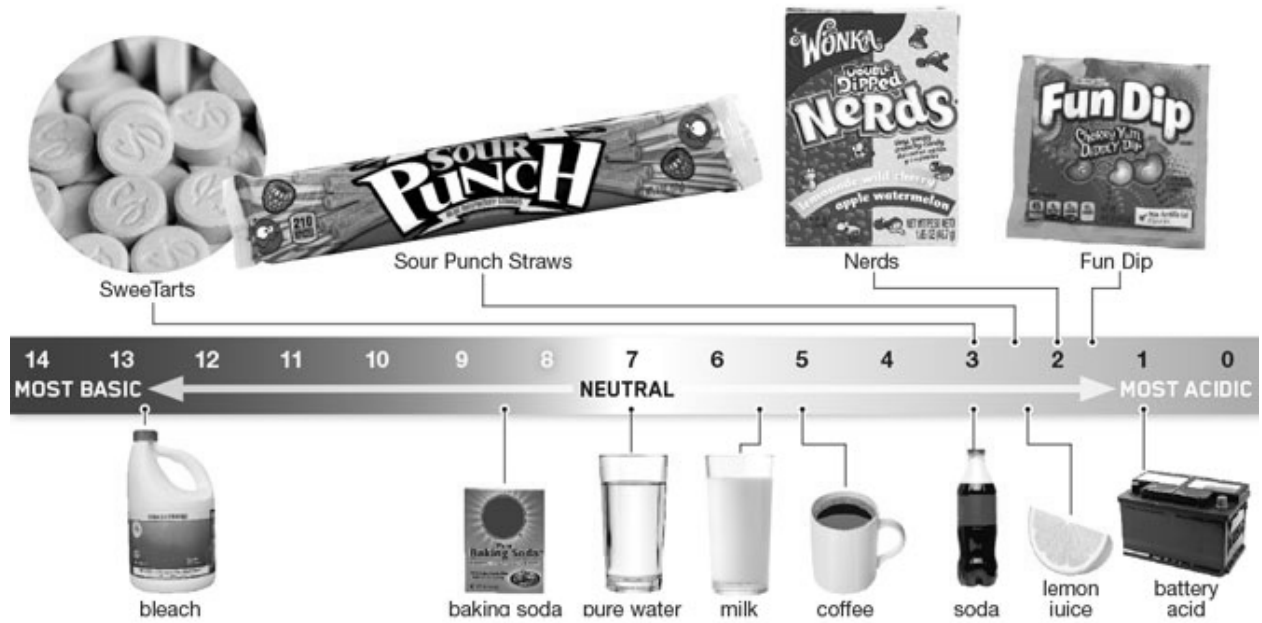
PUCKER POWER

A lot of candies, like sour straws and gummies, will make your mouth pucker. But Warheads hard candies are some of the sourest sweets around. The secret to Warheads' extreme flavor is a combination of *acids* – typically sour-tasting substances that tend to eat away at other materials. Acids fall on the low end of the *pH scale*, which measures how acidic something is (see *How Sour?*).

Warheads' initial sour blast comes from mildly sour citric acid, commonly found in citrus fruits.. It activates your tongue's sour taste receptors. "Citric acid gets your mouth ready to be tortured with more sour goodness," says Kerri Harold, a spokesperson for Impact Confections, the makers of Warheads. The compound is just the beginning of a symphony of sour.

How Sour?

The pH scale measures acidity. Here are the pHs of some popular candies compared with those of common household substances.



The true jolt in Warheads comes from malic acid, the same compound that gives Granny Smith apples their tart taste. This acid has an extremely sharp and long-lasting sour flavor. Warheads also contain ascorbic acid, commonly known as vitamin C, and fumaric acid, which provides the sour candies' grand finale.

Saliva dissolves each acid in Warheads at a different rate, explains Harold. The combination gives the candies their persistent sour taste. "If you only used one acid, it would change the timing of the sour sensation," she says.

CAN YOU TAKE THE HEAT?

Invented in 1954, Atomic Fireball candies are famous for their red-hot flavor. To achieve their fiery heat, candy makers use two ingredients designed to interact with your mouth in different ways.

First, the candy delivers an explosion of spice that comes from the chemical cinnamaldehyde, the oil that gives cinnamon its flavor. Cinnamaldehyde triggers taste receptors on your tongue that detect irritating compounds. Raw garlic and horseradish can set off the same receptors.

Behind the cinnamon flavor is a deeper heat. It comes from capsaicin, the compound that makes chili peppers spicy. An Atomic FireBall contains slightly more capsaicin than a jalapeno pepper. Capsaicin activates a *protein*, or large biological molecule, in your mouth that usually detects temperatures greater than 43°C (110°F) to alert you that something you're eating is hot. When sucking on an Atomic FireBall triggers this protein, your body may react by sweating in an attempt to cool down, even though you're not actually overheating.

CRACKLING CANDY

When you pour a pack of Pop Rocks into your mouth, the small pieces of candy start to crackle on your tongue almost instantly. But how?

Candy makers create hard candy by combining sugar, corn syrup, water, and flavoring. The mixture is boiled and then allowed to cool and harden. Pop Rocks are made the same way but with one additional ingredient. Manufacturers add carbon dioxide gas (CO₂) to the sugary liquid mix under high *pressure*, or applied force. Tiny bubbles of the gas remain trapped in the candy after it solidifies.

When your saliva starts to dissolve the candy, the pressurized gas bubbles burst. That causes the popping sensation you feel in your mouth.

BARF-WORTHY BEANS

If someone asked you to name your favorite jelly bean flavor, you probably wouldn't choose dead fish, lawn clippings, moldy cheese, or stinky socks. But those are just a few of the choices in a pack of Jelly Belly's BeanBoozled jelly beans. Each box contains both yummy and gross flavored beans that look identical. For example, you won't know if a white bean will taste like coconut or spoiled milk until you eat it.

Jelly Belly doesn't use actual rotten seafood or old gym socks as ingredients. So how do they create nauseating jelly beans that taste so disgustingly accurate? Food scientists start by

studying the scent of the gross flavor they're trying to replicate. Our sense of smell is closely tied to our sense of taste.

To recreate a revolting flavor, scientists place a target object – like a stinky sock – in a *gas chromatograph*. The instrument heats the object until it gives off its distinctive smelly vapors and then analyzes the chemical makeup of the gases to generate a flavor profile. The scientists experiment with different flavorings until they find a combination of compounds similar to those in the profile.

New beans don't always make the grade. The early versions of a pizza-flavored jelly bean were "truly awful," says Jelly Belly spokesperson Irena Miles. The company shelved the flavor but later adjusted the recipe to create a barf-flavored BeanBoozled bean.

Whether you prefer treats that taste like vomit, make you sweat, come with a sour kick, or fizz in your mouth, there's an extreme candy out there for you. Food scientists make sure there are plenty of flavor options to satisfy individual preferences, says Miles. Your own personal favorite "just depends on who you are."

CORE QUESTION: How does chemical analysis help in the creation of new candy flavors?

- Jelly Belly's BeanBoozled jelly beans come in some pretty awful-tasting flavors, like dead fish and stinky socks. The trick is that each box of candy contains both tasty and nasty flavored beans that look identical – you won't know which flavor you've chosen until you take a bite! **If you were a food scientist challenged to come up with three new gross-flavored jelly beans, what would they be? What flavors would you have their tasty twins be?**
- Imagine you're opening a restaurant that serves candy for breakfast, lunch, and dinner! **Give your restaurant a name and create a sample menu for the restaurant.** You can use candy mentioned in the article, your own favorite treats, or both. Under each menu item, write a sentence using descriptive details to convince people to order that item.

U.S. citizens' rights and responsibilities

By U.S. Citizenship and Immigration Services, adapted by Newsela staff on 06.01.17

Word Count **892**

Level **940L**



Members of the armed services recite the pledge of allegiance during a naturalization ceremony at the USS Midway Museum, in May 2009 in San Diego, California. (U.S. Navy photo by Legalman 1st Class Jennifer L. Bailey/Released)

For 200 years, the Declaration of Independence and the Constitution have outlined the freedoms and protections of all Americans. Every citizen has the same rights no matter their background, culture or religion. To protect our democracy, all citizens should know what rights they have and apply them.

New citizens in the U.S. take an Oath of Allegiance, where they promise to be loyal and to support the country. U.S. citizens have important rights and responsibilities, which include the right to vote in elections and the ability to serve on a jury. The ability to vote means that the power of government comes directly from the American people. Former Supreme Court Justice Louis Brandeis once said, "The only title in our democracy superior to that of President [is] the title of citizen."

Rights Of A Citizen

Freedom to express yourself. This includes freedom of speech, freedom to meet in a group peacefully, and the freedom to protest if you think the government has done something wrong.

Americans can speak and act as they wish, as long as it does not hurt others or stop others from speaking freely.

Freedom to worship as you wish. You have the freedom to follow any religion or no religion at all. But some religious acts can be hurtful and unhealthy to others. The Supreme Court has put some limits on these kind of actions.

Right to a prompt, fair trial by jury. People accused of a crime have the right to a speedy and fair trial, where a jury of citizens decide the verdict. Anyone accused of a crime is considered innocent until they are proven guilty.

Right to keep and bear arms. The Constitution protects your right to have firearms. Citizens have the right to protect themselves, but can lose this right if they are a danger to others or criminals who break the law.

Right to vote in elections. You can vote in federal, state and city elections to choose your leaders. The right to vote stops politicians from becoming too powerful, by keeping power in the hands of citizens.

Right to apply for employment in the government. U.S. citizens can apply for a job working for the government, which can be a rewarding career serving the American people.

Right to run for elected office. You must become a U.S. citizen if you want to run for office, but you must have been born in the United States to run for President and Vice President.

Freedom to pursue "life, liberty, and the pursuit of happiness." The Declaration of Independence says you have rights to "life, liberty and the pursuit of happiness." The United States lets you choose your own path in life, so that you can set your own goals. Americans can make their own decisions as long as it does not take rights from others.

Responsibilities Of A Citizen

Support and defend the Constitution against all enemies. The Constitution establishes the U.S. system of democracy, whose purpose is to give all citizens freedom, liberty and opportunity. To continue to strive for this goal, the Constitution has to be protected by its citizens. The Constitution may get challenged by people from other countries, but U.S. citizens must keep defending its principles.

Stay informed. U.S. citizens should learn about the candidates running for office and know about problems in their city, state and country.

Participate in the democratic process. Vote in city, state and federal elections, because it is the most important responsibility of any citizen. Voting is our voice that tells our leaders what



needs to be done.

Respect and obey federal, state and local laws.

Every person living in the United States must follow federal, state and city laws. These are rules that keep society in order, so that our rights can be respected by everyone.

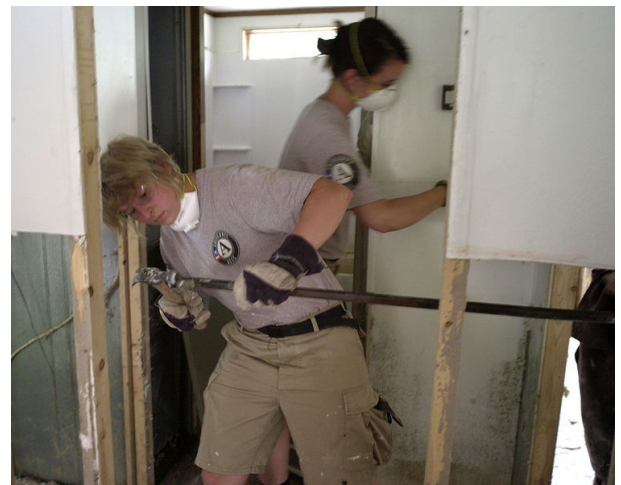
Respect the rights, beliefs and opinions of others. The United States is a nation made up of people with different backgrounds and cultures. We must have respect for the beliefs and opinions of others, so that liberty and freedom can continue for future generations.

Participate in your town or city. Contribute what you can to the well-being of the community. Go to town hall meetings, volunteer to help others, join a local parent-teacher group, or run for public office.

Pay your taxes. Taxes pay for the government, so it can help educate children and adults, keep our country safe and our people healthy. Paying taxes on time helps every American have access to these services.

Serve on a jury when called upon. U.S. citizens can serve on a jury to decide fairly if a person is innocent or guilty.

Defend the country if the need should arise. You can volunteer to be a part of the Armed Forces of the United States. Today, all our soldiers and sailors are volunteers, but there are also ways to defend our country by having jobs that do not ask you to fight. You can volunteer to help with the environment, education or health care.



- 1 Look at the photograph in the section "Rights Of A Citizen."
Which selection from the article is BEST illustrated by the photograph?
- (A) Every citizen has the same rights no matter their background, culture or religion. To protect our democracy, all citizens should know what rights they have and apply them.
 - (B) This includes freedom of speech, freedom to meet in a group peacefully, and the freedom to protest if you think the government has done something wrong.
 - (C) You can vote in federal, state and city elections to choose your leaders. The right to vote stops politicians from becoming too powerful, by keeping power in the hands of citizens.
 - (D) Contribute what you can to the well-being of the community. Go to town hall meetings, volunteer to help others, join a local parent-teacher group, or run for public office.
- 2 Which option accurately compares and contrasts HOW the top two images and the bottom two images impact the reader's understanding of citizens' rights and responsibilities?
- (A) The first two images show the right of citizens to peacefully protest, and the bottom two images show the responsibility to take part in government.
 - (B) The first two images show the responsibility of citizens to volunteer in their communities, and the bottom two images show how to become government leaders.
 - (C) The first two images show how citizens can apply to work for the government, and the bottom two images show the responsibilities when they have those jobs.
 - (D) The first two images show how citizens can participate as part of a group, and the bottom two images show how individuals can make a difference.
- 3 Which sentence from the article BEST supports the idea that citizens will have rights only if they actively protect them?
- (A) People accused of a crime have the right to a speedy and fair trial, where a jury of citizens decide the verdict.
 - (B) The United States lets you choose your own path in life, so that you can set your own goals.
 - (C) The Constitution may get challenged by people from other countries, but U.S. citizens must keep defending its principles.
 - (D) Today, all our soldiers and sailors are volunteers, but there are also ways to defend our country by having jobs that do not ask you to fight.

- 4 Read the sentence from the second paragraph of the article.

Former Supreme Court Justice Louis Brandeis once said, "The only title in our democracy superior to that of President [is] the title of citizen."

Which sentence from the article provides further support for Brandeis' claim?

- (A) Americans can speak and act as they wish, as long as it does not hurt others or stop others from speaking freely.
- (B) The right to vote stops politicians from becoming too powerful, by keeping power in the hands of citizens.
- (C) U.S. citizens can apply for a job working for the government, which can be a rewarding career serving the American people.
- (D) U.S. citizens should learn about the candidates running for office and know about problems in their city, state and country.

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- (D) U.S. citizens should learn about the candidates running for office and know about problems in their city, state and country.



Directions: Cut out the strips of paper and make new sentences. Practice reading, writing, and saying them.

It's your birthday,	isn't it?
You don't play an instrument,	do you?
I'm helping you,	aren't I?
Moby doesn't want to read,	does he?
You're hungry now,	aren't you?
We have a gift for Nikki,	don't we?
They don't speak Spanish,	do they?
Our teacher's daughter walks to school,	doesn't she?
It isn't his letter,	is it?
You play baseball,	don't you?
We aren't going to the party,	are we?
The train goes fast,	doesn't it?
There aren't any pictures in the book,	are there?
I never do homework on Sunday,	do I?
Moby's very funny,	isn't he?
Ben's mom doesn't like rock music,	does she?



Word Search

Directions: Find the verbs listed below hidden in the puzzle and circle them.
Then write the three forms of the verb in the table.

F T V X N L Y A J F F G K O
U D A I C R E A T E D U L M
H L B K Q U R G F I Y B N E
S P O K E N H N B L H E L A
V C R X D N E M H B S M D N
R Q O O W T E P C O R E T T
W U S O T A Z Y H U Y Q X N
G K N I O E Q C Z O I H W G
G K R E U Q C A R Y Q D U S
U W C O I K G T J D X Z I U
G B F P F M S F E R Z N R N
N M E A T E N K S D D Q F G
C G Q T D U A P R N T X D J
Z Q F W F B K H K D T K V A

	Verb	Past	Past Participle
1.	take		
2.	destroy		
3.	choose		
4.	create		
5.	eat		
6.	protect		
7.	bake		
8.	write		
9.	know		
10.	speak		
11.	sing		
12.	mean		