Summer Packet
2023-2024 School Year
7th Grade

We are so excited to welcome you to 7th grade! You'll be learning so much and can build on all you've learned last year as well. See each core (Reading/ELA, Science, Social Studies, Math) class assignments to keep your mind fresh and sharp during the summer!

***Turn this into your homeroom teacher on the first week of school and he/she will distribute to the respective core teachers for extra credit!**

This year there are new civics standards integrated into other core instruction, such as reading and ELA. So the summer assignment below will be cross-curricular covering Reading/ELA and Social Studies all in one.

Based on this historical primary source reading choose one of the following activities:

Preamble to the Declaration of Independence:

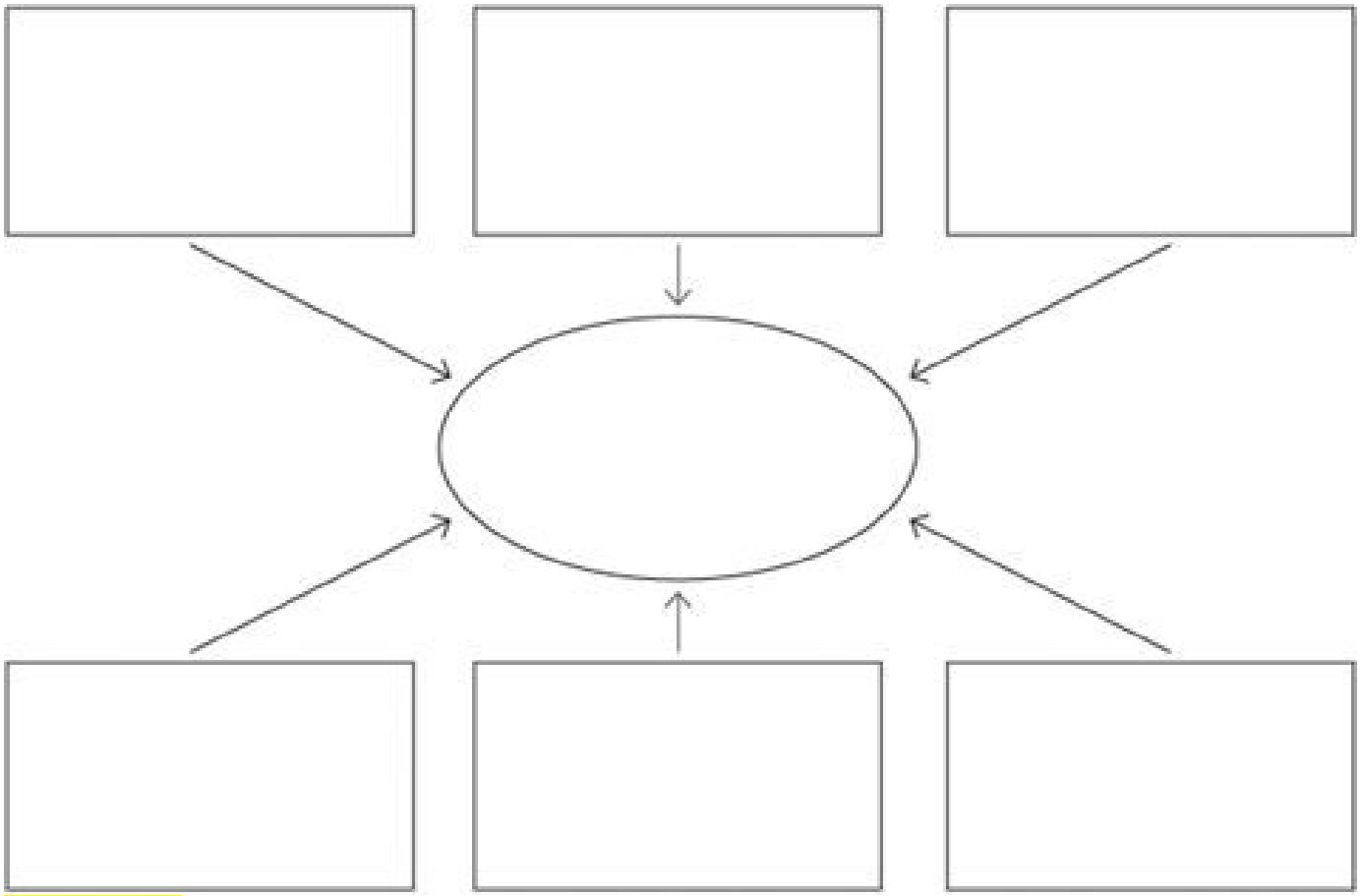
“We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness.--That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed, --That whenever any Form of Government becomes destructive of these ends, it is the Right of the People to alter or to abolish it, and to institute new Government, laying its foundation on such principles and organizing its powers in such form, as to them shall seem most likely to effect their Safety and Happiness. Prudence, indeed, will dictate that Governments long established should not be changed for light and transient causes; and accordingly all experience hath shewn, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But when a long train of abuses and usurpations, pursuing invariably the same Object evinces a design to reduce them under absolute Despotism, it is their right, it is their duty, to throw off such Government, and to provide new Guards for their future security.” (1776)

President Lincoln’s Gettysburg Address:

"Fourscore and seven years ago our fathers brought forth, on this continent, a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived, and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field, as a final resting-place for those who here gave their lives, that that nation might live. It is altogether fitting and proper that we should do this. But, in a larger sense, we cannot dedicate, we cannot consecrate—we cannot hallow—this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us—that from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion—that we here highly resolve that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth." (1863)

- Option 1: Draw/Create an illustrated concept map of the rights and ideas presented in the preamble to the Declaration of Independence.

(Use this template, or make your own !)



- Option 2: Imagine that you're in the crowd listening to President Lincoln deliver the Gettysburg Address. List three inspiring messages you take from that speech.

Math : Work it Out!

Name _____ Class_____ Date_____

THE NUMBER SYSTEM

Skills Practice

Evaluate each expression.

1. $|-5| - |-9|$

2. $-15 \div (-3)$

Evaluate each expression. Write in simplest form.

3. $\left(-1\frac{1}{2}\right) \times \frac{2}{3}$

4. $5\frac{1}{6} - 1\frac{1}{3}$

Problem Solving

5. The width of a vegetable garden is 3 *times* its length. If the length of the garden is $4\frac{1}{2}$ feet, what is the width in simplest form?

6. Freedom Middle School is holding a fundraiser. The sixth-graders have raised 63% of their goal amount. The seventh- and eighth-graders have raised 0.61 and $\frac{2}{3}$ of their goal amounts, respectively. List the classes in order from least to greatest of their goal amounts.

7. Olivia has $143 in the bank. She withdraws $40. Then she deposits $92. Write an addition expression to represent the situation. Then find the sum.

8. The screen on Lawrence's new phone is 3.15 centimeters long. What mixed number represents the length of the phone screen?

Name _____ Class_____ Date_____

RATIOS AND PROPORTIONAL RELATIONSHIPS

Skills Practice

Find each unit rate. Round to the nearest hundredth if necessary

1. 450 yards in 15 minutes

2. $312 for 12 tickets

Find each number. Round to the nearest tenth if necessary.

3. What percent of 92 is 14?

4. 18 is 25% of what number?

Problem Solving

5. Jaime went to have a haircut that cost $40. She wanted to tip the hair stylist 20% and tax is 6.25%. How much did she spend total for the haircut?

6. At 3:30 P.M., the water level in a pool is 14 inches. At 4:00 P.M., the water level is 20 inches. At 5:00 P.M., the water level is 32 inches. What is the constant rate of change?

7. A skydiver is falling at about 142 feet per second. How many feet per minute is she falling?

8. Ms. Marcus estimates that 330 people will attend the school play. There was an actual total of 400 people who attended the school play. Find the percent of error.

Name _____ Class_____ Date_____

EXPRESSIONS AND EQUATIONS

Skills Practice

Use the Distributive Property to rewrite each expression.

1. $2(x + 9)$

2. $3(-3x - 4)$

Solve each equation. Check your solution.

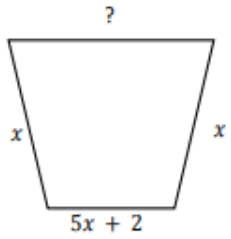
3. $a - 5 = -12$

4. $-4(x + 2) = -40$

Problem Solving

5. Nora needs at least $115 for a new cell phone. She has already saved $45. She earns $7 an hour at her job. Write and solve an inequality to find how many hours she will need to work to buy the phone.

6. The perimeter of the garden shown is 8x+5 units. Find the length of the missing side.



7. Gloria needs $\frac{2}{5}$ yard of ribbon to make each bow. Write and solve an equation to find how any bows she can make with 8 yards of ribbon.

8. The area of a rectangular rug is $(3x + 9)$ square units. Factor $(3x + 9)$ to find possible dimensions of the rug.

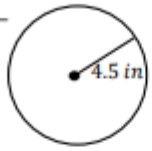
Name _____ Class_____ Date_____

GEOMETRY

Skills Practice

Find the circumference and area of each circle. Use 3.14 for π. Round to the nearest hundredth if necessary.

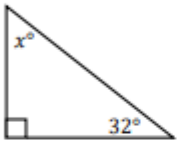
1. circumference = _____
area = _____



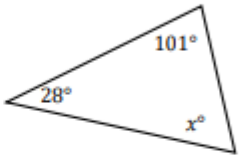
2. circumference = _____
area = _____

Find the value of x.

3.



4.



Problem Solving

5. On a map, the distance from Langhorne to Tannersville measures 2 centimeters. What is the actual distance if the scale of the map shows that 1 centimeter is equal to 30 kilometers?

6. $\angle A$ and $\angle B$ are complementary angles. The measure of $\angle B$ is 65°. What is the value of x?

7. Container A is 13 inches by 19 inches by 25 inches. Container B is 13 inches by 13 inches by 31 inches. In cubic inches, how much greater is the volume of Container A.

8. Sara purchased a porcelain sculpture that is in the shape of a square pyramid. The slant height is 6.1 inches and the base 6.4 inches. Find the surface area. Round to the nearest tenth.

Science

NEWTON'S SECOND LAW: MASS, FORCE, AND MOTION

How do mass and force affect motion?

Newton's Second Law of Motion states that the speed and the direction of an object's motion depend on the mass of the object and the sum of all the forces acting upon it.

To better understand Newton's Second Law of Motion, Marissa and Kendrick conduct their own experiments.

Read about their experiments, and then answer the questions.

PART 1: SLINGSHOT EXPERIMENT

Marissa has a new slingshot. She wants to figure out which of these two marbles will travel farther.

 Marble A **is a typical marble.**

 Marble B **is bigger than Marble A, and it has a greater mass.**

1. Marissa puts Marble A in the pocket of the slingshot. She pulls the pocket back 12 inches andthen releases it. What happens to the marble? Explain why.

2. Marissa then pulls the pocket back 18 inches and launches Marble A in the same direction and at the same angle as before. Will the marble travel farther than before? Explain why or why not.

3. Next, Marissa puts Marble B in the slingshot. She pulls the pocket back 18 inches, keeping the direction and angle the same as before, and releases it. Will Marble B travel farther than Marble Adid in the previous launch? Explain why or why not.

Name_____ Date _____

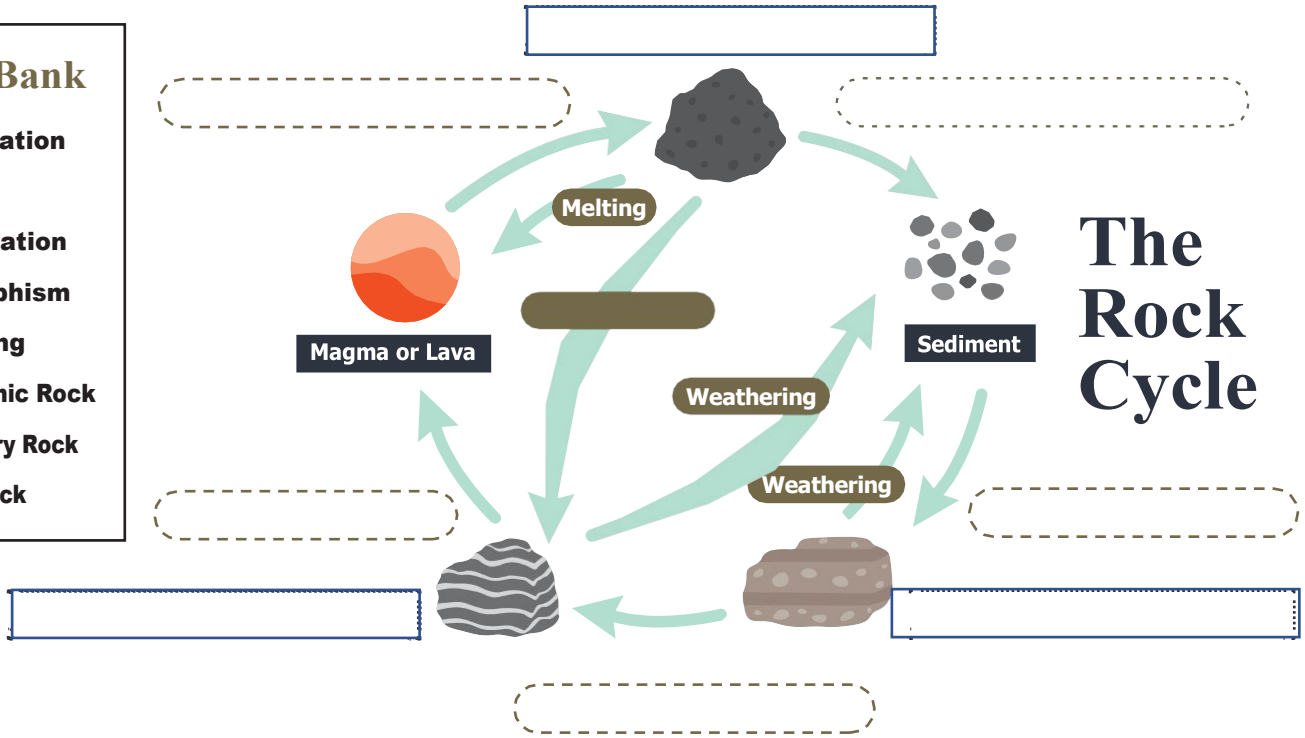
The Rock Cycle:
Energy Flow

Show what you know about the rock cycle by answering the questions below.

1. Label the Diagram: Use the word bank to label the diagram below. You will write each of the vocabulary terms from the word bank once.

Word Bank

- Crystallization
- Melting
- Sedimentation
- Metamorphism
- Weathering
- Metamorphic Rock
- Sedimentary Rock
- Igneous Rock



2. Which processes in the rock cycle are powered by Earth's internal heat? Explain how you know.

_____

_____

3. Several processes in the rock cycle, such as weathering and erosion, are not powered byEarth's internal heat. Where does the energy for these processes ultimately come from? Explain how you know.

_____

_____

Name_____ Date _____

The Rock Cycle:

Vocabulary

Show what you know about the rock cycle!
Match each vocabulary term to its definition by writing the correct letter on the line.

1. _____ **Melting**
2. _____ **Crystallization**
3. _____ **Weathering**
4. _____ **Sedimentation**
5. _____ **Metamorphism**
6. _____ **Erosion**
7. _____ **Deformation**
8. _____ **Magma**
9. _____ **Lava**
10. _____ **Igneous rock**
11. _____ **Sedimentary rock**
12. _____ **Metamorphic rock**

a. When rock on Earth's surface is broken into smaller pieces, forming loose material

b. When temperature and pressure cause some mineralsin the rock to break down and other minerals to form

c. When solid rock turns into molten, or liquid, rock

d. Molten rock that breaks through Earth's surface

e. When magma and lava cool and harden into solid rock

f. Rock that forms as a result of sedimentation

g. When layers of sediment are compacted and cemented together over time to form rock

h. When pieces of rock are carried away by running water, wind, or ice

i. Rock that forms through metamorphism

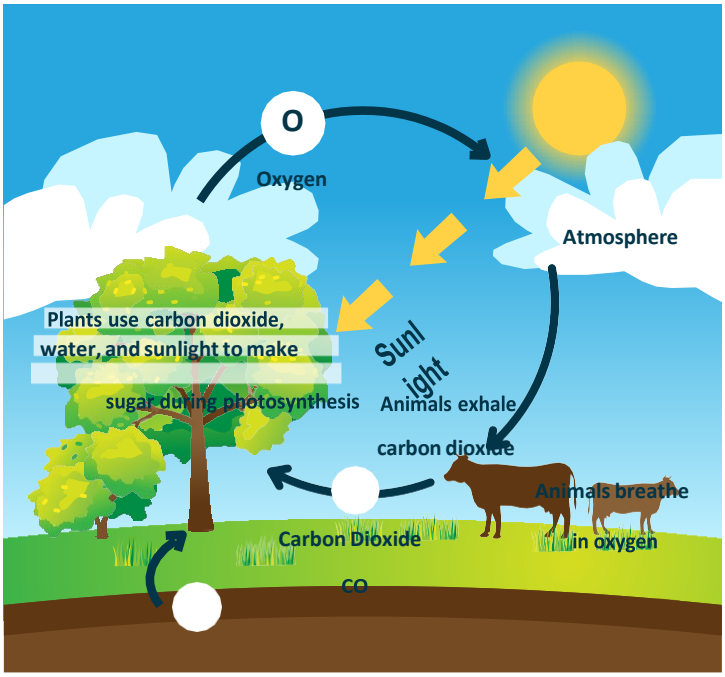
j. When rock changes shape due to compressionor tension in Earth's crust

k. Rock that forms when magma or lava crystallizes

l. Molten rock that is underground

Photosynthesis: Cycling of Matter and Flow of Energy

Photosynthesis is the process through which plants, algae, and many microorganisms use energy from sunlight to make sugars from water and carbon dioxide. These sugars can be used immediately as a source of energy, or they can be stored for growth or later use. During photosynthesis, carbon dioxide is removed from the atmosphere and oxygen is released into it.



Even though animals don't conduct photosynthesis, photosynthesis is still important to them! Some animals eat photosynthetic organisms, such as plants. Those animals get energy that came from the sun and was converted into sugars by the plants. Even carnivores get energy that ultimately came from the sun because they eat animals who ate plants.

Animals also benefit from the oxygen that's released during photosynthesis. Animals breathe in oxygen and then breathe out carbon dioxide. That carbon dioxide

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Answer the following questions about photosynthesis based on the passage you read above

1. What do photosynthetic organisms need to conduct photosynthesis?

2. What do photosynthetic organisms produce through photosynthesis?

3. Why do plants, algae, and many microorganisms conduct photosynthesis?

4. How do animals obtain energy?

5. What gas do animals release into the atmosphere?

6. Explain how animals and photosynthetic organisms depend on each other.

7. Explain how all living things, even carnivorous animals, ultimately get their energy from the sun.

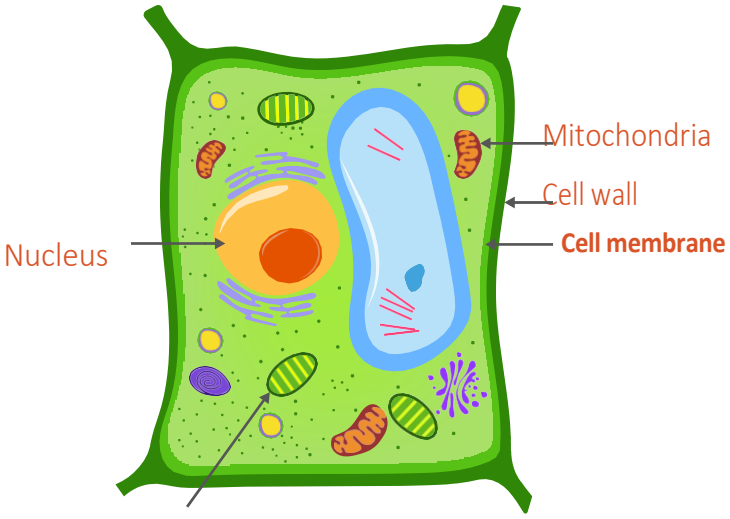
CELL ORGANELLES

A **cell** is the building block of all living things. All living things are made up of cells. An organism that consists of one single cell is called **unicellular**, while an organism that consists of many different cells iscalled **multicellular**.

Within a cell, special structures are responsible forparticular functions. These structures are called **organelles**. Many different types of organelles work together so that the cell can function as a system.

The **nucleus** is often called the brain, or control center, of a cell. It contains genetic material and isresponsible for cell growth and reproduction.

Chloroplasts are where photosynthesis occursin plant cells. Photosynthesis produces sugars that plants can use for energy and growth.
Chloroplasts contain a pigment called chlorophyll,which gives them a green color.



The **mitochondria**, often called the powerhouse of the cell, are where cellular respiration takes place. This ishow the cell turns sugars into a usable form of energy.

The **cell membrane** is the cell's security guard. It forms the boundary that controls what enters and leaves thecell. It's semi-permeable, meaning only certain substances can pass through it.

The **cell wall** is the outer layer of a plant cell. It gives the cell strength and structure and serves as aprotective barrier.

Show what you know about cell organelles! Summarize what you've learned by writing a sentence or twoexplaining the function of each organelle.

Nucleus: _____

Chloroplast: _____

Mitochondria: _____

Cell Membrane: _____

Cell Wall: _____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