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• Reading Comprehension

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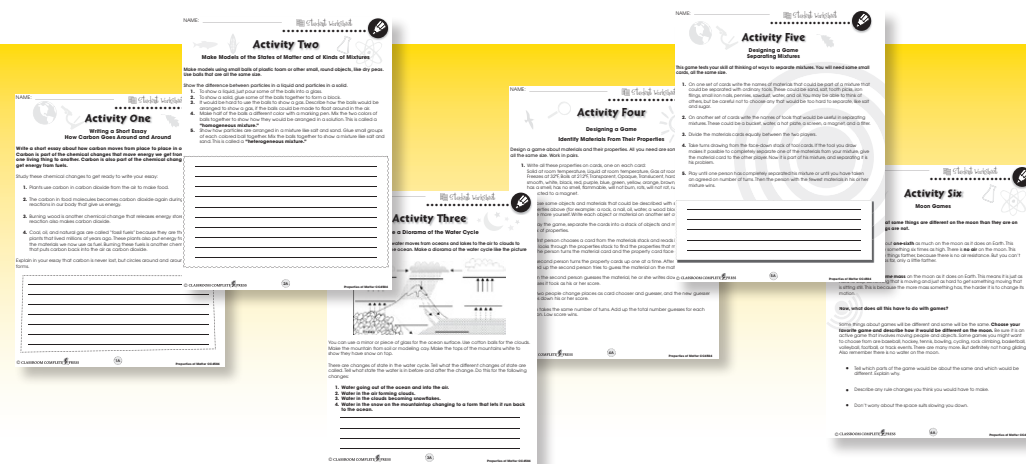
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6 Bonus Activities!

3 EASY STEPS to receive your 6 Bonus Activities!

- Go to our website:
www.classroomcompletepress.com/bonus
- Click on item CC4504 – Properties of Matter
- Enter pass code CC4504D





Physical Properties of Matter

1. Put a check mark (✓) next to the answer that is most correct.

- a) What do we use to describe a **material**?
- A its name
 - B its properties
 - C who discovered it
 - D where it came from
- b) What do we measure to find out how much matter is in something?
- A height
 - B length
 - C mass
 - D temperature
- c) What keeps us from floating off into space?
- A gravity
 - B friction
 - C air pressure
 - D Earth's rotation

2. Draw one line from each word on the left to the meaning of the word on the right.

density	a)	How rough or smooth the surface of something is
mass	b)	Something you can see through
texture	c)	How much matter is in something
transparent	d)	How much space something takes up
volume	e)	How tightly particles are packed in a material



Physical Properties of Matter

We describe materials by their **properties**. Some properties tell us how much material is present.

Volume tells us how much space a material takes up. In some countries volume is measured in pints, quarts, and gallons. In other countries volume is measured in liters and milliliters. For example, a quart of milk has a little less volume than a liter of milk.

You learned earlier that mass is a measure of how much matter is in something. Mass is measured in grams or kilograms. In some countries, mass is measured in pounds and ounces. The mass in every object pulls on the mass in every other object with a force called **gravity**. The more mass the objects have, the harder they pull on each other.

The planet Earth has a lot of mass. The force of Earth's gravity pulls down hard on all the things on its surface. Gravity keeps them from floating off into space. The strength of Earth's pull on something is the thing's **weight**. The more mass an object has, the harder Earth pulls on it, and the more weight it has.

The moon has less mass than Earth. If you went to the moon, you would have **less** weight because the moon would not pull as hard on your mass. Your mass on the moon would be **the same** because you would still have the same amount of matter in your body.



STOP! When you jump into the air, you are always pulled back to the Earth by **GRAVITY**. You can feel the pull of gravity between yourself and the Earth. Explain why you **CANNOT** feel the pull of gravity between yourself and another person.



Physical Properties of Matter

1. Complete each sentence with a word from the list. Use a dictionary to help you. Six words will be left over.

- weight mass density transparent opaque hardness
 volume melting point temperature heat color

- a) Light does not pass through objects that are _____.
- b) Mass divided by volume equals _____.
- c) The temperature at which a material changes from a solid to a liquid is called its _____.
- d) The force of the Earth pulling on your mass is your _____.
- e) Adding heat to something makes its particles move faster. _____ is a measure of how fast the particles are moving.

2. Circle **T** if the statement is **TRUE** or **F** if it is **FALSE**.

- T** **F** a) All light passes through things that are translucent.
- T** **F** b) If you went to the moon, your weight would not change.
- T** **F** c) If you squeezed a balloon and made it smaller, the density of the air inside would become greater.
- T** **F** d) Volume can be measured in quarts or liters.
- T** **F** e) Sandpaper and glass have the same texture.
- T** **F** f) Gravity is the force of attraction between the volume of one thing and the volume of another thing.



Physical Properties of Matter

3. What does the word **opaque** mean?

4. Explain what the density of an object tells us about the particles the object is made of.

Extensions & Applications

5. Measure or describe as many **PROPERTIES** as you can for an egg and for a glass of water.

Part A

For the egg, describe the properties color, texture, hardness, and shape. Also tell whether the egg is transparent, translucent, opaque. Tell whether the water is transparent, translucent, opaque.

Part B

For the next part, you will need a thermometer, a measuring cup, a kitchen stove or hot plate, and a scale or balance. If you cannot get these tools, describe how you would use them.

Measure the **temperature** of the water. Measure the **boiling point** of the water or tell how you would measure it.

Use the measuring cup to measure the volume of the water. Use the measuring cup *and* the water to measure the volume of the egg.

Use the balance to measure the mass of the egg. How would you measure the mass of the water?

What is the density of the water? What is the density of the egg?



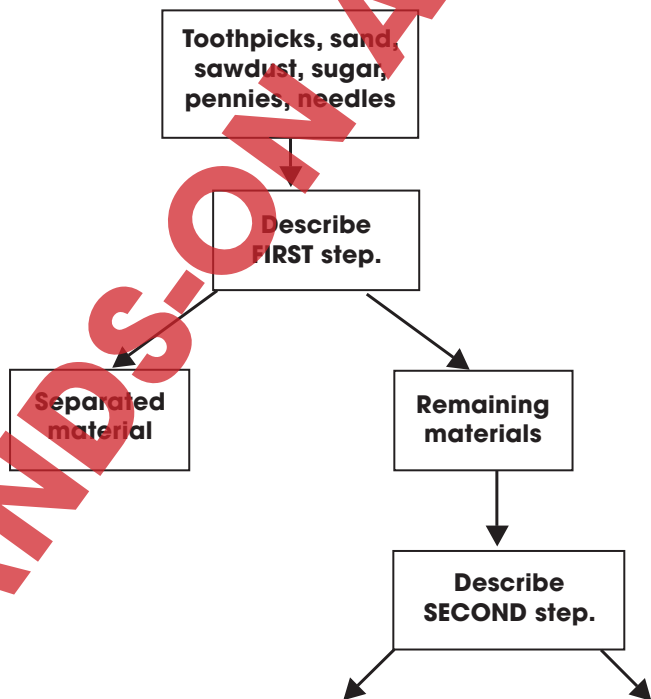
Separating a Mixture

One property we have not talked about is **MAGNETIC** property. This property can help separate some mixtures. Magnets attract and hold onto anything made of iron. Therefore, they can be used to separate things made of iron from other things. In this activity you will make a plan to separate a mixture of **SIX** things using tools from a list.

This mixture is really messy. In a bucket, all mixed together, are wooden toothpicks, sand, sawdust, sugar, copper pennies, and steel sewing needles. (Steel is kind of iron.)

These six materials can be **separated** using the bucket, water, a screen, a hot plate, a metal pot, and a magnet.

Tell how you would separate the materials. Describe each step. It is possible to separate them with just **five** steps. You may write the steps in a **list** or show them in a **flow chart**. The beginning of a flow chart is shown below.



Crossword Puzzle!

Across

- How much space something takes up
- How much matter is in something
- A material dissolved in a liquid
- Something light cannot pass through
- A particle that cannot be divided with everyday tools
- A new material formed when something combines with oxygen
- What iron does when it reacts with oxygen
- Something that has mass and takes up space
- The state of matter that has a fixed shape and a fixed volume
- Some light passes through it and some does not

Down

- See 16 Across
- What water is doing at 212°C
- What a solid does when you add heat
- A material that is not in the gas state and not in the solid state
- The change from gas to liquid
- Two pure materials scrambled together
- Either an atom or a molecule
- Oxygen is one of these
- It keeps you from floating off into space



Comprehension Quiz

Answer each question in complete sentences.

- Describe the **motion** of particles in each state of matter. 3

- Using the words "mass," "space," and "atoms," tell **three** things that are true of all matter. 3

- What does the **density** of a material tell about the way particles are packed in a material? Name the **two** things you need to know to find the density of a material. 3

- What is a **physical change**? Give an example of a physical change. What is a **chemical change**? Give an example of a chemical change. 4

- Explain how a mixture of salt and water is different from a mixture of pebbles and water. 3

Finding Density

This is the **displaced liquid** method of finding density.



Mass of rock = 30 grams.

Volume of rock = 60 milliliter (mL) - 50 mL = 10 mL.

Density of rock = 30 g/10 mL = 3.0 g/mL

NAME: _____

After You Read 



Physical Properties of Matter

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Use the measuring cup to measure the volume of the water. Use the measuring cup *and* the water to measure the volume of the egg.

Use the balance to measure the mass of the egg. How would you measure the mass of the water?

What is the density of the water? What is the density of the egg?

3.

Answers will vary

Light does not pass through it.

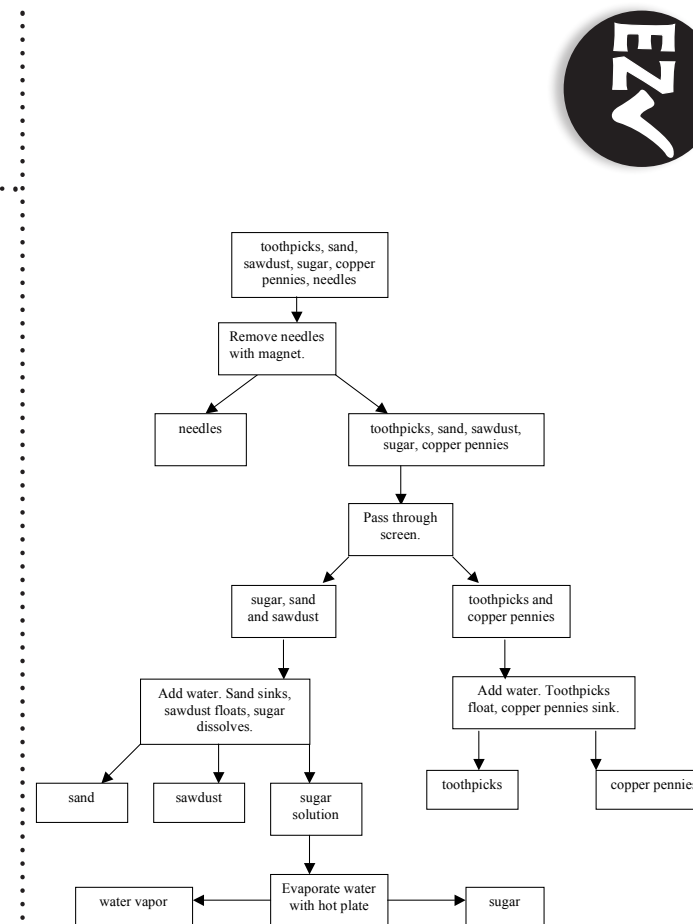
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4.

Density tells how closely the particles are packed together.

5.

Answers will vary



A. No

B. Yes

C. No matter could enter or leave in the first experiment. In the second experiment, no iron left, but oxygen from the air combined with the iron and added to the mass.

D. Yes, because the mass gained by the rusting iron equaled the mass lost by the air.

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EASY MARKING ANSWER KEY