

Activity 1.3 States of Matter

Introduction

We have learned that matter is anything that has mass and takes up space. Matter can be found in different forms: solid, liquid, or gas. These forms of matter are called states of matter. The state of matter can change when objects are heated or cooled.

You observed solid and liquid forms of matter when you made sketches of the matter in the resealable bag when it was frozen (a solid) and when it melted (a liquid). Can you think of another example of matter in your classroom that is solid? Where have you seen liquid matter today? Can you think of matter that is in the form of a gas?

In this activity you will observe and describe the changes between states of matter as a result of temperature change. Some of these changes will be reversible, and other changes will be irreversible.

Equipment

- For demonstration:
 - 3 Resealable bags
 - Tube with 1 crayon
 - Tube with water
 - Tube with air
 - Permanent marker
 - Teacher computer and projector
 - Resealable bag with solid ice
 - Leaves (either collected by students or teacher)
 - Freezer or ice and cooler

Procedure

1. Follow your teacher's directions to complete the matching activity below.

Directions: Draw a line to match the object with the correct state of matter.

Juice



Bubbles in soda



Sugar



Chair



Bar of soap



Gasoline



Solid

Liquid

Gas

2. Using the following images, draw water in the cups in your Launch Log. Color the entire area that is filled with water.



3. You will have a leaf to observe. Sketch the leaf in your Launch Log, then color and draw the texture on the leaf.
4. Your teacher froze the leaf you drew above. Draw the leaf now that it has been frozen and warmed back to room temperature in your Launch Log.

Conclusion Questions

Answer the following conclusion questions in your Launch Log.

1. Circle the changes that are reversible:
Melting ice Baking a cake Freezing a leaf Freezing water
2. Circle the changes that are **not** reversible:
Melting ice Baking a cake Freezing a leaf Freezing water
3. List one reversible change not listed above and explain how this change is reversible.
4. List one non-reversible change not listed above and explain how this change is non-reversible.