LOWELL
PUBLIC SCHOOLS

At Home Learning Resources

Grade 7 - Week 6

Content	Time Suggestions
Independent Reading (Read books, watch books read aloud, listen to a book)	At least 20 minutes daily (Could be about science, social studies, etc)
ELA	45 minutes daily
Math	45 minutes daily
Science	45 minutes daily
Social Studies	45 minutes daily
Arts, Physical Education, or **Social Emotional Learning**	30 minutes daily

These are some time recommendations for each subject.
We know everyone's schedule is different, so do what you can.
These times do not need to be in a row/in order, but can be spread throughout the day.
Teachers will suggest which parts of the packet need to be completed or teachers may assign alternative tasks.

Your child can complete any of the activities in weeks 1-5. These can be found on the Lowell Public Schools website: https://www.lowell.k12.ma.us/site/Default.aspx?PageID=3803

This week continues the focus on poetry. Read the brief interview with Naomi Shihab Nye, Young People's Poet Laureate. Then read the poems and answer the following questions in writing. Finally, write your own "This is Just to Say" poems. Enjoy!

Write about what the poem means. Include how Naomi Shihab Nye uses literary elements (such as mood, tone, point of view, personification, or symbolism) to create meaning.

Your Life Is a Poem

Last Updated
March 15, 2018

 "When you're in a very quiet place, when you're remembering, when you're savoring an image, when you're allowing your mind calmly to leap from one thought to another, that's a poem." Naomi Shihab Nye's poem "Kindness" has traveled around the world. She grew up between Ferguson, Missouri, Ramallah, and Jerusalem. She insists that language must be a way out of cycles of animosity. She'd have us notice "petite discoveries" that embolden us to choose human nourishment over division. "Before you know what kindness really is / you must lose things."

Naomi Shihab Nye: Very rarely do you hear anyone say they write things down and feel worse. It's an act that helps you, preserves you, energizes you in the very doing of it.

Krista Tippett, host: "You are living in a poem." This is how the poet Naomi Shihab Nye sees the world, and she teaches how this way of being and writing is possible. She has engaged the real-world power of words since her upbringing between her father's Palestinian homeland and Ferguson, Missouri, near where her American mother grew up. Her father was a refugee journalist, and she carries forward his hopeful passion, his insistence that language must be a way out of cycles of animosity. A poem she wrote, called "Kindness," is carried around in the pockets and memories of readers around the world.

Ms. Shihab Nye: "Before you know kindness as the deepest thing inside, / you must know sorrow as the other deepest thing. / You must wake up with sorrow. / You must speak to it till your voice / catches the thread of all sorrows / and you see the size of the cloth. / Then it is only kindness that makes sense anymore, / only kindness that ties your shoes / and sends you out into the day to gaze at bread, / only kindness that raises its head / from the crowd of the world to say / It is I you have been looking for, / and then goes with you everywhere / like a shadow or a friend."

From: https://onbeing.org/programs/naomi-shihab-nye-your-life-is-a-poem-mar2018/

One Boy Told Me

BY <u>NAOMI SHIHAB NYE</u>

Music lives inside my legs.
It's coming out when I talk.

I'm going to send my valentines
to people you don't even know.

Oatmeal cookies make my throat gallop.

Grown-ups keep their feet on the ground
when they swing. I hate that.

Look at those 2 o's with a smash in the middle—
that spells good-bye.

Don't ever say "purpose" again,
let's throw the word out.

Don't talk big to me.
I'm carrying my box of faces.
If I want to change faces I will.

Yesterday faded
but tomorrow's in BOLDFACE.

When I grow up my old names
will live in the house
where we live now.
I'll come and visit them.

Only one of my eyes is tired.
The other eye and my body aren't.

Is it true all metal was liquid first?
Does that mean if we bought our car earlier
they could have served it
in a cup?

There's a stopper in my arm
that's not going to let me grow any bigger.
I'll be like this always, small.

And I will be deep water too.
Wait. Just wait. How deep is the river?
Would it cover the tallest man with his hands in the air?

Your head is a souvenir.

When you were in New York I could see you

in real life walking in my mind.

I'll invite a bee to live in your shoe.
What if you found your shoe
full of honey?

What if the clock said 6:92
instead of 6:30? Would you be scared?

My tongue is the car wash
for the spoon.

Can noodles swim?

My toes are dictionaries.
Do you need any words?

From now on I'll only drink white milk
on January 26.

What does minus mean?
I never want to minus you.

Just think—no one has ever seen
inside this peanut before!

It is hard being a person.

I do and don't love you—
isn't that happiness?

Morning Song
BY <u>NAOMI SHIHAB NYE</u>

For Janna

The tiny journalist
will tell us what she sees.

Document the moves, the dust,
soldiers blocking the road.

Yes, she knows how to take a picture
with her phone. Holds it high

like a balloon. Yes, she would
prefer to dance and play,

would prefer the world
to be pink. It is her job to say

what she sees, what is happening.
From her vantage point everything

is huge—but don't look down on her.
She's bigger than you are.

If you stomp her garden
each leaf expands its view.

Don't hide what you do.
She sees you at 2 a.m. adjusting your

impenetrable vest.
What could she have

that you want? Her treasures,
thing shiny buttons her grandmother loved.

Her cousin, her uncle.
There might have been a shirt. . .

The tiny journalist notices
action on far away roads

farther even than the next village.
She takes counsel from bugs so

puffs of dust find her first.
Could that be a friend?

They pretended not to see us.

They came at night with weapons.

What was our crime? That we liked
respect as they do? That we have pride?

She stares through a hole in the fence,
barricade of words and wire,

feels the rising fire
before anyone strikes a match.

She has a better idea.

Read the poem, "This is Just To Say," by William Carlos Williams and then in the style of "This Is Just To Say," write a poem that is a note to someone who lives in your house.

This Is Just To Say
BY WILLIAM CARLOS WILLIAMS

I have eaten
the plums
that were in
the icebox

and which
you were probably
saving
for breakfast

Forgive me
they were delicious
so sweet
and so cold

This Is Just To Say
by Ms. McNulty Davila

I have stolen
your charger
from the living room

I know
your phone is
dying

But
being solitary,
I needed
to play
Solitaire
on my iPad.

7.RP Cider versus Juice - Variation 2

Task

a. Assuming you like juice and cider equally, which product is the better deal?

b. Suppose the juice boxes go on sale for $1.79 for the eight 4.23-ounce juice boxes, and the cider goes on sale for $6.50 per gallon. Does this change your decision?

7.RP Cooking with the Whole Cup

Task

Travis was attempting to make muffins to take to a neighbor that had just moved in down the street. The recipe that he was working with required $\frac{3}{4}$ cup of sugar and $\frac{1}{8}$ cup of butter.

a. Travis accidentally put a whole cup of butter in the mix.

    i. What is the ratio of sugar to butter in the original recipe? What amount of sugar does Travis need to put into the mix to have the same ratio of sugar to butter that the original recipe calls for?

    ii. If Travis wants to keep the ratios the same as they are in the original recipe, how will the amounts of all the other ingredients for this new mixture compare to the amounts for a single batch of muffins?

    iii. The original recipe called for $\frac{3}{8}$ cup of blueberries. What is the ratio of blueberries to butter in the recipe? How many cups of blueberries are needed in the new enlarged mixture?

b. This got Travis wondering how he could remedy similar mistakes if he were to dump in a single cup of some of the other ingredients. Assume he wants to keep the ratios the same.

    i. How many cups of sugar are needed if a single cup of blueberries is used in the mix?

    ii. How many cups of butter are needed if a single cup of sugar is used in the mix?

    iii. How many cups of blueberries are needed for each cup of sugar?

7.RP Track Practice

Task

Angel and Jayden were at track practice. The track is $\frac{2}{5}$ kilometers around.

- Angel ran 1 lap in 2 minutes.
- Jayden ran 3 laps in 5 minutes.

a. How many minutes does it take Angel to run one kilometer? What about Jayden?

b. How far does Angel run in one minute? What about Jayden?

c. Who is running faster? Explain your reasoning.

Name_____

Multiplying/Dividing Fractions and Mixed Numbers

Date_____ Period____

Find each product.

1) $-\dfrac{5}{4} \cdot \dfrac{1}{3}$

2) $\dfrac{8}{7} \cdot \dfrac{7}{10}$

3) $\dfrac{4}{9} \cdot \dfrac{7}{4}$

4) $-\dfrac{2}{3} \cdot \dfrac{5}{4}$

5) $-2 \cdot \dfrac{3}{7}$

6) $-2\dfrac{2}{3} \cdot 4\dfrac{1}{10}$

7) $-2\dfrac{1}{5} \cdot -1\dfrac{3}{4}$

8) $-1\dfrac{1}{4} \cdot 9$

9) $-1\dfrac{5}{7} \cdot -2\dfrac{1}{2}$

10) $-2\dfrac{3}{8} \cdot 2\dfrac{1}{2}$

Find each quotient.

11) $\dfrac{-1}{5} \div \dfrac{7}{4}$

12) $\dfrac{-1}{2} \div \dfrac{5}{4}$

13) $\dfrac{-3}{2} \div \dfrac{-10}{7}$

14) $\dfrac{1}{2} \div \dfrac{8}{7}$

15) $\dfrac{-9}{5} \div 2$

16) $-3\dfrac{5}{9} \div 3$

17) $-2 \div -3\dfrac{4}{5}$

18) $\dfrac{1}{9} \div -1\dfrac{1}{3}$

19) $1\dfrac{6}{7} \div 5\dfrac{3}{4}$

20) $-3\dfrac{7}{10} \div 2\dfrac{1}{4}$

Name _____ Date _____ Class _____

Skill: Solving Proportions

Solve each proportion for the missing value.

1. $\frac{k}{8} = \frac{14}{4}$

2. $\frac{u}{3} = \frac{10}{5}$

3. $\frac{14}{6} = \frac{d}{15}$

4. $\frac{5}{1} = \frac{m}{4}$

5. $\frac{36}{32} = \frac{n}{8}$

6. $\frac{5}{30} = \frac{1}{x}$

7. $\frac{t}{4} = \frac{5}{10}$

8. $\frac{9}{2} = \frac{v}{4}$

9. $\frac{x}{10} = \frac{6}{4}$

10. $\frac{8}{12} = \frac{2}{b}$

11. $\frac{v}{15} = \frac{4}{6}$

12. $\frac{3}{18} = \frac{2}{s}$

Estimate the solution of each proportion.

13. $\frac{m}{25} = \frac{16}{98}$

14. $\frac{7}{3} = \frac{52}{n}$

15. $\frac{30}{5.9} = \frac{k}{10}$

16. $\frac{2.8}{j} = \frac{1.3}{2.71}$

17. $\frac{y}{12} = \frac{2.89}{4.23}$

18. $\frac{5}{8} = \frac{b}{63}$

Skill: Solving Proportions (continued)

19. A contractor estimates it will cost $2,400 to build a deck to a customer's specifications. How much would it cost to build five more identical decks?

20. A recipe requires 3 cups of flour to make 27 dinner rolls. How much flour is needed to make 9 rolls?

21. Mandy runs 4 kilometers in 18 minutes. She plans to run in a 15-kilometer race. How long will it take her to complete the race?

22. Ken's new car can go 26 miles per gallon of gasoline. The car's gasoline tank holds 14 gallons. How far will he be able to go on a full tank?

23. Eleanor can complete two skirts in 15 days. How long will it take her to complete eight skirts?

24. Three eggs are required to make two dozen muffins. How many eggs are needed to make 12 dozen muffins?

More Proportions

Solve the proportions. Do your work in the space at the bottom of the page.

1. $\dfrac{15}{n} = \dfrac{24}{128}$

2. $\dfrac{n}{200} = \dfrac{28}{80}$

3. $\dfrac{15}{110} = \dfrac{24}{n}$

4. $\dfrac{4}{5} = \dfrac{n}{20}$

5. $\dfrac{54}{63} = \dfrac{n}{49}$

6. $\dfrac{5}{n} = \dfrac{2}{38}$

7. $\dfrac{n}{12} = \dfrac{45}{108}$

8. $\dfrac{42}{n} = \dfrac{8}{12}$

9. $\dfrac{8}{30} = \dfrac{28}{n}$

10. $\dfrac{n}{108} = \dfrac{20}{72}$

11. $\dfrac{7}{13} = \dfrac{n}{78}$

12. $\dfrac{56}{n} = \dfrac{7}{31}$

13. $\dfrac{n}{22} = \dfrac{63}{154}$

14. $\dfrac{120}{n} = \dfrac{40}{55}$

15. $\dfrac{95}{110} = \dfrac{n}{22}$

16. $\dfrac{33}{44} = \dfrac{132}{n}$

17. $\dfrac{9}{27} = \dfrac{n}{21}$

18. $\dfrac{10}{22} = \dfrac{30}{n}$

19. $\dfrac{n}{120} = \dfrac{15}{100}$

20. $\dfrac{68}{n} = \dfrac{102}{108}$

Proportional Relationships worksheet

Name _____

Period _____

For each situation decide whether it is proportional or not. Then explain why.

1) Tommy was jumping down his sidewalk. He made two jumps every 3 seconds.
   Is the relationship between time and his number of jumps proportional? yes / no

Explain: _____

2) Susie was saving for a new Ipod. Her dad gave her $20 for her birthday. After that she earned $5 per week for helping to clean the kitchen.
   Is the relationship between time and her money proportional? yes / no

Explain: _____

3) Sammi loves candy bars. She ate 1 candy bar on Jan. 1st, 2 on Jan. 2nd, and then 3 candy bars a day every day for the rest of the month.
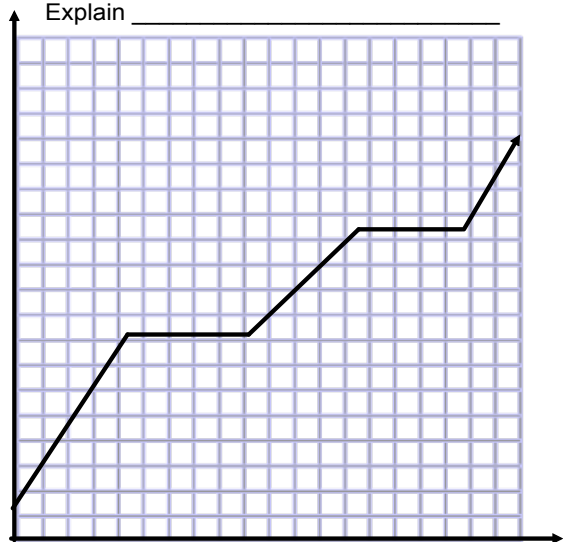   Is the relationship between the date and her number of eaten candy bars proportional? yes / no

Explain: _____

For each graph decide whether it is proportional or not. Then explain why.
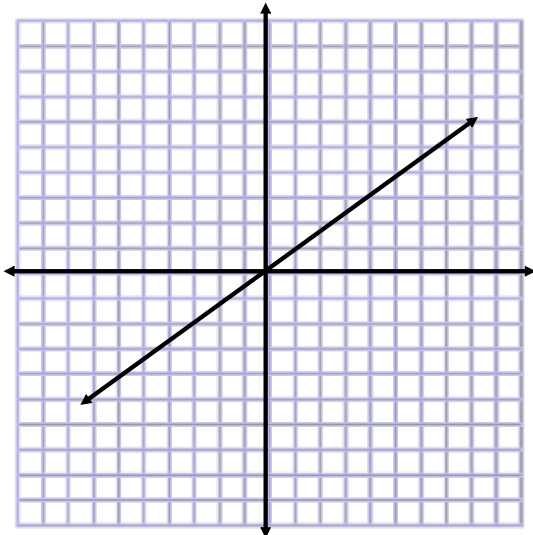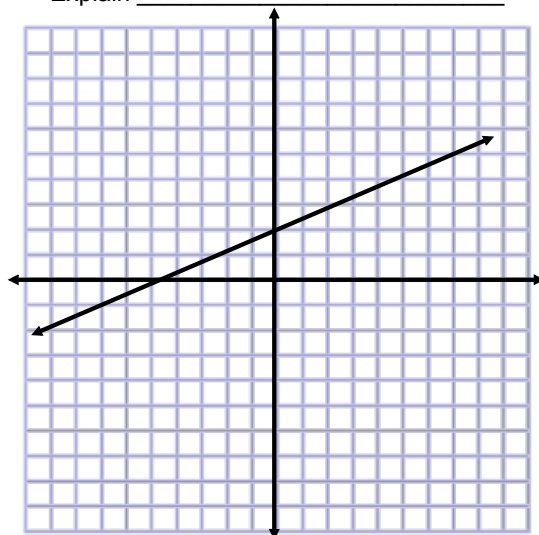
4) yes / no
   Explain _____
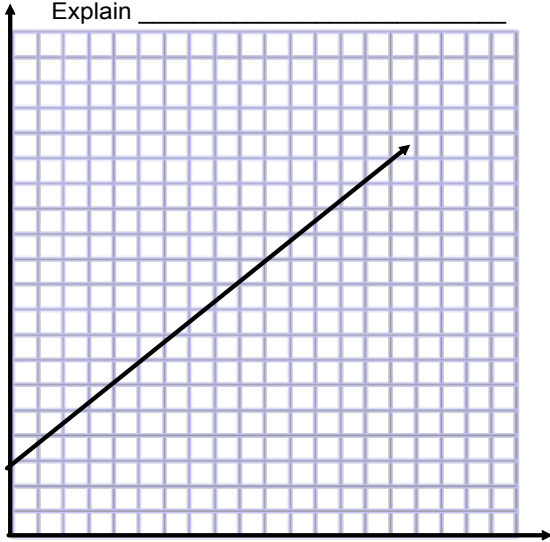
5) yes / no
   Explain _____

6) yes / no
   Explain _____

7) yes / no
   Explain _____

For each equation decide whether it is proportional or not. Then explain why.

8) y = 5x

yes / no

Explain _____

9) s = 3k + 7

yes / no

Explain _____

10) 3v - 5 = d

yes / no

Explain _____

11) w = 7.5b

yes / no

Explain _____

12) 6p = m

yes / no

Explain _____

13) 2g = 4s

yes / no

Explain _____

For each table decide whether it is proportional or not. Then explain why.

14) yes / no
Explain _____

time	0	1	2	3	4
distance	0	3	6	9	12

15) yes / no
Explain _____

months	0	1	2	3	4
savings $	8	10	12	14	16

16) yes / no
Explain _____

hours	0	1	2	3	4
distance	0	15	25	35	45

17) yes / no
Explain _____

lemons	4	8	12	16	20
pies	1	2	3	4	5

MAT1L0   Name _____

The BEST Buy

Instructions: For each question, calculate the unit rate for each option and determine which one is the BEST buy. **Write your final choice in the last column.**

→ The first one is done as an example for you to follow
→ Round all answers to TWO decimal places if necessary

	Option 1	Option 2	Unit Rate 1	Unit Rate 2	BEST BUY
Question #1	3 batteries for $4.80	12 batteries for $14.76	$\frac{\$4.80}{3\ \text{batteries}} = \frac{\$1.60}{1\ \text{battery}}$	$\frac{\$14.76}{12\ \text{batteries}} = \frac{\$1.23}{1\ \text{battery}}$	OPTION #2 (cheaper)
Question #2	22 staplers for $330	4 staplers for $80			
Question #3	5 calculators for $105	24 calculators for $552			
Question #4	18 pens for $6.84	30 pens for $8.40			
Question #5	18 ounces for $7.38	27 ounces for $15.39			
Question #6	11 books for $99	29 books for $203			
Question #7	$15.98 for 34 litres of gas	$4.68 for 12 litres of gas			
Question #8	$160 for 10 calendars	$114 for 6 calendars			

Unit Rates with Complex Fractions

Directions: In each row below, there is an ODD MAN OUT! Solve each problem and then shade in the box that doesn't belong.

1.

Jessica needs $\frac{1}{2}$ cup of sugar to make $\frac{1}{4}$ of her cookie recipe. How much sugar does she need to make the entire recipe?	Elyset can make 4 bracelets in $2\frac{1}{4}$ hours. How many bracelets can she make per hour?	Julius can walk $\frac{1}{3}$ of a mile in $\frac{1}{6}$ of an hour. How far can he walk in one hour?

2.

Liane can read 12 pages of her book in $2\frac{1}{2}$ minutes. How many pages can she read per minute?	A gas tank can pump 4 gallons in $\frac{5}{6}$ of a minute. How many gallons can it pump per minute?	$3\frac{1}{5}$ pounds of blueberries costs $10. What is the cost per pound?

3.

Marlee can complete 13 math problems in $\frac{4}{5}$ of an hour. How many problems can she complete in one hour?	Hunter can bike $2\frac{1}{5}$ miles in $\frac{1}{3}$ of an hour. How far can he bike in one hour?	A farmer can plant $3\frac{1}{4}$ trees per $\frac{1}{5}$ of an hour. How many trees can he plant in one hour?

4.

A restaurant uses $\frac{3}{4}$ cups of sugar to make 7 brownies. How many cups of sugar is used to make one brownie?	Mrs. Hudson can grade $1\frac{1}{3}$ math papers in 8 seconds. How many math papers can she grade per second?	Mr. Gonzales can paint $\frac{1}{9}$ of his wall in $\frac{2}{3}$ of an hour. How much of his wall can he paint per hour?

PAPER TABLE

YOUR CHALLENGE

Design and build a table out of newspaper tubes. Make it at least eight inches tall and strong enough to hold a heavy book.

BRAINSTORM & DESIGN

Look at your materials and think about the questions below. Then sketch your ideas on a piece of paper or in your design notebook.

1. How can you make a strong tube out of a piece of newspaper? (This challenge uses tubes because it takes more force to crumple paper when it's shaped as a tube.)

2. How can you arrange the tubes to make a strong, stable table?

3. How can you support the table legs to keep them from tilting or twisting?

4. How level and big does the table's top need to be to support a heavy book?

MATERIALS (per person)
- 1 piece of cardboard or chipboard (approximately 8 ½ x 11 inches)
- heavy book (e.g., a textbook or telephone book)
- masking tape
- 8 sheets of newspaper

BUILD, TEST, EVALUATE & REDESIGN

Use the materials to build your table. Then test it by carefully setting a heavy book on it. When you test, your design may not work as planned. If things don't work out, it's an opportunity—not a mistake! When engineers solve a problem, they try different ideas, learn from mistakes, and try again. Study the problems and then redesign. For example, if:

- the tubes start to unroll—*Re-roll them so they are tighter. A tube shape lets the load (i.e., the book) push on every part of the paper, not just one section of it. Whether they're building tables, buildings, or bridges,* **load distribution** *is a feature engineers think carefully about.*

- the legs tilt or twist—*Find a way to stabilize and support them. Also check if the table is lopsided, too high, or has legs that are damaged or not well braced.*

- a tube buckles when you add weight—*Support or reinforce the weak area, use a wider or thicker-walled tube, or replace the tube if it's badly damaged. Changing the shape of a material affects its strength. Shapes that spread a load well are strong. Dents, creases, and wrinkles that put stress on some areas more than others make a material weaker.*

- the table collapses—*Make its base as sturdy as possible. Also, a table with a lot of triangular supports tends to be quite strong. A* **truss** *is a large, strong support beam. It is built from short boards or metal rods that are arranged as a series of triangles. Engineers often use trusses in bridges, buildings, and towers.*

TAKE IT TO THE NEXT LEVEL

- If a little is good, a lot is better! Build a table that can hold two or more heavy books.

- The sky's the limit. Build a table that can hold a heavy book 16 inches above the ground.

- Matching furniture! Build a chair out of newspaper.

ENGINEERING IN ACTION

A paper house? Better leave your matches outside! Check out these items that engineers made out of paper. Then choose from the list and see if you can figure out the year each item was invented.

Years these items were invented: 1922; 1931; 1967; 1995; 2004; 2007

_____ **A. Paper Church**
After a big earthquake in Japan, engineers quickly made a building by stretching a paper "skin" across 58 paper tubes, each over 16 feet long. The church was only meant to be a temporary place of worship. But it's still standing today.

_____ **B. Paper Video Disc**
This disc holds more than three times as much data as a standard DVD and is much better for the environment. But you'll have to stay tuned— there's no release date set.

_____ **C. Paper House**
An engineer built a vacation home out of newspaper. He glued newspapers into one-inch-thick slabs and then used them to make the walls. It's still standing!

_____ **D. Paper Towels**
By mistake, a factory made rolls of paper that were too thick for toilet paper but too weak for most other uses. But where others see problems, engineers see possibilities. The paper was sold as "Sani-Towels," which soon became known as paper towels.

_____ **E. Paper Batteries**
They're smaller than a postage stamp but can power a light bulb! And they decompose in landfills. Engineers are still figuring out how to get them to work with all our gadgets.

_____ **F. Paper Dresses**
Engineers created paper outfits that could be printed with designs. They were sold in boutiques and in stationery stores, where you could get a tablecloth to match!

(Answers: A: 1995; B: 2004; C: 1922; D: 1931; E: 2007; F: 1967)

Watch the DESIGN SQUAD Cardboard Furniture episode on PBS or online at pbs.org/designsquad.

FOSS COVID-19 5-day Lesson Plan

Student Instructions

Day 1 - What is a virus?

- Task 1: By now you have heard about the novel **coronavirus** , called   SARS-CoV-2, that can infect people and cause a disease named COVID-19. A coronavirus is a virus named for its shape, which looks a little like a crown (*corona* is Latin for crown). What is a virus? Read the article "What Is A Virus?" and respond to the questions at the end.

- Task 2: SARS-CoV-2 has caused a global **pandemic** , infecting people all over the world with COVID-19. SARS-CoV-2 is an entirely new virus to the human population. Watch the following video to learn the answer to the question: where did it come from?

Why Do Bats Carry So Many Diseases? (like Coronavirus)
https://www.youtube.com/watch?v=Ao0dqJvH4a0

Respond to these questions:

- Why don't bats get sick like humans from the same viruses?
- How are bats important for healthy ecosystems?

- Task 3: Respond to this question:

- How has the COVID-19 pandemic affected you, your family, and your community so far?
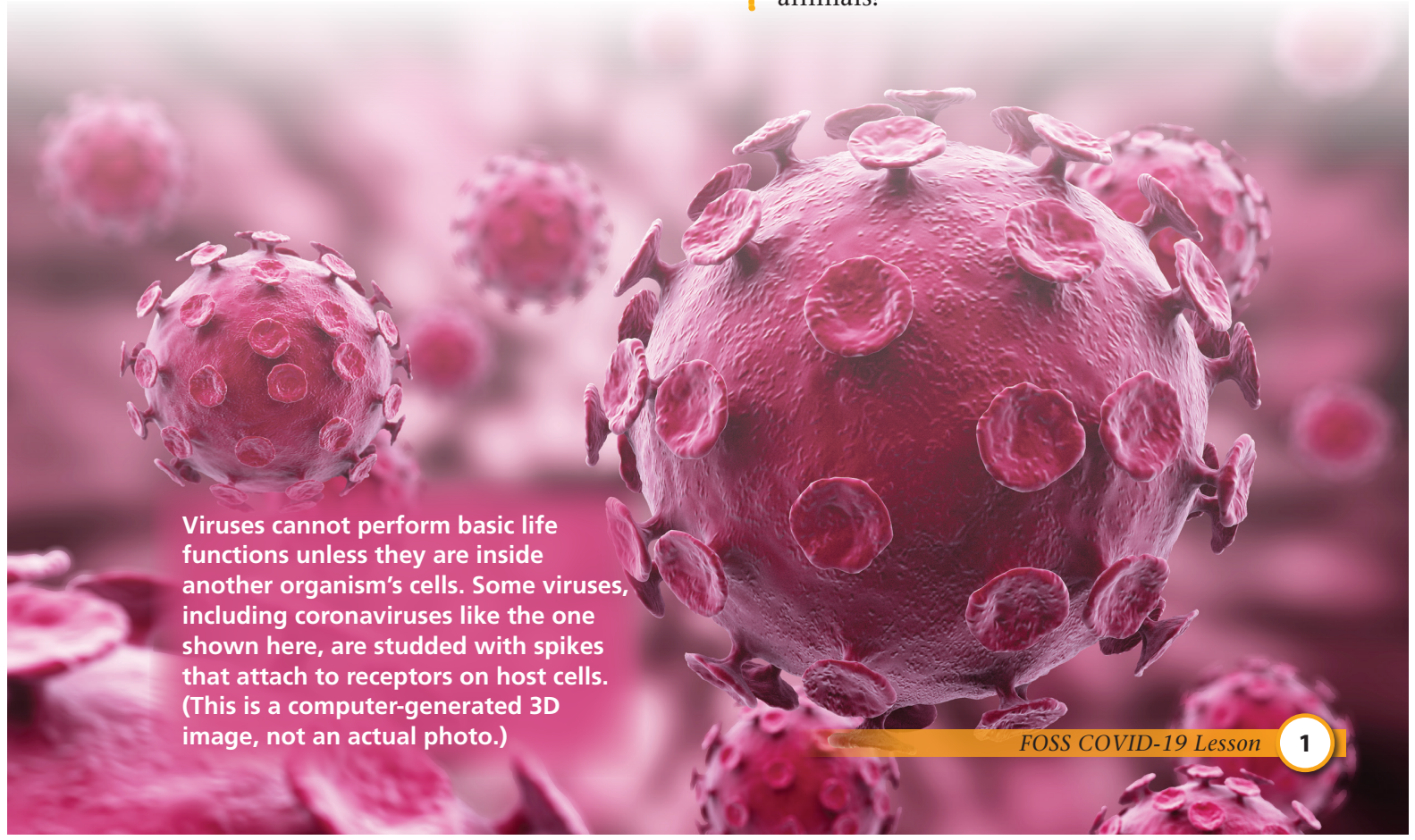
What Is A Virus?

Right now, we are living through a global pandemic. A virus, SARS-CoV-2, has disrupted human lives all over the planet by causing a disease called COVID-19. One of these viruses is about 700 times smaller than a human hair. How can such a tiny virus cause such big problems? What is a virus?

Discovering Viruses

Scientists first observed viruses only after the electron microscope was invented in the 1930s.

Viruses have probably been around for billions of years. Their origins are still debated by scientists. Did they appear with and evolve with bacteria and other ancient cells? Did they appear before? Did they evolve from single-celled organisms? We do know that there are a lot of viruses, more than 10^{31} (10 billion trillion trillion). That is more than all known life-forms combined, including bacteria, archaea, protists, fungi, plants, and animals!

Viruses cannot perform basic life functions unless they are inside another organism's cells. Some viruses, including coronaviruses like the one shown here, are studded with spikes that attach to receptors on host cells. (This is a computer-generated 3D image, not an actual photo.)

Virus Structures

Protein capsid

DNA or RNA

Tail

Envelope

Spikes

Coronavirus
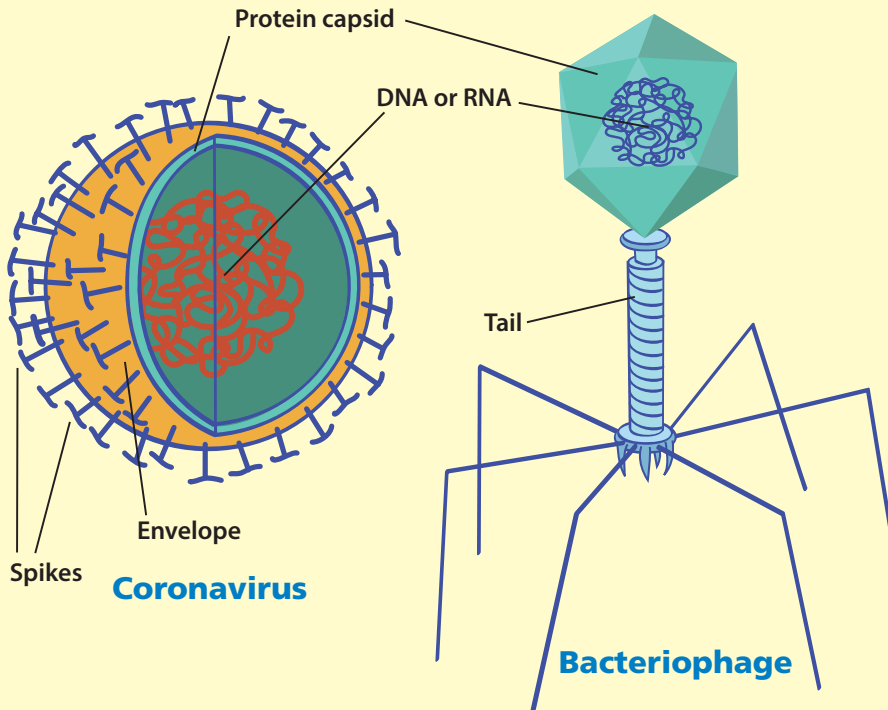
Bacteriophage

Viruses are tiny bundles of genetic material—DNA or RNA, but not both—enclosed in a protein shell called a capsid. The virus on the right is called a bacteriophage. It can attach to, invade, and multiply in bacteria. The virus on the left is a coronavirus, named for the crown-like spikes that surround it.

Portrait of a Virus

Viruses come in many shapes and sizes. They are not made of cells. Instead, they are genetic material in the form of DNA or RNA. The genetic material is surrounded by a protective protein shell called the capsid.

Because a virus is not a cell, it cannot reproduce on its own. The virus has to enter a cell, called a host cell, in order to reproduce. Many viruses, including coronaviruses, have an envelope with spikes covering the capsid. The spikes are protein molecules that stick out to attach the virus to the host cell. Other viruses have a protein tail that attaches to the host. Once the virus attaches to a host cell, it can inject its genetic material into the host.

A scientist uses a pipette to transfer a virus into vials for sharing with other laboratories for medical research. She follows very important safety procedures and wears personal protective equipment (PPE) to protect herself from exposure to the virus.

SARS-CoV-2

In December 2019, doctors in China realized that patients were getting sick with a new disease. Doctors, scientists, and other researchers worked quickly to understand the new disease, which we now call COVID-19.

COVID-19 is caused when a virus called SARS-CoV-2 enters a host cell and begins to reproduce. SARS-CoV-2 is a coronavirus, a virus with crown-shaped spikes. Other coronaviruses cause a severe disease called severe acute respiratory syndrome (SARS). And other coronaviruses even cause common colds. But SARS-CoV-2 is a newly-discovered virus that we are just beginning to understand.

Like other viruses, SARS-CoV-2 injects its genetic material into the human host cell and tricks the host cell into creating new copies of the virus. Each cell can create and release millions of new copies. These new virus copies move into nearby cells and start the process over again or can be passed to another human, infecting a new host. The virus triggers the host's immune response, making the person sick.
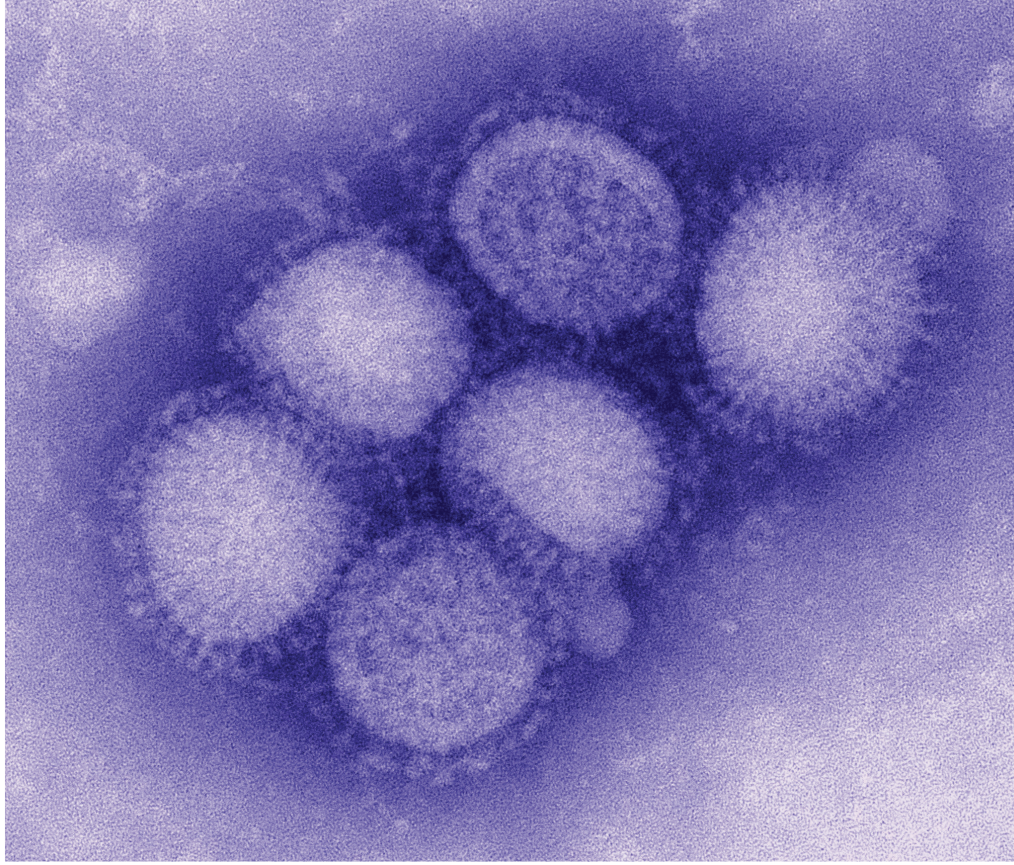
The H1N1 virus caused a worldwide pandemic of "swine flu" in 2009. The virus was not identified until after researchers had begun making that year's seasonal flu vaccine.

Are We Part Virus?

Scientists have discovered that humans are part virus. The genetic material of viruses makes up 8 percent of human genetic material. What do these embedded genes do? Most of the viral genes in the human genome have changed over time and no longer seem to have any effect. But one is responsible for making a protein that holds the placenta in place in a mother's uterus. Without this essential viral gene, you might never have been born!

It appears that viral genetic material became part of the human genome during thousands and thousands of years of infections. As viruses infected humans, they sometimes inserted their DNA into the egg or sperm and took over its genetic machinery. Some of those human cells survived to pass on the viral DNA to the next generation. In some cases, these genetic changes have been helpful.

Vaccines Fight Viral Diseases

COVID-19, influenza (the flu), smallpox, measles, AIDS, herpes, rabies, Ebola, warts, polio, the common cold, and chicken pox are just a few of the human diseases and infections caused by viruses. Some, like smallpox, have led to millions of deaths. Others, like chicken pox, can stay in your body for years, emerging later in life to cause a painful rash called shingles. Some, like the human papillomavirus that causes common warts, hardly bother us.

Antibiotics affect only bacteria, not viruses. That is why doctors do not prescribe antibiotics for the flu or a cold. Vaccines are the most powerful weapon we have against viral diseases. Vaccines are a form of prevention. Some are made of harmless bits of modified or dead virus pieces, which are injected into muscle or blood. The body recognizes these virus pieces as invaders.

Even though these modified or dead virus pieces cannot make you sick, the immune system fights them. The immune system responds to the vaccine by building molecules called antibodies. When the real viral invaders show up, the antibodies respond quickly to kill them.

The first vaccine developed was for smallpox. Thanks to a global vaccination effort, humans have wiped out that killer disease. Polio is another viral disease that has nearly disappeared thanks to successful worldwide vaccination.

In spite of vaccination, measles kills about 200,000 people each year. It can also cause miscarriages. If we were to stop vaccinating for measles, it is estimated that about 2.7 million people would die each year.

The classic symptom of chicken pox is a skin rash that turns into itchy, fluid-filled blisters. The chicken pox vaccine has nearly eliminated this once-common childhood illness.

The Three Domains of Life

Eukaryota Domain

Plants   Animals

Fungi   Protists

Bacteria Domain

Archaea Domain
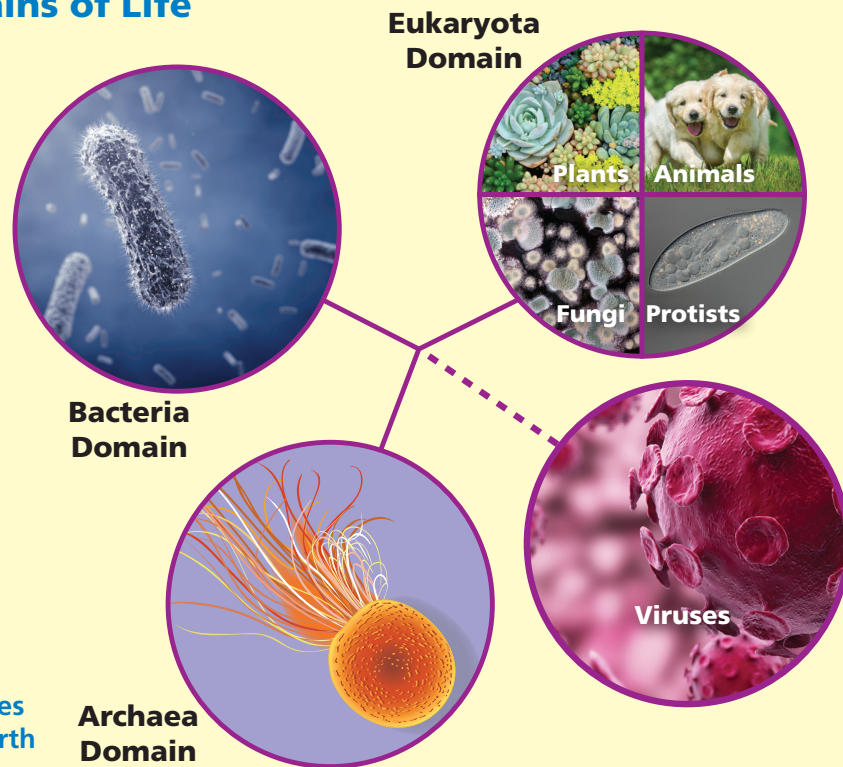
Viruses

Given their vast variety and the huge number of newly discovered viruses, some scientists propose that viruses should be classified as a fourth domain of life.

Scientists have developed a few antiviral drugs, to treat HIV infections, flu, and herpes. Progress on antivirals is difficult because viruses live inside cells. It is hard to kill the virus without harming the host cell. Viruses' genetic material changes quickly, too. So a vaccine for this year's flu might not be effective next year. We need a flu shot every year to protect us against new forms of the virus.

Scientists, doctors, and other researchers are racing to develop a vaccine for SARS-CoV-2. But creating a new vaccine takes time. Scientists must be certain a vaccine is safe before giving it to billions of people, and that requires careful testing. Researchers around the world are working together to try to make a vaccine available as soon as possible.

Think Questions

1. How do viruses depend on cells?
2. How do you think virus genes became part of human genes?
3. How do humans protect themselves from viral diseases?
4. What questions do you have about SARS-CoV-2, the virus that causes COVID-19?

Name _____

Geography Shapes Greek Life

BACKGROUND:

In ancient times, Greece was not a united country. It was a collection of separate lands where Greek-speaking people lived. By 2000 BCE, the Minoans lived on the large Greek island of Crete. The Minoans created an elegant civilization that had great power in the Mediterranean world. At the same time, Indo-European peoples migrated from the plains along the Black Sea and Anatolia. The Indo-Europeans settled in mainland Greece. Seaborne commercial networks spread ideas as well as resources throughout the eastern Mediterranean.

Ancient Greece consisted mainly of a mountainous peninsula jutting out into the Mediterranean Sea. It also included approximately 1,400 islands in the Aegean and Ionian seas. Lands on the western coast of Anatolia were also part of ancient Greece. The region's physical geography directly shaped Greek traditions and customs.

THE SEA:

The sea shaped Greek civilization just as rivers shaped the ancient civilizations of Egypt, the Fertile Crescent, India, and China. In one sense, the Greeks did not live on a land but AROUND a sea. Greeks rarely traveled more than 85 miles to reach the coastline. The Aegean Sea, the Ionian Sea, and the neighboring Black Sea were important transportation routes for the Greek people. These liquid highways linked most parts of Greece. As the Greeks became skilled sailors, sea travel also connected Greece with other societies. Sea travel and trade were also important because Greece itself was poor in natural resources. Greece lacked timber, precious metals, and usable farmland.

THE LAND:

Rugged mountains covered about three-fourths of ancient Greece. Mountains divided the land into a number of different regions. The mountain chains ran mainly from northwest to southeast along the Balkan peninsula. They significantly influenced Greek political life. Unlike the Egyptians or the Chinese, it was difficult to unite the ancient Greeks under a single government. Greece developed small, independent communities within each little valley and its surrounding mountains. Most Greeks gave their loyalty to these local communities.

In ancient times, the uneven terrain also made land transportation difficult. Early Greek roads were little more than dirt paths. For example, the city-state of Sparta was only about 60 miles from Olympia, the site of the Olympic Games. Yet it took Spartans almost seven days to travel that distance.

Much of the land itself was stony and only a small part of it—approximately 20 percent—was arable, or suitable for farming. Tiny but fertile valleys covered about one-fourth of Greece. The small streams that watered these valleys were not suitable for large-scale irrigation projects.

With so little fertile farmland or fresh water for irrigation, Greece was never able to support a large population. it is estimated that no more than a few million people lived in ancient Greece at any given time. Even this small population couldn't expect the land to support a life of luxury. As a result, the Greeks based their diet on basic staple crops such as grains, grapes, and olives. A desire for more living space, grassland for raising livestock, and adequate farmland may have been factors that motivated the Greeks to seek new sites for colonies.

THE CLIMATE:

Climate was the third important environmental influence on Greek civilization. Greece has a varied climate with temperatures averaging 48 degrees Fahrenheit in the winter and 80 degrees Fahrenheit in the summer. In ancient times, these moderate temperatures supported an outdoor life for many Greek citizens. Men spent much of their leisure time at outdoor public events. They met often to discuss public issues, exchange news, and take an active part in civic life.

Ancient Greece
Geography

The ancient civilization of Greece was located in southeastern Europe along the coast of the Mediterranean Sea. The geography of the region helped to shape the government and culture of the Ancient Greeks. Geographical formations including mountains, seas, and islands formed natural barriers between the Greek city-states and forced the Greeks to settle along the coast.

[Map of Modern Greece](#)

Aegean Sea

The region of the Mediterranean where the Greeks first settled is called the Aegean Sea. Greek city-states formed all along the Aegean coastline and on the many islands in the Aegean Sea. The people of Greece used the Aegean to travel from city to city. The Aegean also provided fish for the people to eat.

Mountains

The land of Greece is full of mountains. Around 80% of the Greek mainland is mountainous. This made it difficult to make long journeys by land. The mountains also formed natural barriers between the major city-states. The tallest mountain in Greece is

Mount Olympus. The Ancient Greeks believed that their gods (the Twelve Olympians) lived at the top of Mount Olympus.

Islands

The Aegean Sea is home to over 1000 islands. The Greeks settled on many of these islands including Crete (the largest of the islands), Rhodes, Chios, and Delos.

Climate

The climate in Ancient Greece generally featured hot summers and mild winters. Because it was so hot, most people wore lightweight clothing throughout most of the year. They would put on a cloak or wrap during the colder days of the winter months.

Regions of Ancient Greece

[Regions of Greece](#)

The mountains and seas of Ancient Greece formed several natural regions:

- Peloponnese - The Peloponnese is a large peninsula located at the southern tip of the Greek mainland. It is almost an island and only connects to the main land by a small strip of land called the Isthmus of Corinth. The Peloponnese was home to several major Greek city-states including Sparta, Corinth, and Argos.
- Central Greece - Just north of the Peloponnese is Central Greece. Central Greece was home to the famous region of Attica and the city-state of Athens.
- Northern Greece - Northern Greece is sometimes broken up into three major regions including Thessaly, Epirus, and Macedonia. Mount Olympus is located in Northern Greece.

- Islands - Major groupings of the Greek islands include the Cyclades Islands, the Dodecanese, and the Northern Aegean Islands.

Major Cities

The Ancient Greeks spoke the same language and had similar cultures. They were not one large empire, however, but were divided into a number of powerful city-states such as Athens, Sparta, and Thebes.

Greek Settlements

The Greeks set up colonies throughout the Mediterranean and the Black Sea. This included settlements in modern-day Italy, France, Spain, Turkey, and parts of North Africa. These colonies helped to spread the Greek culture throughout the region.

Interesting Facts About the Geography of Ancient Greece

- The Greeks called their land "Hellas." The English word "Greece" comes from the Roman word for the country "Graecia."
- Under the rule of Alexander the Great, Greece expanded into a large empire that included Egypt and stretched all the way to India.
- The Pindus Mountain Range runs north to south along much of mainland Greece. It is sometimes called the "spine of Greece."
- The Greek philosopher Plato once said that "we live around the sea like frogs around a pond."

Activities

- Take a ten question [quiz](#) about this page.

Ancient Greece - Geography
Quiz

Questions on this quiz are based on information from
[Ancient Greece - Geography](#).

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1) Which type of landscape best describes much of the region of Ancient Greece?

- ● Flat
- ● Mountainous
- ● Desert
- ● Rainforest
- ● None of the above

2) In what continent is Greece located?

- ● Africa
- ● South America
- ● Asia
- ● Australia
- ● Europe

3) What sea is located along the eastern coast of Greece?

- ● Red Sea
- ● Arabian Sea
- ● Aegean Sea
- ● Black Sea
- ● Bering Sea

4) Where did the Ancient Greeks believe the Twelve Olympian gods lived?

- ● Ionian Sea
- ● Island of Crete
- ● Cyclades
- ● Mount Olympus
- ● Attica

5) What are the Cyclades and the Dodecanese?

- Seas
- Groups of Islands
- Rivers
- Mountain Ranges
- Regions of Ancient Greece

6) Which of the following best describes the climate in Greece?

- Cold all year round
- Cool summers and mild winters
- Hot summers and mild winters
- Mild summers and freezing winters
- Cool summers and hot winters

7) What geographical feature formed natural borders between the city-states of Ancient Greece?

- Mountains
- Rivers
- Lakes
- Deserts
- Forests

8) What large peninsula at the southern tip of Greece was home to Sparta and Corinth?

- Thessaly
- Epirus
- Macedonia
- Peloponnese
- Crete

9) What word did the Ancient Greeks use to describe their land?

- Attica
- Graecia
- Hellas

- 🔴 Aegia
- 🔴 Thrace

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10) What mountain range is nicknamed the 'spine of Greece.'

- 🔴 Andes Mountains
- 🔴 Rocky Mountains
- 🔴 Alps
- 🔴 Ural Mountains
- 🔴 Pindus Mountains

For an online version of this quiz including scoring, go to
https://www.ducksters.com/history/ancient_greece/geography_questions.php

ESL at Home Gr. 6-8 Weeks 5-6
Use notebook paper to complete these activities. Do one each day!

Monday	Tuesday	Wednesday	Thursday	Friday
Who is your favorite book or movie character? Write or draw what would happen if you met them in real life.	Look at the food in your home. Create a pretend menu for lunch. **Example**: Pretzel and jelly sandwich with a side of tuna fish: $4.67 Chocolate chip scrambled eggs with salsa ice cream: $5.99	Unscramble these animal names, then draw the animal. caro rwmo cnaotu rumle	Make a t-chart of healthy and unhealthy foods in your home.	Create your own superhero. Draw and label a costume and superpowers. Write about a time the superhero saved someone.
Monday	Tuesday	Wednesday	Thursday	Friday
Use boxes or books to create a ramp. Find five things to roll down the ramp. What rolls the farthest? What rolls the shortest?	Design a plan for your dream neighborhood. Draw and label a map of the homes, streets, and businesses you would have.	Create a commercial for your new neighborhood. Tell what makes it special and why people should move there.	Listen to any song. Write down any similes you hear. Ex: "I came in LIKE a wrecking ball."	Choose two animals, like a horse and an alligator. Imagine what they would look like if they were put together. Draw it, and write about its ecosystem.