

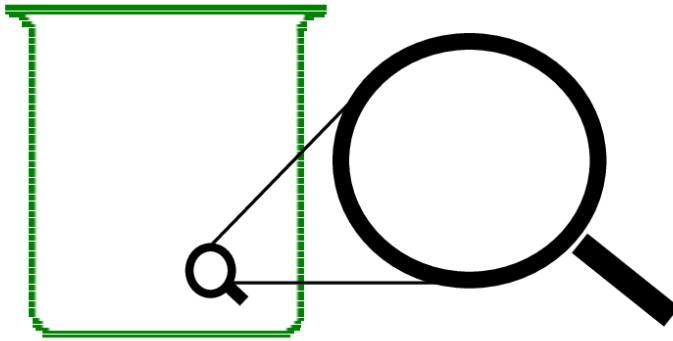
Name: _____

Use page 180 and 181 in Eukera to help you complete the following

Solid

Draw a solid inside the container.

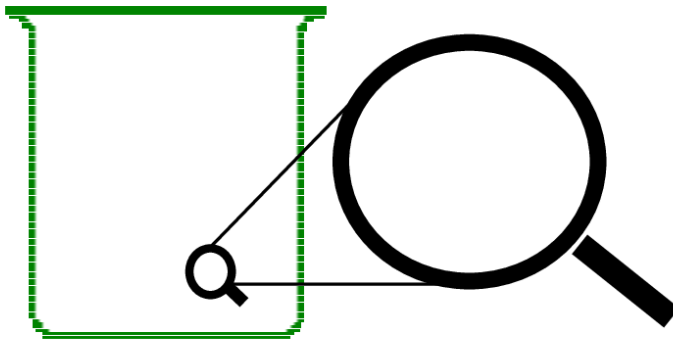
Then draw what the solid looks like through a magnifying glass.



Liquid

Draw a liquid inside the container.

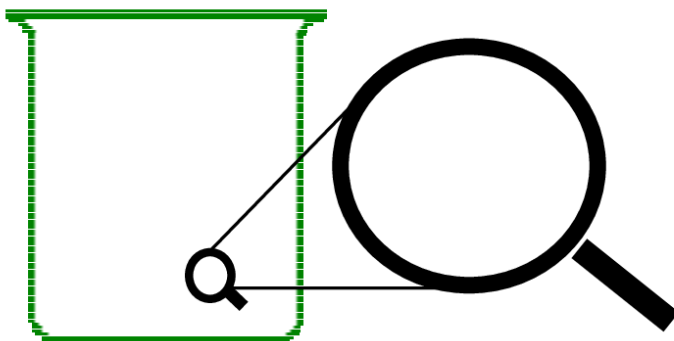
Then draw what the liquid looks like through a magnifying glass.



Gas

Draw a gas inside the container.

Then draw what the gas looks like through a magnifying glass.



Name: _____

Why Does Matter Matter?

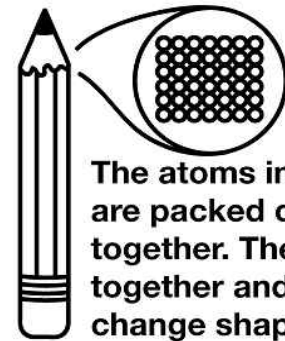
by Kelly Hashway

What do trees, air, and water have in common? They all have matter. That means they take up space. You might be wondering why these things look so different if they all have matter. Everything found on Earth can be grouped into one of three states of matter: solid, liquid, or gas. In order to figure out which state of matter an object fits in, we have to examine its properties. The properties we look at are shape, mass, and volume. Mass is the amount of matter an object has, and volume is the amount of space the matter takes up.

Solids are easy to recognize. They have definite shape, mass, and volume. Trees are solids. They are made up of tiny particles called atoms. These atoms are packed closely together, and they hold the solid in a definite shape that does not change. If you look around your house, you will see lots of solids. Televisions, beds, tables, chairs, and even the food you eat.

Liquids do not have definite shape, but they do have definite mass and volume. Liquids are similar to solids because their atoms are close together, but what makes a liquid different is that those atoms can move around. Liquids can change shape by flowing. If you've ever spilled a glass of milk, then you know it spreads out across the floor. It does this because the milk is taking the shape of the floor. Since liquids do not have a definite shape of their own, they will take the shape of their containers. This is why the same amount of milk can look different in a tall glass, a wide mug, or spread out on your kitchen floor.

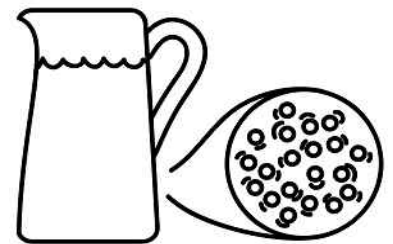
Solid



The atoms in a solid are packed closely together. They bond together and do not change shape.

Liquid

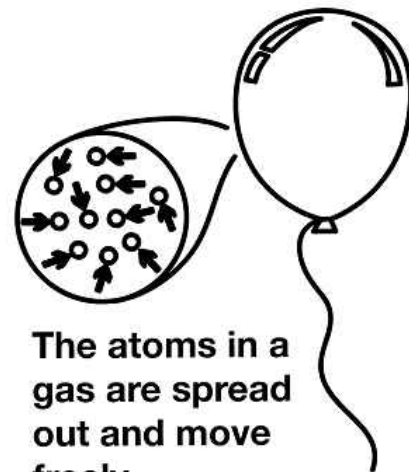
The atoms in a liquid are close together. They slide around.



Gases do not have definite shape or volume. Like liquids, gasses will take the shape of their containers. If a gas is not in a container, it will spread out indefinitely. This is because the atoms in a gas are spaced farther apart than in a solid or a liquid. And being spread out like this allows them to move around freely. Think about the air you breathe everyday. That air is spread across the empty space around the earth. You've probably also noticed that you usually cannot see the air. This is another property of gases. Even though we cannot see them, you come in contact with them everyday. There's air in the tires of your family car and your bicycle. The sun is made up of gases, and the clouds in the sky are mostly made from water vapor.

When trying to remember the three states of matter, think about water. If it freezes into a solid, it becomes ice. Its atoms are packed together keeping its shape. Of course, we know water can also be a liquid. It flows in rivers or it can be poured from a glass. When water evaporates it becomes water vapor, a type of gas in the air. Try a little experiment of your own by placing an ice cube in a covered glass or container. You will be able to observe the ice first in its solid form and then watch as it melts into a liquid to become water. Eventually the water will turn to water vapor and your glass or container will be filled with this gas.

Gas



The atoms in a gas are spread out and move freely.



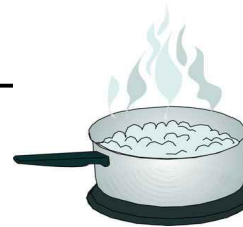
You can see three different states of matter in this picture. The pot is made of solid matter. The water inside the pot is liquid. When the liquid is heated it becomes water vapor, which is a gas.

Matter is everywhere! Can you find a solid, a liquid, and a gas around you right now?

Name: _____

Why Does Matter Matter?

by Kelly Hashway



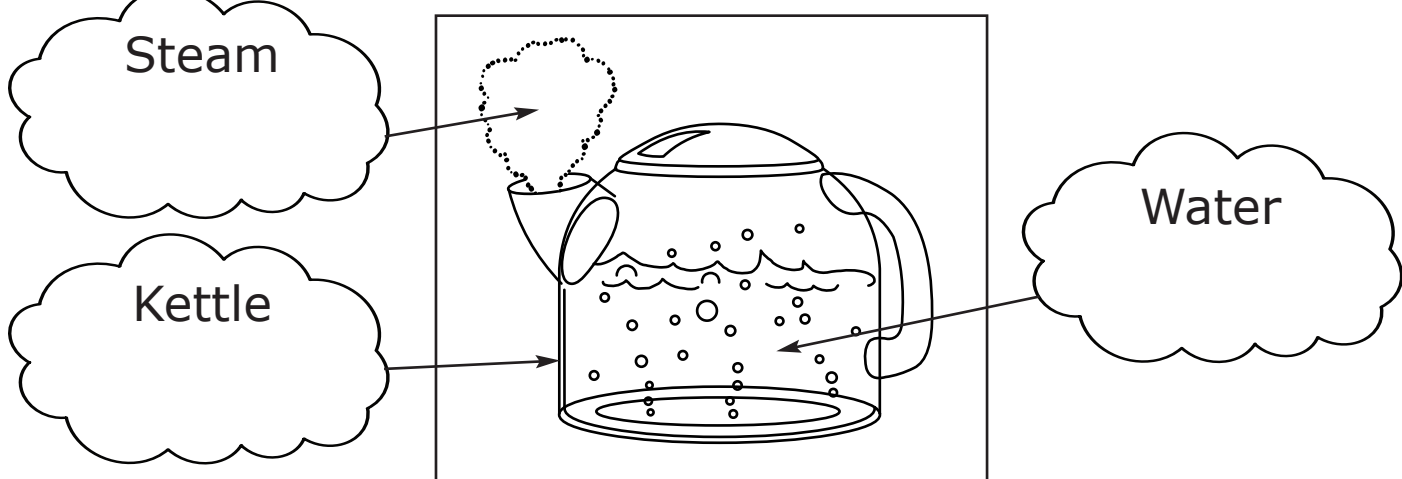
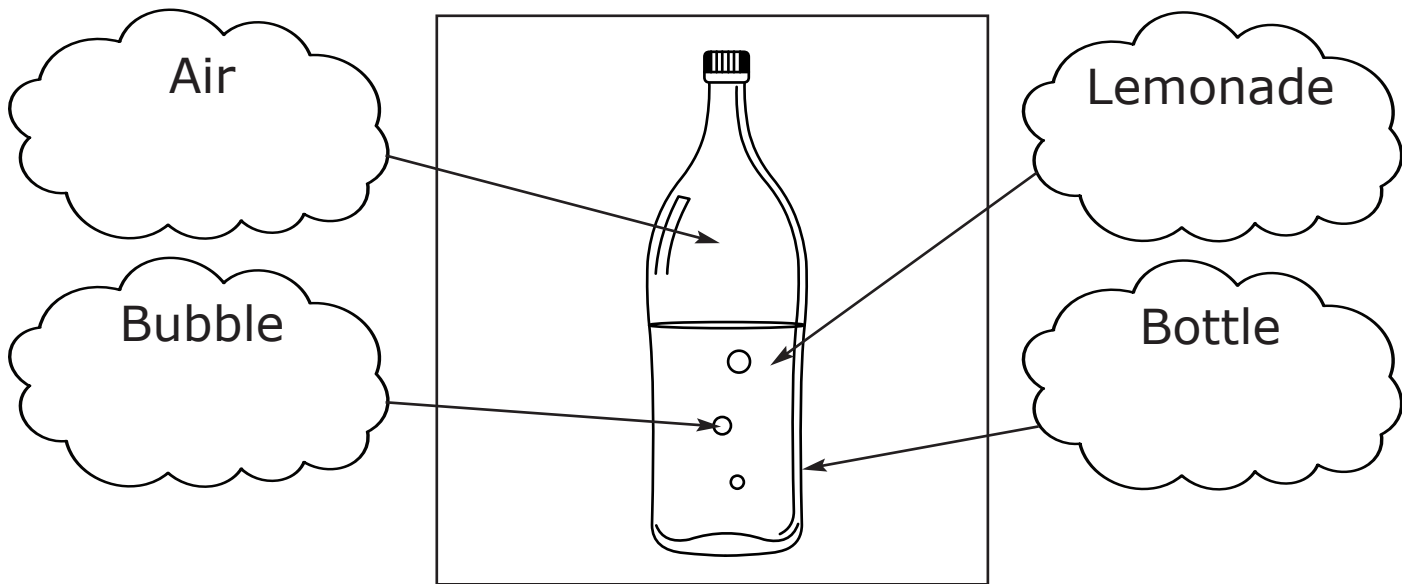
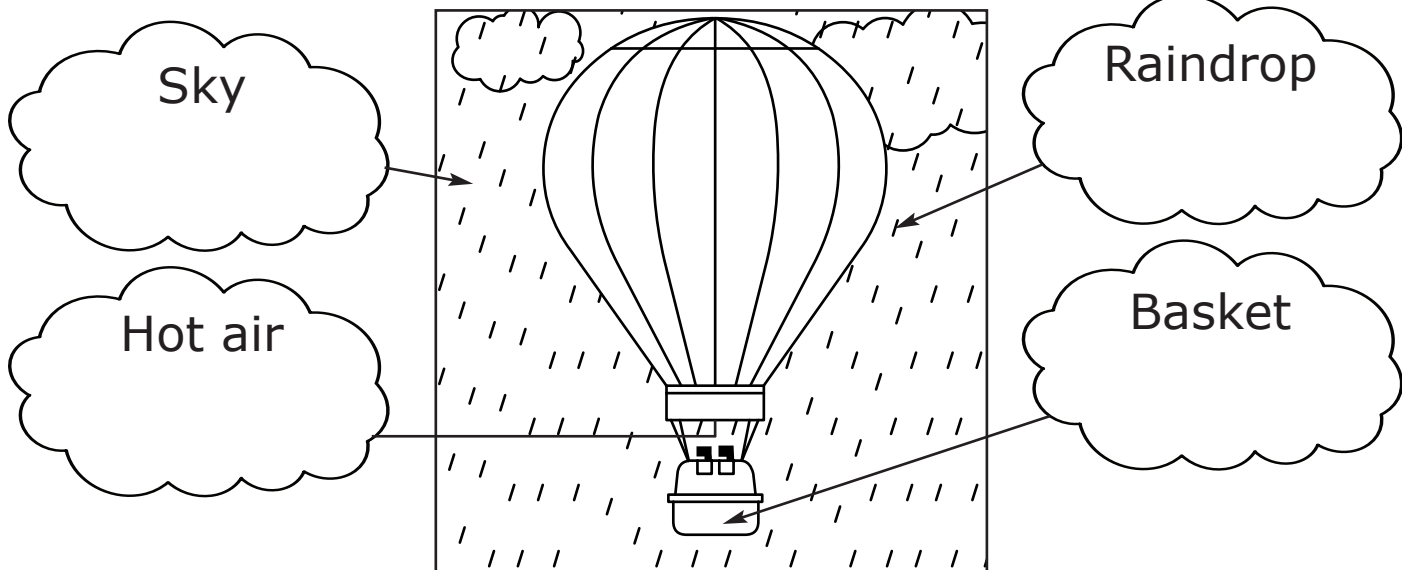
solids	volume	container	matter	ice	juice
gases	mass	atoms	chair	air	melting
liquids	shape	space	milk	clouds	

Choose a word from the box to complete each sentence.

1. The three basic properties of matter are _____,
_____, and _____.
2. All matter is made up of tiny particles called _____.
3. Volume is the amount of _____ that matter takes up.
4. Mass is the amount of _____ an object has.
5. Liquids take the shape of their _____.
6. _____ do not have a definite shape or volume.
7. _____ do not have a definite shape, but they do have a definite volume.
8. _____ have a definite shape and volume.
9. A _____ and _____ are examples of solids.
10. _____ and _____ are examples of liquids.
11. _____ and _____ are examples of gas.
12. Solid ice is _____ when it is changing into a liquid.

Name: Date:

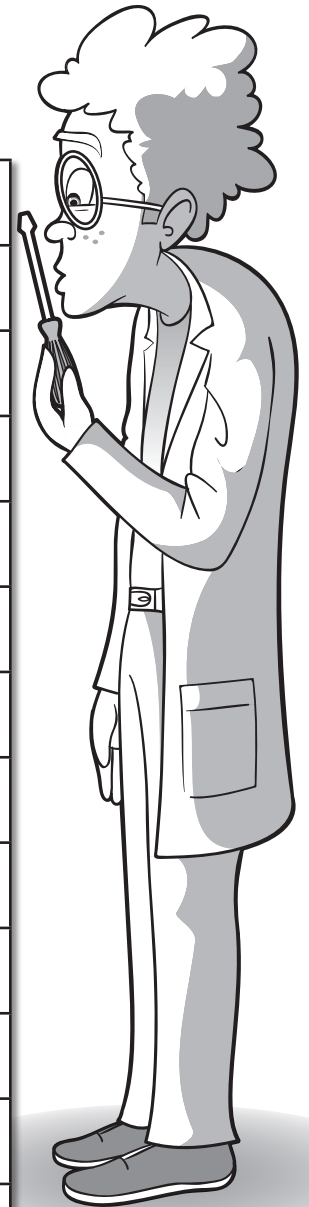
Look at the pictures. Write in each box whether the part is a solid, a liquid or a gas.



As a Matter of Fact...

In each row, cross out the solid, liquid, or gas that does not belong. Then multiply the remaining numbers and write the product in the puzzle.

W	dirt	2	oil	4	gold	4	ice	5	40
H	paper	3	cola	9	milk	8	water	1	
E	oxygen	2	helium	9	water	8	hydrogen	10	
O	silver	10	wood	1	coal	5	carbon dioxide	9	
T	peanut butter	2	milk	7	bread	6	knife	10	
A	lemon	6	juice	4	water	9	vinegar	3	
I	brush	3	lotion	5	comb	10	towel	5	
N	propane	4	neon	8	copper	3	nitrogen	1	
D	root beer	8	ginger ale	6	lemonade	3	helium	7	
R	tomato soup	7	spoon	6	bowl	1	cracker	2	
Z	carbon dioxide	5	ice	1	oxygen	7	hydrogen	6	
P	milk	9	juice	2	ranch dressing	5	tomato	7	
B	chocolate milk	2	lowfat milk	8	ice cream	1	chocolate syrup	4	
L	apple	3	orange	7	grape	8	juice	10	



Bonus: What do solids, liquids, and gases all have in common?

Why did the scientist disconnect his doorbell?

To find out, write each letter on its matching numbered line or lines.

$\frac{W}{72 \quad 180}$

$\frac{40}{32 \quad 108 \quad 32 \quad 120 \quad 180 \quad 144}$

$\frac{120 \quad 50}{40 \quad 150 \quad 32}$

$\frac{120 \quad 72 \quad 180}{32 \quad 50 \quad 64 \quad 180 \quad 168 \quad 168}$

$\frac{90 \quad 12 \quad 150 \quad 210 \quad 180}{!}$

Name: _____

What's the Matter?



Tell whether each is a solid, liquid, or gas.

1. milk - _____

2. cookie - _____

3. oxygen - _____

4. fish - _____

5. pencil - _____

6. maple syrup - _____

7. shampoo - _____

8. carbon dioxide - _____

9. ice cube - _____

10. paint - _____

11. oil - _____

12. salt - _____

13. water vapor - _____

14. gasoline - _____

15. helium - _____

16. sand - _____

Complete each sentence with the word solid, liquid, or gas.

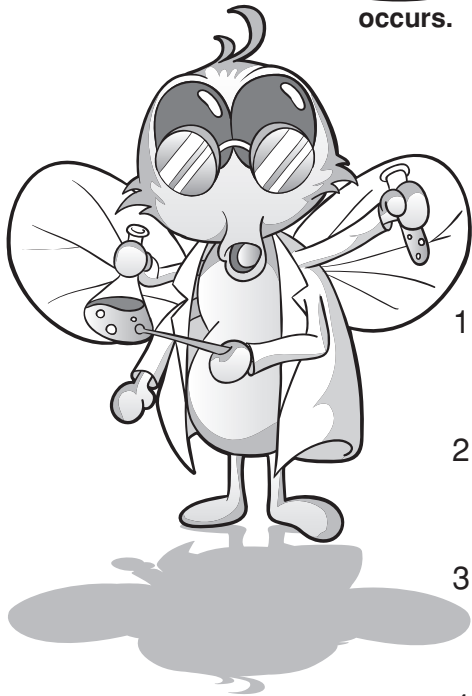
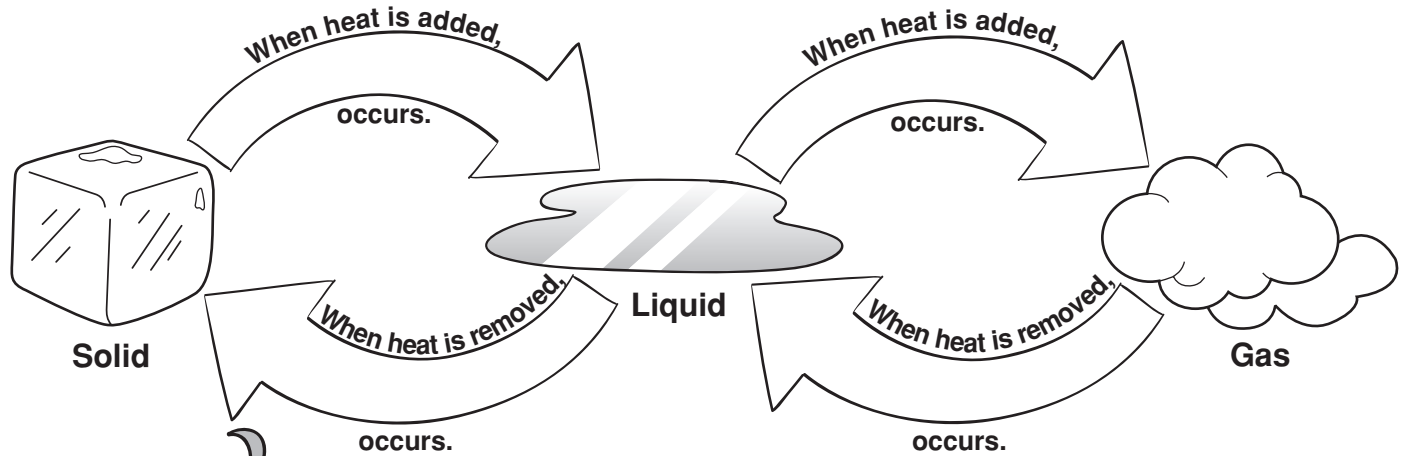
A _____ has a definite shape. It does not take the shape of its container. It also has a definite volume because it can be measured.

A _____ does not have a definite shape. It takes the shape of its container. It does have a definite volume because it can be measured.

A _____ does not have a definite shape. It sometimes takes the shape of its container and sometimes flies freely around you. These particles are not connected to each other and takes up whatever space is available.

Making Changes

Write each word from the word bank in the correct arrow. Then use the diagram to help answer the questions below.



Word Bank	
condensation	freezing
evaporation	melting

1. What happens to the molecules when a solid changes to a liquid?

2. When a solid changes to a liquid, what point has been reached?

3. What happens to the molecules when a liquid changes to a gas?

4. When a liquid changes to a gas, what point has been reached?

5. What is it called when a liquid changes to a gas? _____
6. What is it called when a gas changes to a liquid? _____

7. In the following word, how can the underlined letters help you remember its definition?

condense

8. In the following word, how can the underlined letters help you remember its definition?

evaporate