

## Vocabulary and Concepts: Physical Science

Matter: anything that has mass and volume (The "stuff" around us)

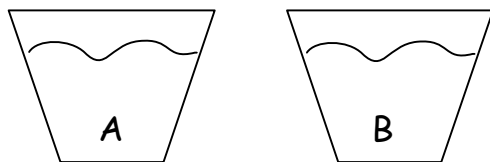
Mass: a measure of how much "stuff" there is in an object

Volume: how much space the "stuff" takes up

Density: The amount of "stuff" in a given space.

1. The more "stuff" in a given space, the more dense it is. (more, less)

2. Angelena scooped 40g brown sugar (matter) into cup A, and then scooped 40g brown sugar into cup B. Fill in the ○s with <, >, or = to make the statement true.

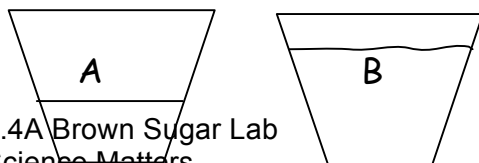


Mass in Cup A ( = ) Mass in Cup B

Volume in Cup A ( = ) Volume in Cup B

Density in Cup A ( = ) Density in Cup B

3. Now, Miguel smashes down the brown sugar in cup A and fluffs up the brown sugar in cup B. He doesn't add or subtract any sugar. Fill in the ○s with <, >, or = to make the statement true.

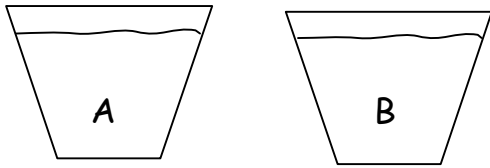


Mass in Cup A ( = ) Mass in Cup B

Volume in Cup A ( < ) Volume in Cup B

Density in Cup A ( > ) Density in Cup B

4. Finally, Felicia adds 4 spoonfuls of brown sugar to cup A and smashes it down. Now the cups are filled to the same level, but cup A is packed tightly and cup B is packed loosely. Fill in the  $\circ$ s with  $<$ ,  $>$ , or  $=$  to make the statement true.



Mass in Cup A  $\circ$  Mass in Cup B

Volume in Cup A  $\circ$  Volume in Cup B

Density in Cup A  $\circ$  Density in Cup B

5. Write about or draw: What have you learned about matter, mass, density, and volume? How are mass, density and volume connected?

Density is the amount of "stuff" (matter) in a given space, or the relationship between mass and volume. All matter has mass and volume. When you have two cups with the same volume and you pack more "stuff" (mass) into one of them, the cup with more "stuff" is denser than the other cup.