BELL RINGERS

MS MATUS

SEPTEMBER 18, 2017

Describe the physical and chemical changes giving an example for each one.

SEPTEMBER 19, 2017

The rails on a railroad track have small gaps between sections of metal rails. Why are these gaps needed?

A. They keep the rails from touching and reacting with one another.

B. They allow the metal to expand when it is cooled without bending the rails.

C. They allow the metal to expand when it is heated without bending the rails.

D. They help chemical reactions between the rails and air happen faster.

SEPTEMBER 25, 2017 – UNIT 4 LESSON 4

Jose combined lettuce, tomatoes, and shredded cheese to make a salad. Which **best** describes what Jose made? Explain

a. solution
b. element
c. combination
d. mixture

SEPTEMBER 27 , 2017 – UNIT 4 LESSON 4

Lauren created a solution by adding food coloring to water. Her solution is also a mixture. Which of these is true of **all** solutions?

A. They all include water

B. The substances are always permanently combined

C. They are all liquids

D. The parts of all solutions are evenly mixed.

SEPTEMBER 28, 2017

A company collects cans for recycling. Some cans are made of aluminum, and others are made of steel. Which of the following is the best way to separate the mixture of two types of cans? Explain

A. by evaporation

B. by magnetism

C. by shape

D. by size

SEPTEMBER 29, 2017 – UNIT 4 LESSON 4

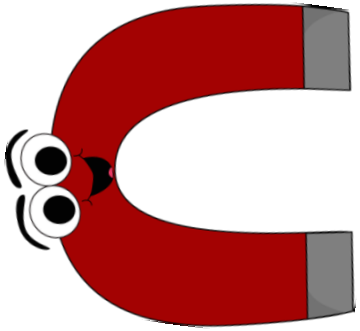
The pot contains a mixture.

The method shown in the picture can be used to separate what type of mixture?

a. A mixture of particles of different sizes, such as seashells and sand
b. A mixture of particles with different densities
c. A solution, such as salt water
d. A mixture of steel, which is magnetic, and aluminum, which is not magnetic

OCTOBER 3, 2017 – UNIT 4 LESSON 4

The following illustration shows a tool that can be used to separate elements of certain mixtures.



This tool can separate what type of mixture?

A. A mixture of particles with different densities.

B. A mixture of particles of different sizes.

C. A mixture of magnetic and nonmagnetic items.

D. A solution, such as sugar and water

OCTOBER 5, 2017 – UNIT 4 LESSON 6

Atoms are made up of smaller particles called subatomic particles. Which is a subatomic particle that has no charge? ***Explain***

A. Proton

B. Nucleus

C. Electron

D. Neutron

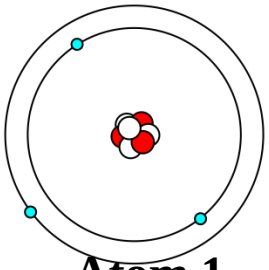
OCTOBER 9, 2017 – UNIT 4 LESSON 6

Every atom has a center called the nucleus. The nucleus has a positive charge. Which particles are found in the nucleus?

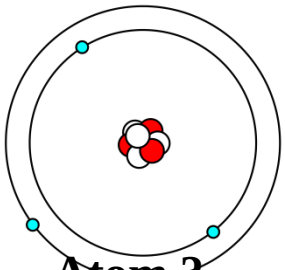
A. Electrons and protons
B. Neutrons and protons
C. Neutrons only
D. Protons only

OCTOBER 10, 2017 – UNIT 4 LESSON 6

Michelle drew two atoms as shown in the following illustration.



Atom 1



Atom 2

Which statement is true?

A. They are both atoms of the same element.

B. They are atoms of two different elements.

C. Atom 2 has a positive charge, and atom 1 has a negative charge.

D. Atom 1 has a positive charge, and atom 2 has a negative charge.

OCTOBER 11, 2017 – UNIT 4 LESSON 6

The following table describes four different atoms.

	Number of electrons	Number of neutrons	Number of protons
Atom 1	8	8	8
Atom 2	8	10	8
Atom 3	10	7	8
Atom 4	11	9	6

Which is **true**? Explain

A. Only atoms 3 and 4 are the same element.

B. Each atom is a different element.

C. Atom 4 is a different element from all the others.

D. Atom 3 is a different element from all others.

OCTOBER 18, 2017 – UNIT 7 LESSON 1

Carlos threw a ball into the air and watched it go up for a long time. Then it started to fall back toward him. What force caused the ball to return to the ground? Explain

A. Wind

B. Motion

C. Friction

D. Gravity

OCTOBER 19, 2017 – UNIT 7 LESSON 1

Which of the following objects will have the **greatest** change in motion? Explain

A. A small force is applied to an object with a large mass.

B. A small force is applied to an object with a small mass.

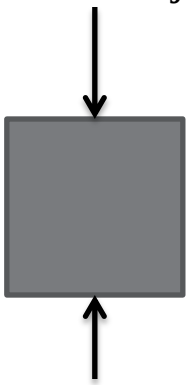
C. A large force is applied to an object with a large mass.

D. A large force is applied to an object with a small mass.

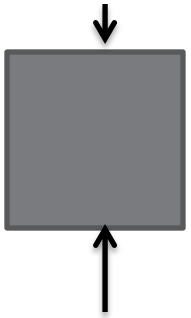
OCTOBER 20, 2017 – UNIT 7 LESSON 1

Arrows represent the forces applied to an object. A longer arrow means a greater force. Which object will move upward? Explain

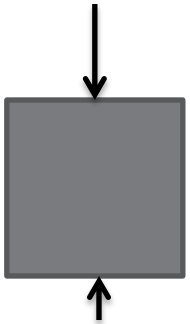
A.



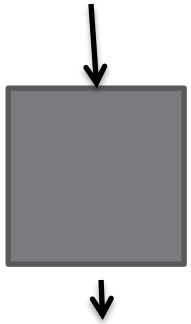
B.



C.



D.



OCTOBER 23, 2017 – UNIT 7 LESSON 1

Look at the following illustration.

Two boys are about to use the same force to push a parent and a child. Which describes what will happen? Explain

A. The parent will accelerate faster.

B. The parent and the child will accelerate at the same rate.

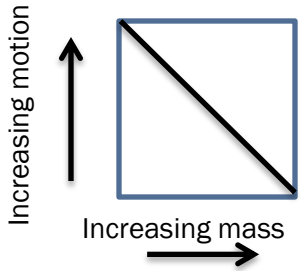
C. The parent will swing higher.

D. The child will accelerate faster.

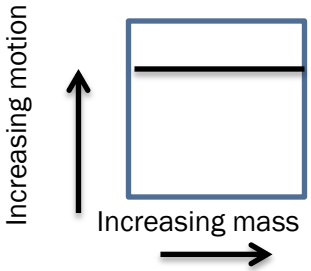
OCTOBER 24, 2017 – UNIT 7 LESSON 1

When an unbalanced force is applied to an object, the object moves in the direction of the force. Which graph shows how the same force will affect objects that have different masses? Explain

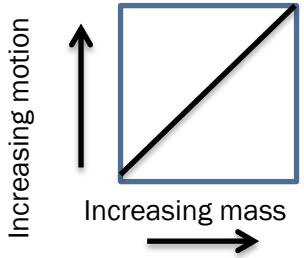
A.



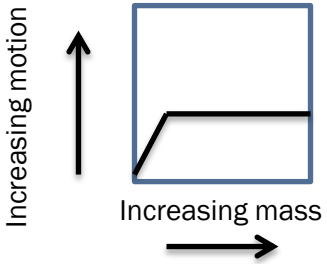
B.



C.



D.



OCTOBER 25, 2017 – UNIT 7 LESSON 1

Stefan pushes a cart with three books so it just reaches the end of a track. Next he puts six books onto the cart. What must he do so that the cart reaches the end of the track? Explain

A. Use a different cart

B. Use the same amount of force

C. Use more force

D. Use less force

OCTOBER 26, 2017 – UNIT 7 LESSON 1

Alonso uses a stretched rubber band to propel a toy car across a flat surface. What force makes the car roll forward? Explain

A. a push from the air
B. a push from Alonso's hand
C. the pull of gravity
D. a push from the rubber band

OCTOBER 30, 2017 – UNIT 7 LESSON 1

A rock is balanced on the side of a hill. Although the rock is heavy, a gently push moves it. How can a small force cause a large mass to move? Explain

A. The push on the rock increased the amount of friction, so the rock moved.

B. The forces on the rock were balanced, and a small additional force caused them to be unbalanced.

C. The direction of the force is important to make an object move, but the amount of force is not.

D. The small push balanced the forces that were keeping the rock in place and caused it to move.

OCTOBER 31, 2017 – UNIT 7 LESSON 1

Jennifer tried to pound a large nail into a board using a small hammer. Partway into the board, the nail stopped. Jennifer switched to using a heavier hammer, and the nail went into the board easily. Why did the larger hammer work? **Explain**

A. There is more friction between a larger hammer and the nail.

B. The larger hammer had more mass, so it exerted more force.

C. The nail could not push the larger hammer out the way.

D. The flat part of the larger hammer was wider, so it hit the nail better.

NOVEMBER 2, 2017 – UNIT 1 LESSON 1

Fernando wonders what kinds of birds live in his neighborhood. What skill will Fernando use to investigate the variety of birds in his neighborhood? Explain

A. order

B. infer

C. observe

D. communicate

NOVEMBER 3, 2017 – UNIT 1 LESSON 1

Hector made some observations and has a question he would like to answer. What should Hector do next? Explain

A. analyze evidence

B. draw conclusions and communicate results

C. form an opinion

D. plan and conduct an investigation

NOVEMBER 6, 2017 – UNIT 1 LESSON 1

Paul wanted to learn more about Ganymede, one of Jupiter's moons. Which of the following sources of information would be Paul's **best** choice? Explain

A. a neighborhood survey

B. the local newspaper

C. his friends

D. a university's astronomy web page

NOVEMBER 7, 2017 - UNIT 1 LESSON 1

Sometimes scientists replicate the research of other scientists. Which of the following is the **most likely** reason scientists do this? Explain

A. to verify that the work is accurate

B. to form new theories

C. to win prizes for their work

D. to improve the research

NOVEMBER 8, 2017 – UNIT 1 LESSON 1

Scientists conduct investigations. What is the **main** reason for scientific investigations? Explain

A. to demonstrate scientific procedures

B. to learn about recent discoveries

C. to answer questions about the natural world

D. to practice doing experiments

NOVEMBER 13, 2017 – UNIT 1 LESSON 3

Michelle conducts an experiment. Her results do not support her hypothesis. What should she do? Explain

A. Change the results to support the hypothesis.
B. Repeat the experiment to check for errors.
C. Try to make an experiment that will give her the results she wants.
D. Discard the data because it does not agree with her hypothesis.

NOVEMBER 14, 2017 – UNIT 1 LESSON 3

A hypothesis must be testable. Which hypothesis is testable? Explain

A. Summer is nicer than fall

B. Dogs are better than cats

C. Blue is the best color

D. A beagle can jump higher than a Persian cat.

NOVEMBER 15, 2017 – UNIT 1 LESSON 3

A scientific method is a way to investigate a scientific problem. Although the order of steps can vary, the tasks performed during each step often stay the same. During which step of the scientific method would a scientist collect data? Explain

A. Communicating the results

B. Forming a hypothesis

C. Developing a plan

D. Testing the hypothesis

NOVEMBER 16, 2017 – UNIT 1 LESSON 3

Models allows scientists to test things that might be too expensive or difficult to test using the real item. Which of the following would be an investigation that could use a model? Explain

A. How much water a cubic meter of sand can hold
B. Whether a new spray will repel mosquitoes
C. How many times per day a robin leaves her nest
D. How much weight can a new bridge support

NOVEMBER 20, 2017 – UNIT 1 LESSON 5

When you perform an experiment, it is important that measurements are accurate. What determines the accuracy of a measurement? Explain

A. the number of times that it is repeated

B. whether the results of an experiment match the predicted results

C. how close it is to the actual value

D. the ability of other people to reproduce the measurement

NOVEMBER 27, 2017 – UNIT 1 LESSON 5

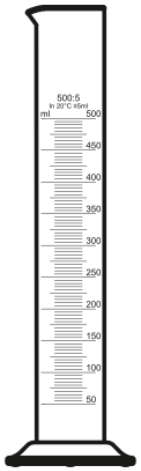
Some scientific tools are used for making observations, and others are used for making measurements. Which of these tools would be **most** useful for observing the behavior of ants? Explain

A. metric ruler

B. electronic balance

C. graduated cylinder

D. hand lens

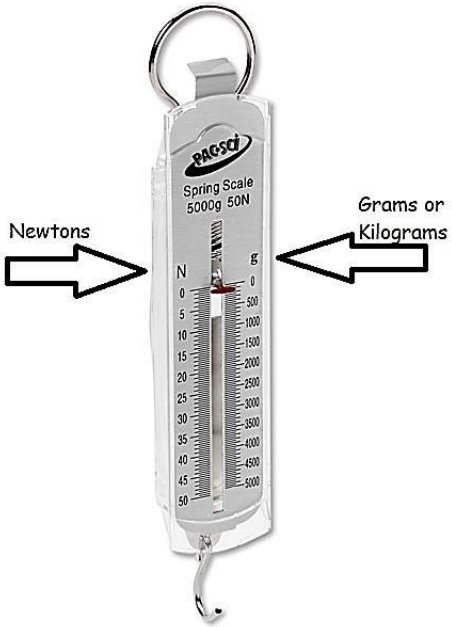


NOVEMBER 28, 2017 – UNIT 1 LESSON 5

Jose used a spring scale like this in an experiment he was conducting.

What did Jose measure with the spring scale?

Explain



A. weight

B. force

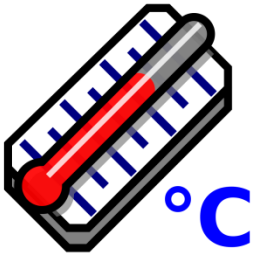
C. mass

D. volume

NOVEMBER 29, 2017 – UNIT 1 LESSON 5

You can use many different tools to make measurements. Which of these tools can be used to measure the mass of an object? Explain

A.



B.

C.

D.

NOVEMBER 30, 2017 – UNIT 1 LESSON 5

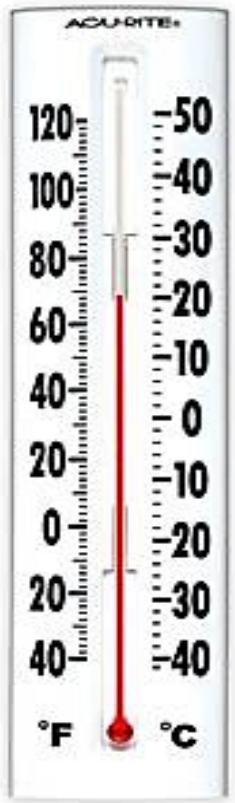
Naples, on the Gulf Coast of Florida, is known for its year-round sunshine, warm temperatures, and white sandy beaches. The thermometer on the right shows the temperature on a cloudy day in Naples. Which temperature reading is correct?

A. 60° Fahrenheit

B. 80° Fahrenheit

C. 40 °Fahrenheit

D. 70° Fahrenheit



DECEMBER 4, 2017 – UNIT 1 LESSON 5

Jennifer tests the effects of fertilizers on four seeds of the same kind of plant. She gives each plant the same amount of water and sun. The table below show her result. Explain

Height of Plants (centimeters)				
Week	Fertilizer 1	Fertilizer 2	Fertilizer 3	Control (no fertilizer)
1	0	0	0	0
2	3	4	2	2
3	8	12	6	5

A. Fertilizer 3 does not help plants grow

B. Plants grow taller without the fertilizers

C. Fertilizer 2 helps plants grow the tallest.

D. Plants grow taller with Fertilizer 1 than they do with Fertilizer 2.

DECEMBER 6, 2017 – UNIT 5 LESSON 1

An object has a type of energy due to the movement of electrons. Which type of energy is it? Explain

A.electrical

B.mechanical

C.thermal

D.chemical

DECEMBER 7, 2017 – UNIT 5 LESSON 1

Chemical energy can be used to produce kinetic energy. Which activity is an example of using chemical energy to produce kinetic energy? Explain

A.using a magnet to pick up a steel nail

B.flying a kite

C.turning on a light switch

D.using gasoline to run an engine

DECEMBER 8, 2017 – UNIT 5 LESSON 1

Jason is holding a metal block in his hand. What could he do to decrease the thermal energy of the block? Explain

A. hit it

B. melt it

C. drop it

D. cool it

DECEMBER 11, 2017 – UNIT 5 LESSON 1

Which of the following is visible to a person only because light from another source reflects off it? Explain

A.cloud

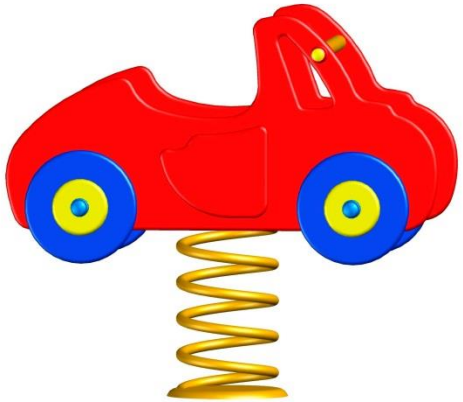
B.flashlight

C.lightning

D.sun

DECEMBER 12, 2017 - UNIT 5 LESSON 1

The picture below shows a toy with a spring inside it. Which type of energy would the toy have if you pushed down and held the spring in the toy? Explain



A. kinetic

B. electrical

C. thermal

D. potential

DECEMBER 13, 2017 – UNIT 5 LESSON 1

Jacob has a thermometer that is at room temperature. He places it in the glass shown here. What will happen to the liquid in the thermometer? Explain

A. An increase in thermal energy will cause the liquid to contract.

B. A decrease in thermal energy will cause the liquid to contract.

C. An increase in thermal energy will cause the liquid to expand.

D. A decrease in thermal energy will cause the liquid to expand.

DECEMBER 15, 2017 – UNIT 5 LESSON 3

After walking across a carpet, a boy feels a spark between his hand and a doorknob.

If the boy's hand is negatively charged just before he touches the doorknob, which particles moved from the carpet to his hand? Explain

A. Protons

B. Electrons

C. Atoms

D. Neutrons

DECEMBER 18, 2017 – UNIT 5 LESSON 3

Why are metals good conductors of an electric current? Explain

A. A metal also conducts heat.
B. A metal contains electrons that can move through it easily.
C. Metals do not melt easily.
D. Nonmetals do not conduct an electric current.

DECEMBER 19, 2017 – UNIT 5 LESSON 3

Which of the following is lightning an example of? Explain

A. Electric current

B. Static electricity

C. Electric charge

D. Electrostatic discharge

JANUARY 8, 2018 – UNIT 5 LESSON 5

Many appliances in your home and school use electrical energy. Which of these appliances is intended to convert electrical energy into sound energy?

Explain

A. Electric heater

B. Music amplifier

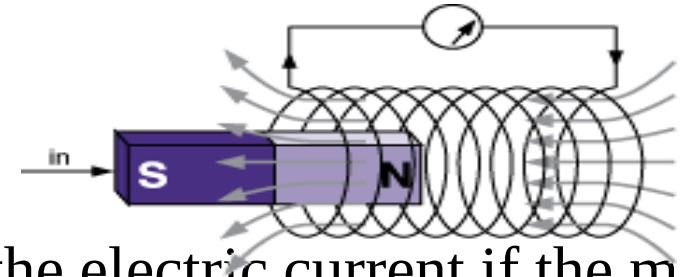
C. Printer

D. Refrigerator

JANUARY 9, 2018 – UNIT 5 LESSON 5

The magnet is moving inside the wire coil, producing an electric current.

Explain



What happens to the electric current if the magnet no longer moves in the coil?

A. It continues to flow as it did.

B. It stops flowing

C. It flows in the opposite direction.

D. It starts to flow in the magnet instead of the wire.

JANUARY 10, 2018 – UNIT 5 LESSON 5

The girl shown below is using an electrical appliance that has a motor.

Which energy transformation is she using? Explain

A. Energy of motion into electrical energy and sound energy.

B. Electrical energy into sound energy and chemical energy.

C. Electrical energy into heat energy and energy of motion.

D. Sound energy into electrical energy and energy of motion.

JANUARY 12, 2018 – UNIT 6 LESSON 2

Jose wants to determine if foam is a good insulator. He decides to connect wires to two ends of a battery and then connect one wire to each end of a foam cup. Which inquiry skill is Jose using? Explain

A. Use models

B. Plan and conduct and investigation

C. Hypothesize

D. Predict

JANUARY 16, 2018 – UNIT 6 LESSON 2

Jessica looked at a group of objects and classified them as electrical conductors or insulators. She made the table below to show her results.

Object	Classification
Glass bead	Conductor
Plastic plate	Insulator
Aluminum foil	Conductor
Silver bracelet	Insulator
Wooden craft stick	Conductor

How many objects are not classified correctly? Explain

JANUARY 17, 2018 – UNIT 6 LESSON 2

Carlos wants to build an electric circuit with a device that can be turned on and off. Which list contains all the materials he needs for the circuit? Explain

A. buzzer, wire, switch, light bulb

B. wire, ruler, switch, battery

C. battery, wire, light bulb, switch

D. string, buzzer, battery, switch

JANUARY 19, 2018 – UNIT 2 LESSON 1

Why is the sun considered to be the center of the solar system? Explain

A. The sun produces light and energy.

B. The sun is the largest object that can be seen.

C. It is closer to Earth than other stars.

D. Everything in the solar system revolves around the sun.

JANUARY 22, 2018 – UNIT 2 LESSON 1

It is difficult to see the surface of Venus through a telescope. Which surface of Venus best explains why its surface is difficult to observe from Earth? Explain

A. It is too far from Earth to be seen.

B. It is surrounded by thick clouds.

C. It is covered completely by water.

D. It does not produce light of its own.

JANUARY 24, 2018 – UNIT 2 LESSON 1

Ganymede is a moon of Jupiter, It is larger than Mercury and has a metallic core similar to Earth's core. Which of these statements best explains why Ganymede is classified as a moon rather than a planet? Explain

A. It is farther from the sun than Mercury.

B. It orbits Jupiter instead of the sun.

C. It is too large to be called a planet.

D. Its properties are different from Jupiter.

JANUARY 26, 2018 – UNIT 2 LESSON 1

Juan divided some of the planets into two main groups. The table below shows how he grouped them.

Group 1	Group 2
Mercury	Saturn
Mars	Uranus
Venus	Jupiter

Which two categories did Juan **most** likely use to group the planets?

A. Small diameters and large diameters

B. With moons and without moons

C. Orbit the sun and orbit other bodies

D. Planets and dwarf planets

JANUARY 26, 2018 – UNIT 2 LESSON 1

Our solar system consists of eight planets. What is a planet? Explain

A. A rock fragment in space

B. A large object in space that revolves around a star in its own orbit

C. Many stars held together

D. A large object in space that is composed of gases and gives off light

JANUARY 29, 2018 – UNIT 2 LESSON 1

A telescope is an instrument that allows us to better see distant objects. Most telescopes are located on Earth. Space-based telescopes often get data that is difficult to get using Earth-based telescopes. What problem does an Earth-based telescopes have that a space-based telescopes does not have? Explain

A. Earth-based telescopes have to look through Earth's atmosphere, which reduces their power.

B. Air pollution caused a major problem for space-based telescopes.

C. Earth-based telescopes are always smaller than space-based telescopes.

D. It is difficult to get clear, close-up images of distant bodies using space-based telescopes.

JANUARY 31, 2018 – UNIT 2 LESSON 3

There are many different colors of stars. Which characteristics determines the color of a star? Explain

A. Actual brightness

B. Distance from Earth

C. Size and shape

D. Temperature

FEBRUARY 1, 2018 – UNIT 2 LESSON 3

There are several different types of galaxies. How do scientists classify galaxies? Explain

A. By number of stars
B. By shape
C. By size
D. By temperature

FEBRUARY 5, 2018 – UNIT 2 LESSON 3

The sun is a medium-size star, but it appears much larger than other stars. Why does the sun appear to be so large? Explain

A. The sun produces more light than others stars.
B. The sun is hotter than other stars.
C. The sun is much closer to Earth than other stars are.
D. The sun is affected by Earth's gravity more than others stars are.

FEBRUARY 7, 2018 – UNIT 3 LESSON 1

Water exists in various states as it passes through the water cycle. Which form of water is the most abundant at any time in the water cycle? Explain

A. Liquid fresh water

B. Liquid salt water

C. Water vapor

D. Frozen ice

FEBRUARY 7, 2018 – UNIT 3 LESSON 1

Water's movement on Earth is described as a cycle. Why is it called a cycle? Explain

A. It has a beginning and an end.

B. It results in the formation of more water.

C. Its steps never repeat.

D. It is continuous process with a repeating series of steps.

FEBRUARY 8, 2018 – UNIT 3 LESSON 1

The atmosphere contains invisible, gaseous water vapor. It also contains specks of dust and other particles. How do these particles interact with water vapor in the air? Explain

A. The particles make it more difficult for water vapor to become water droplets.
B. The particles have no effect on water vapor.
C. The particles are necessary for water vapor to form droplets.
D. The particles cause water vapor to evaporate.

FEBRUARY 9, 2018 – UNIT 3 LESSON 1

Which of these statements best describes the oceans' role in the water cycle? Explain

A. The oceans are a key source and a storage unit of water.
B. The oceans are not as important as glaciers and ice sheets.
C. The oceans are not very important because of their salt content.
D. The oceans are not as important as lakes that store fresh water.

CONDUCTORS AND INSULATORS

GOLD	PLASTIC
COPPER	RUBBER
ALUMINUM	GLASS
SILVER	CERAMICS
CONCRETE	QUARTZ
IRON	DRY WOOD