



SURGESTART
—ACHIEVEMENT ACADEMY—

States of Matter Lab

Explore Solids, Liquids,
and Gases!



SOLID



LIQUID



GAS



Name: _____



What Are States of Matter?

All matter is made of tiny particles.

Matter can be solid, liquid, or gas.



Solids

- Keep their shape
- Have a fixed volume
- Particles are close together

Example: ice



Liquids

- Take the shape of their container
- Have a fixed volume
- Particles are close, but can slide

Example: water



Gases

- Take the shape and volume of their container
- Particles are far apart and move freely

Example: air



Lab Safety First!

- ★ Ask an adult to help you.
- ★ Use materials safely.
- ★ Do not taste anything.
- ★ Be careful with hot or cold items.
- ★ Clean up when you are done.



Materials You May Need

- Ice cubes
- Water
- Measuring cup
- Baking soda
- Vinegar
- Balloon
- Spoon
- Bowl or cup
- Thermometer (optional)





Experiment 1: Melting Ice (Solid to Liquid)

What to Do:

1. Put 2–3 ice cubes in a bowl.
2. Watch what happens.
3. Wait for the ice to melt.
4. Write or draw your observations.

What Happened?

What State Is It Now?

☐ Solid

☐ Liquid

☐ Gas





Experiment 2: Water Takes Shape

What to Do:

1. Pour water into a cup.
2. Pour the water into a different shaped container.
3. What happened?

What Happened?

What State Is It?

☐ Solid

☐ Liquid

☐ Gas



Experiment 3: Making a Gas

What to Do:

1. Put 2 tablespoons of baking soda into a cup.
2. Slowly add 1/4 cup of vinegar.
3. Watch what happens.
4. Quickly stretch a balloon over the top of the cup.
5. What happens to the balloon?

What Happened?



Sort It!

Look at the pictures below.

Write S for solid, L for liquid, or G for gas.





Think & Answer

Answer the questions.

- 1 What state is ice?

- 2 What state is water?

- 3 What state is the air we breathe?

- 4 Can a solid turn into a liquid?
Yes or No _____
- 5 Can a liquid turn into a gas?
Yes or No _____
- 6 Give an example of each state of matter.

Solid: _____ Liquid: _____ Gas: _____

Real World Examples

Write S, L, or G to show the state of matter in each example.



The clouds in the sky



Orange juice



The desk



Steam from a hot pot



Ocean water



Air in a soccer ball



What I Learned

What is something new you learned
about states of matter?

Draw a picture of your favorite experiment.



**Great Job,
Science Explorer!**

