

## Formative Assessment #1

<b>Concept(s) Assessed</b>	Matter has physical properties (mass, volume, and density) that may be measured.
<b>Time</b>	30 minutes
<b>Materials</b>	<u>Individual</u> Prompt
<b>Advance</b>	
<b>Preparation</b>	1. Duplicate prompt for each student

### Procedure:

1. Tell students they will have an opportunity to share what they understand about matter and its physical properties.
2. Distribute the prompt to each student and ask him/her to do his/her best work.

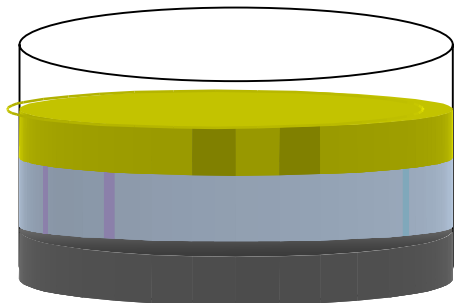
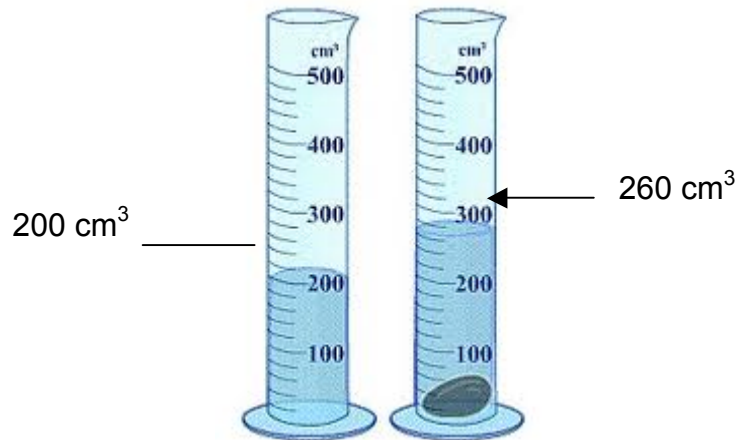
## Physical Properties of Matter Assessment: Prompt

Use the vocabulary in the box to fill in the blanks below.

density	volume
mass	

1. Comparing the mass of an object to its volume is a measure of its \_\_\_\_\_.
2. The amount of space that matter takes up is its \_\_\_\_\_.
3. The amount of matter in an object is its \_\_\_\_\_.
4. What is the volume of the pebble that has been placed in the graduated cylinder?

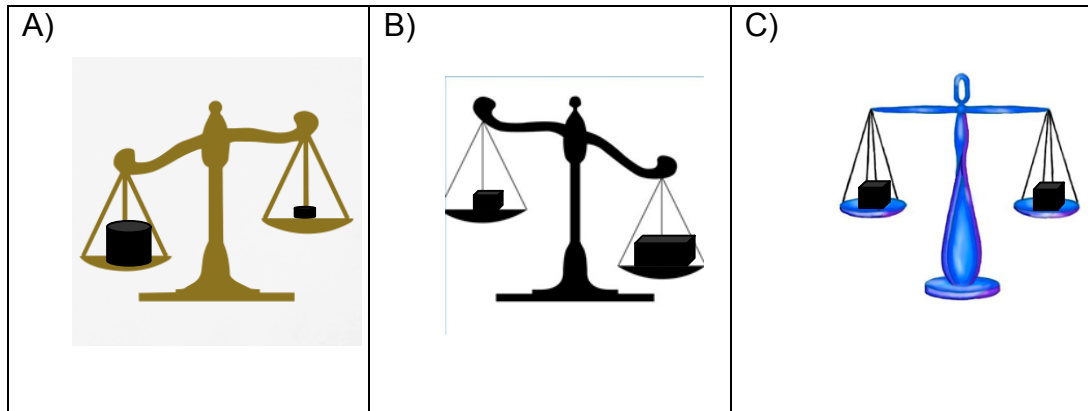
The volume of the pebble is \_\_\_\_\_  $\text{cm}^3$



5. List these liquids in order from **greatest to least** density.

A) \_\_\_\_\_  
B) \_\_\_\_\_  
C) \_\_\_\_\_

6. Circle the letter in the box which shows two objects of equal mass.



7. A. Define mass, volume and density.

B. Use examples from real life to show how density, mass and volume are connected.

C. Draw pictures to help in your explanation.

8.



While cleaning the tank of sea animals, the marine biologists placed a crab in a bucket of water. At first the bucket had 10 liters of water. After putting in the crab, the water level went up to 12 liters. Explain why you think the water level changed. You may include a picture to help explain your answer.

# Formative Assessment #1

## Physical Properties of Matter

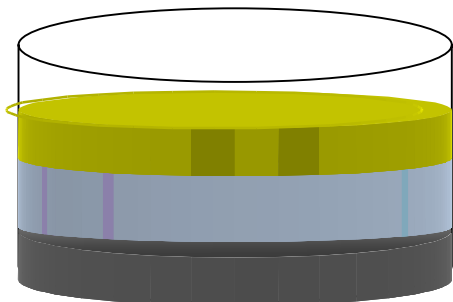
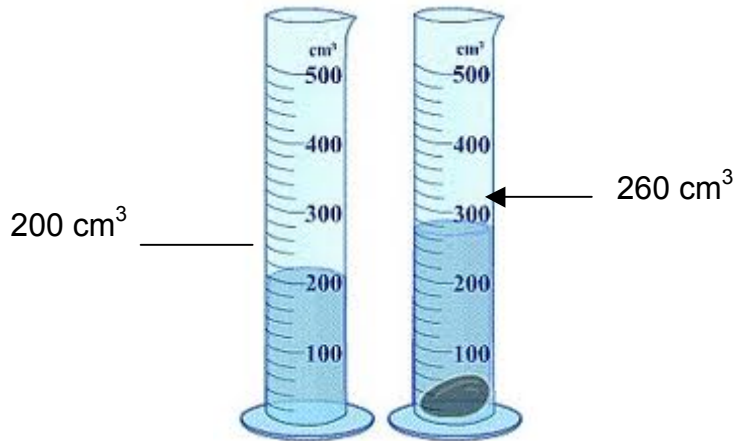
### Expected Student Responses for a High Level Response

Use the vocabulary in the box to fill in the blanks below.

<b>density</b>	<b>volume</b>
	<b>mass</b>

1. Comparing the mass of an object to its volume is a measure of its density.
2. The amount of space that matter takes up is its volume.
3. The amount of matter in an object is its mass.
4. What is the volume of the pebble that has been placed in the graduated cylinder?

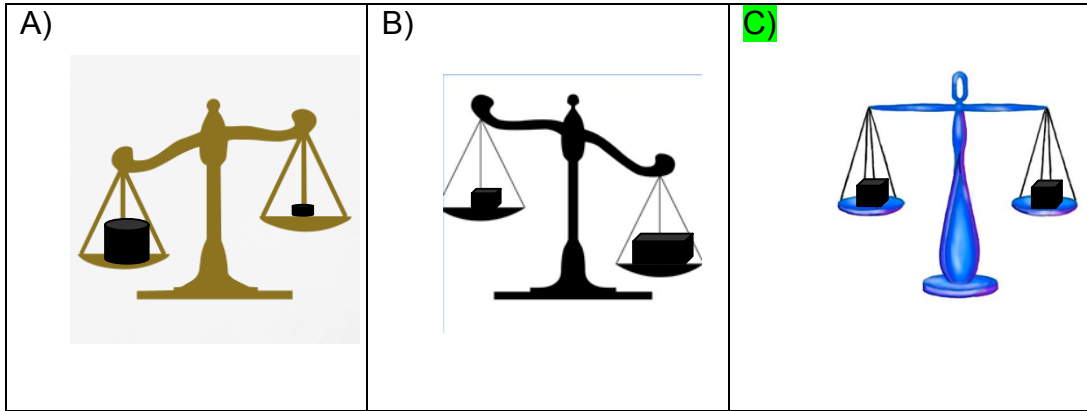
The volume of the pebble is 60cm<sup>3</sup>



5. List these liquids in order from **greatest to least** density.

- A) Syrup
- B) Water
- C) Oil

6. Circle the letter in the box which shows two objects of equal mass.



7. A. Define mass, volume and density.

*Mass is the amount of matter in an object.*

*Volume is the space taken up by matter.*

*Density is the amount of matter (mass) in a given space (volume).*

B. Use examples from real life to show how density, mass and volume are connected.

*Liquid layers demonstrates how one liquid floats above another because it is less dense than the liquid below it.*

*Objects floating in a pool demonstrates how an object is able to float a liquid because it is less dense than the liquid.*

*Bubbles on top of bubble bath demonstrates how bubble are less dense than the water on which they float.*

C. Draw pictures to help in your explanation.

8.



While cleaning the tank of sea animals, the marine biologists placed a crab in a bucket of water. At first the bucket had 10 liters of water. After putting in the crab, the water level went up to 12 liters. Explain why you think the water level changed. You may include a picture to help explain your answer.

*The water level changed from 10 liters to 12 liters because the crab took up 2 liters of space.*