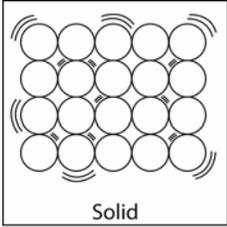
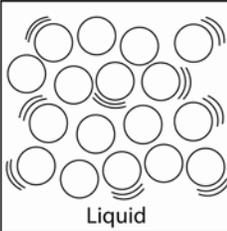
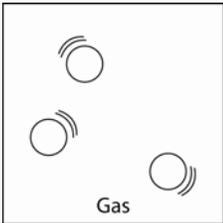


## Chapter 1, Lesson 5 Activity Sheet Answers

1. Since matter is anything that has mass and takes up space, it seems that gas must be matter. It takes up the space in the basketball and it does have some mass even though it is small.
2. The gas must have mass since the can had less mass after some gas was released from the can.
3. The molecules of a gas have weak attractions, are randomly arranged, and bounce off each other when they hit together.
4. When the bottle was placed in hot water, the soap film formed a bubble on top of the bottle.
5. When the bottle was placed in cold water, the bubble shrunk and may have gone inside the bottle.
6. The bubble formed when the bottle was placed in hot water because the molecules that make up the air inside the bottle moved faster. These molecules hit the inside of the bottle and detergent film harder and more often. They pushed against the detergent film hard enough that it was able to overcome the outside air pressure and made the bubble grow.
7. The bubble shrinks when the bottle is placed in cold water because the molecules that make up the air inside the bottle moved slower. These molecules hit the inside of the bottle and detergent film less often and with less force. The outside air pressure pushed harder on the outside of the bubble than the molecules pushed from the inside so the bubble got smaller.

- 8.
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|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
|  <p style="text-align: center;">Solid</p>  | Attractions strong enough to keep atoms in orderly arrangement<br>Vibrate in fixed positions<br>Definite shape and volume           |
|  <p style="text-align: center;">Liquid</p> | Attractions keep particles together but they can slide past each other<br>Random arrangement<br>Definite volume, not definite shape |
|  <p style="text-align: center;">Gas</p>    | Attractions too weak to keep particles together<br>Particles move independently<br>No definite shape or volume                      |

9. Maybe the owner is afraid that the heat in the car will cause the molecules in the balloons to move faster and push hard enough on the inside of the balloon to make it pop.