

# Properties of Matter SC.5.P.8.1

## State of Matter: Solid

Solids keep their \_\_\_\_\_ and \_\_\_\_\_.

Solids have a \_\_\_\_\_ mass and a \_\_\_\_\_ volume.

Examples of solids:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## State of Matter: Liquid

Liquids have a \_\_\_\_\_ volume, but will take the shape of their  
\_\_\_\_\_. Liquids have the ability to \_\_\_\_\_.

Examples of liquids:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## State of Matter: Gas

Gases have no \_\_\_\_\_ volume and no \_\_\_\_\_ shape.

Gases will expand to fill their \_\_\_\_\_.

Examples of gases:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

## Check What You Know:

Solids, liquid, and gases are the common forms, or states, that matter can take. Each state has specific characteristics. Which of the following best describes a liquid?

- A. It has soft atoms
- B. It has its own shape
- C. It takes the shape of its container
- D. It takes the volume of its container

## Reading: Physical Properties

A **physical property** is a characteristic of matter that you can observe or measure directly. You can describe matter by listing the physical properties you observe. For example, you can describe an apple as *red*, *crunchy*, *sweet*, and *smooth* using properties you observe with your senses.

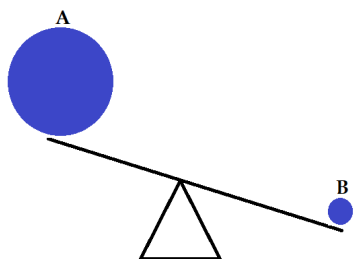
Shape, color, hardness, texture, odor, and taste are some of the **physical properties** you can observe using your senses. An object's color, taste, and odor can be observed using senses of sight, taste, and smell. Hardness is how easily an object's shape can be changed. Size is how big something is. Shape is the form an object has. Texture is the way the surface of an object feels to the touch.

Fill in this table following along with the powerpoint.

Physical Property	How is it measured?
Mass	
Volume of liquids	
Volume of rectangular prism	
Volume of irregularly shaped object	
Temperature	

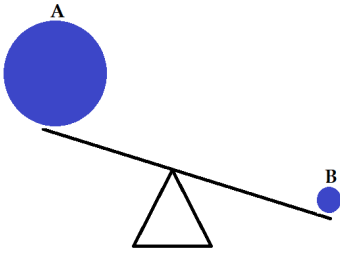
How is mass different from volume? \_\_\_\_\_

### Check What You Know

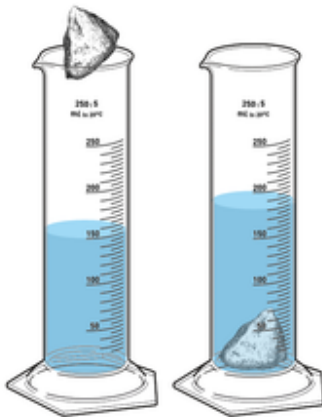


1. Look at the picture above. What can you determine about the picture?

- A. A has more mass than object B.
- B. Object B has more mass than object A.
- C. Object A has the same volume as object B.
- D. Object B has a greater volume than object A.



2. Look at the picture above. What can you determine about the picture?
- A. Object A has a greater volume than object B.
  - B. Object B has a greater volume than object A.
  - C. Object A has the same volume as object B.
  - D. Object A has more mass than object B.
3. Bob and Mary had four different objects that were the same size. They wanted to find out if they all had the same mass. Which tool would they use?
- A. Graduated cylinder
  - B. Meter Stick
  - C. Balance Scale
  - D. Spring Scale



4. Look at the picture above. If the beginning volume in the graduated cylinder is 100 mL and the ending volume in the graduated cylinder is 160 mL, what is the volume of the rock?
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**Check What You Know:** Use the table below to answer the 2 questions.

Kyle and Jan are comparing two samples of matter. They make a table of the physical properties of each sample.

Properties Of Samples

Property	Sample 1	Sample 2
Color	Red	Blue
Mass (grams)	30	5
Shape	Pyramid	Cube
Volume (milliliters)	40	3
Texture	Bumpy	Hard

Which physical properties are measurable?

- A. Color & Mass
- B. Mass & Volume
- C. Shape & Texture
- D. Volume & Texture

Which physical properties are observable?

- E. Color & Mass
- F. Mass & Volume
- G. Shape & Texture
- H. Volume & Texture

**What Do You Think?**



Have you ever made a drink using a powdered drink mix (such as Kool-Aid or Gatorade)?

Did the powder dissolve completely?

Did you need to do anything to help the powder dissolve?

Do you think that all powders will mix as evenly or as quickly as others? Why or why not?

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### Check What You Know:

1. Ming wants to dissolve 10 grams of salt in water. Which of the following will make the salt dissolve fastest?
  - a. using cold water and stirring in the mixture
  - b. using hot water without stirring the mixture
  - c. using hot water and stirring the mixture
  - d. using cold water without stirring the mixture
  
2. Keila is working on an experiment for her class. She mixes sugar and water in glass A. She mixes sand and water in glass B. She mixes iron paper clips and water in glass C.

Why does sugar seem to disappear when it is mixed with water but the sand and iron filings do not?

Explain your answer. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_