

## Brainpop—States of Matter

Name:

Period:

Watch the Brainpop on states of matter, then answer the questions below.

- \_\_\_\_\_ 1. Which statement best describes matter?
- matter is anything that is solid
  - matter is anything that takes up space
  - matter is anything that has a fixed volume
  - matter is anything that can be seen
- \_\_\_\_\_ 2. What is all matter made of?
- atoms
  - molecules
  - solids
  - liquids
  - gases
- \_\_\_\_\_ 3. The chemical formula for water is H<sub>2</sub>O. What does this code mean?
- water is composed of hydrogen molecules and oxygen molecules
  - when hot, water contains 20 hydrogen atoms
  - each water molecule contains two hydrogen atoms and one oxygen atom
  - when heated, water turns 2 steam
- \_\_\_\_\_ 4. In what way are liquids different from solids?
- liquid molecules are lighter than solid molecules
  - liquids are made of atoms; solids are made of molecules
  - liquids don't have a fixed shape; solids do
  - liquids are always heavier than solids
- \_\_\_\_\_ 5. What is the basic shape of a liquid?
- a sphere
  - the same as a gas, only rounder
  - a cube
  - whatever the shape of its container is
- \_\_\_\_\_ 6. What happens to the chemical structure of water when it changes into a different state of matter?
- water molecules break apart to form individual atoms
  - water molecules harden into ice molecules
  - water molecules melt into gas molecules
  - nothing happens to the chemical structure
- \_\_\_\_\_ 7. What will happen if you keep increasing the temperature of a liquid?
- it will eventually boil
  - it will eventually melt
  - it will eventually solidify
  - nothing
- \_\_\_\_\_ 8. How can you remove energy from matter?
- by increasing its volume
  - by lowering its temperature
  - by increasing its pressure
  - by boiling it
- \_\_\_\_\_ 9. Gases have a tendency to expand. What's the best synonym for "expand"?
- collide
  - spread out
  - shrink
  - boil
- \_\_\_\_\_ 10. What would be the best way to describe the movement of particles in a solid?
- they move quickly in all directions
  - they move slowly and slide past each other
  - they barely move and vibrate in place
  - they don't move at all

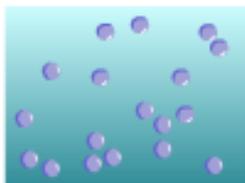
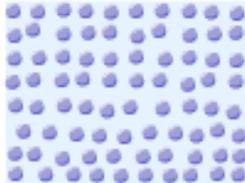
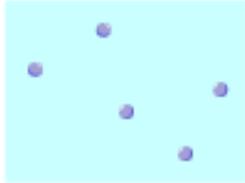
Determine if the statement is true or false. If false, replace the word in **bold** with the correct word on the line. If true, write "true" on the line. Possible word choices are provided below:

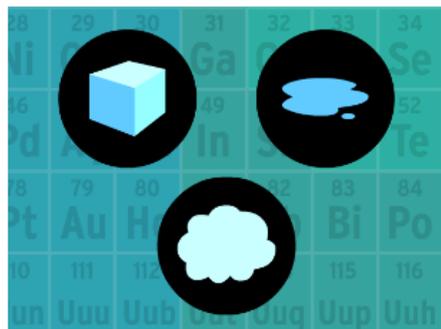
energy    molecules    volume

- \_\_\_\_\_ All matter is made up of tiny particles called **ATOMS**.
- \_\_\_\_\_ Liquids have a fixed **TEMPERATURE**, but no fixed shape.
- \_\_\_\_\_ Molecules of ice have less **MASS** than molecules of water.

Practice: 8 points, Assessment: 2 points

**Match the object on the left with the configuration of its molecules on the right.**

	<ul style="list-style-type: none"> <li>• a bar of gold _____</li> </ul>	<p>A •</p>	
	<ul style="list-style-type: none"> <li>• a diving tank full of oxygen _____</li> </ul>	<p>B •</p>	
	<ul style="list-style-type: none"> <li>• lava erupting out of a volcano _____</li> </ul>	<p>C •</p>	



Why does the freezer in your refrigerator turn water (a liquid) into ice (a solid)? You must use the word **energy** in your answer.