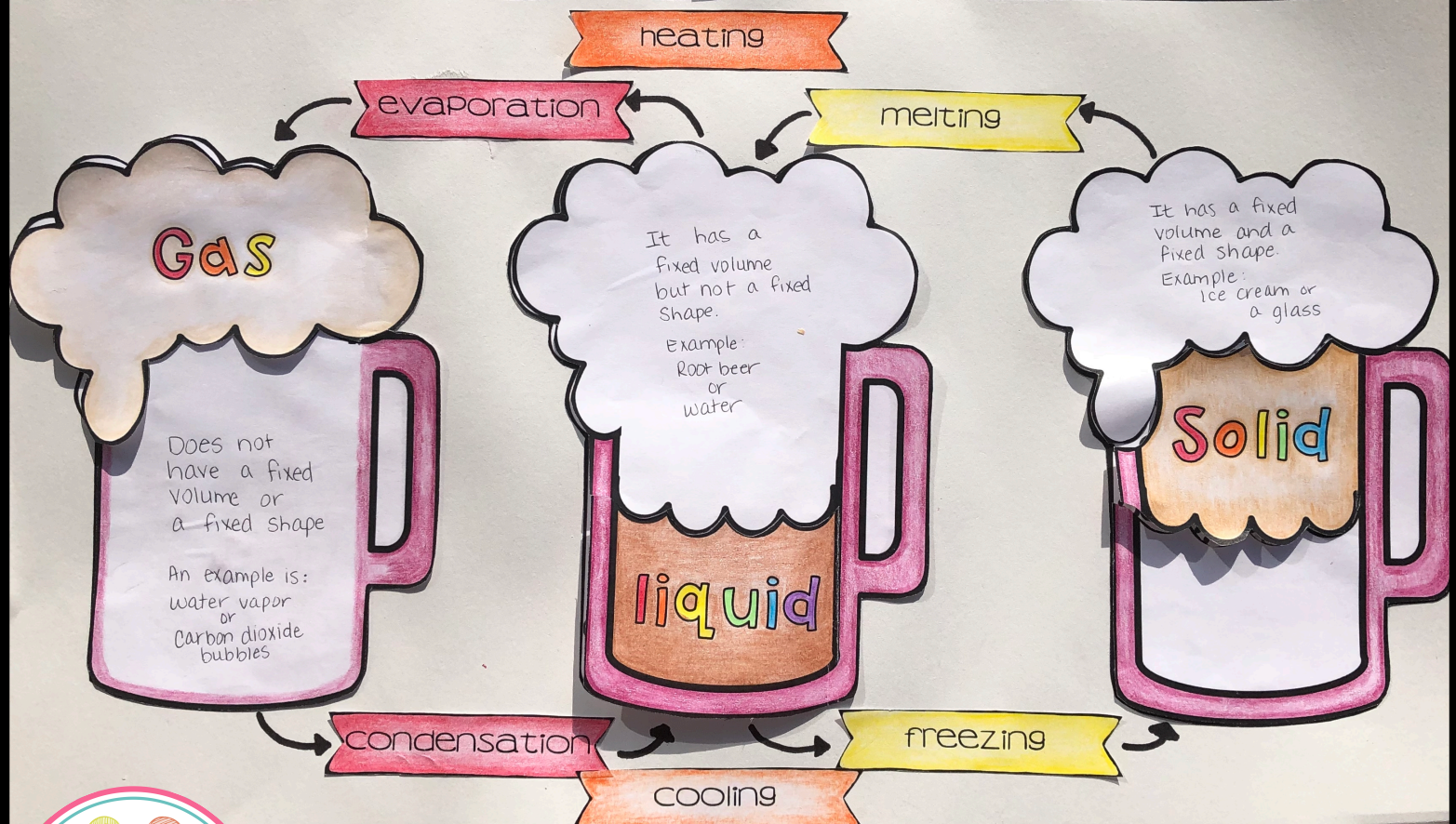


Craftivity Learning

STATES OF MATTER

Keeping States of Matter afloat!


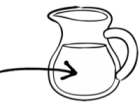

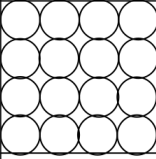
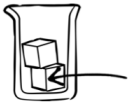


created by the owl teacher

Name _____

states of matter

Color the squares that are about liquids yellow, the squares about gases pink, and the squares about solids blue.

Things take this form when they freeze.		Water takes this form below 0°C	ROCK	It has no definite shape but has a definite
	HELIUM	LIQUID		
	It takes the shape of any container		GA	

Name _____

changing the states of matter

Substances can change from one state to another state by adding heat or removing it. For instance, water will change from a liquid form to a solid form once it reaches 0°C or colder. Water will also change from a liquid form to a gaseous form when the temperature reaches 100°C or higher. That's when it is called a water vapor.

There are four common state changes:

- melting (changing a solid to a liquid by adding heat)
- freezing (changing a liquid to a solid by removing heat)
- evaporation (changing a liquid to a gas by adding heat)

_____ to a liquid by removing heat)

_____ their movement (by speeding up or slowing down) and _____ apart.

_____ changes of matter happen:

_____ the change in the state of matter?

_____ e morning: _____

© THE OWL TEACHER

Name _____

states of matter

Particles are always moving, but not always in the same way. How the particles are moving and how they are arranged is determined by its state of matter.

There are three states of matter that you need to know. In a solid, the particles are close together and vibrate in place. They are often attached to one another. Because of this, they have a fixed volume and a fixed shape. This means that they don't change shape or volume; they are constant. Some solids are rocks, ice cubes, apples, and a table. They are visible.

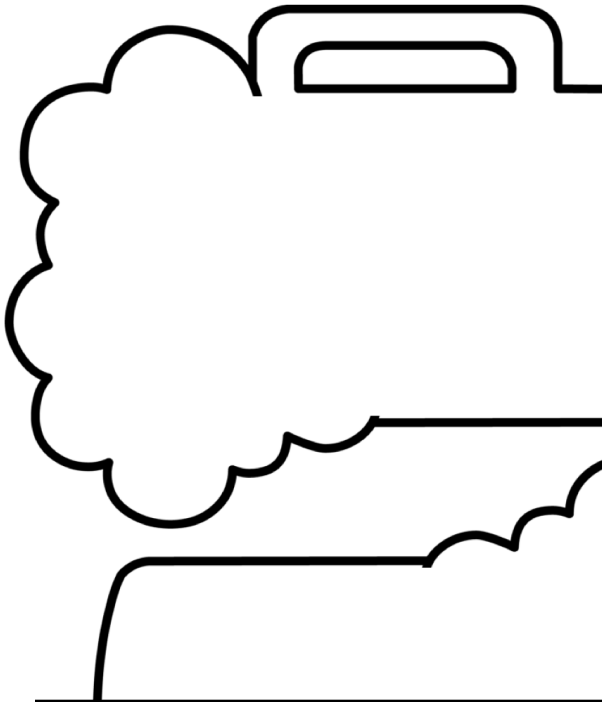
In a liquid, the particles are close together but not as tightly packed as a solid. They are able to move and slide past one another much like marbles in a bowl. Even when they are moving around, they stay near one another. This means that they have a fixed volume that stays constant, but not a fixed shape. Any amount of space they do take can't change, but the shape can. The shape can change to the shape of whatever container they are in. Liquids would be visible things like milk, water, and juice.

Gases are an invisible state of matter where particles are spread apart and move freely in all directions. They typically bounce off one another and the sides of the container they are in. They definitely don't stay near each other and are always moving. They do not have a fixed volume or a fixed shape. The amount of space they take up and the shape of the gas can change. That means, depending on the container it can get bigger or smaller. Oxygen, helium, and water vapor are all examples of gas.

Based off of the reading above, complete the chart below.

	Visible or invisible?	Shape	Volume	Particles	Example
Solid					
Liquid					
Gas					

© THE OWL TEACHER



condensation

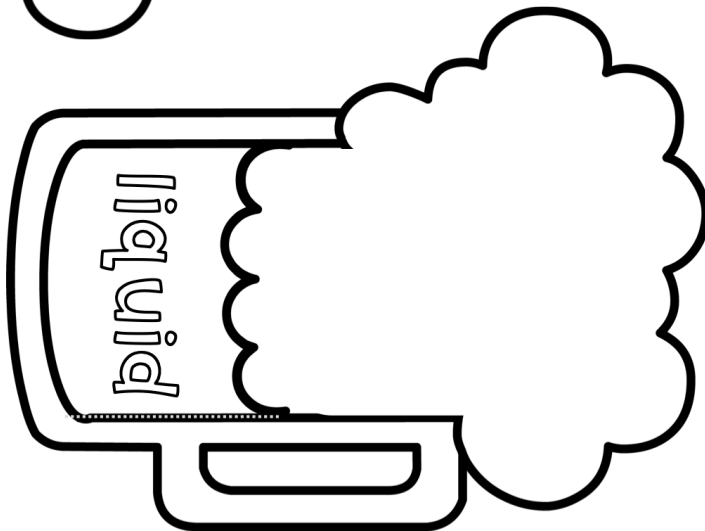
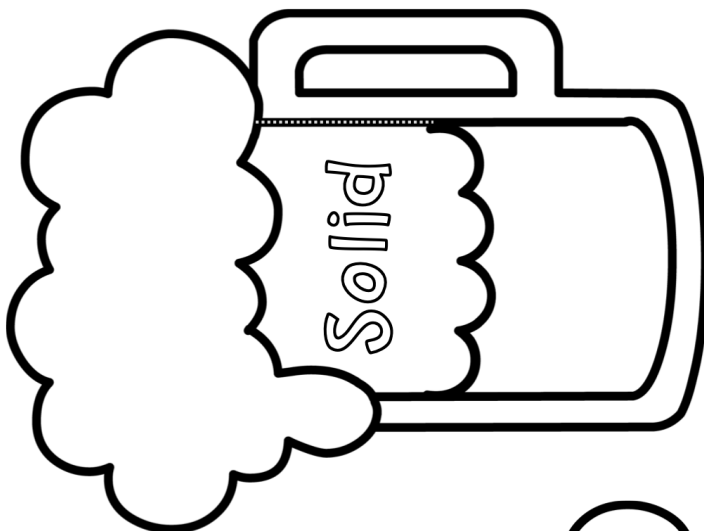
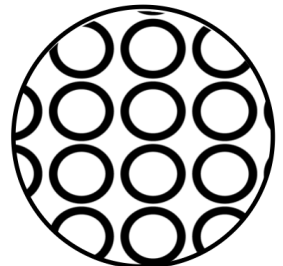
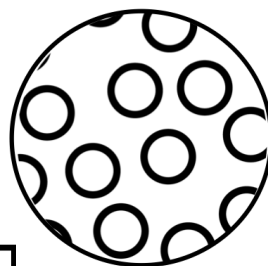
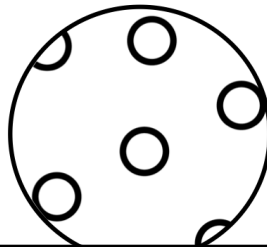
melting

evaporation

freezing

heating

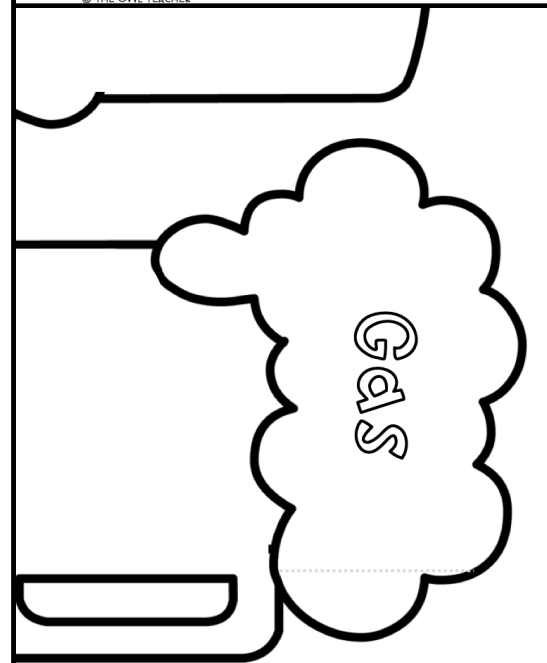
cooling



ing States

of Matter at

© THE OWL TEACHER



© THE OWL TEACHER

© THE OWL TEACHER

Name Key

states of matter

Color the squares that are about liquids yellow, the squares about gases pink, and the squares about solids blue.

Things take this form when they		Water takes this form below 0°C	ROCK	It has no definite shape but has a definite volume.
---------------------------------	--	---------------------------------	------	---

Name Key

changing the states of matter

Substances can change from one state to another state by adding heat or removing it. For instance, water will change from a liquid form to a solid form once it reaches 0°C or colder. Water will also change from a liquid form to a gaseous form when the temperature reaches 100°C or higher. That's when it is called a water vapor.

There are four common state changes:

- melting (changing a solid to a liquid by adding heat)
- freezing (changing a liquid to a solid by removing heat)
- evaporation (changing a liquid to a gas by adding heat)
- condensation (changing a gas to a liquid by removing heat)

In each of these the particles change their movement (by speeding up or slowing down) and either move closer together or farther apart.

1.) Give an example of when these changes of matter happen:

melting: Answers will vary. Check for reasonableness.

freezing: _____

evaporation: _____

	Water takes this form above 100°C
It has a definite volume and shape	It has a definite volume and shape
It can be poured	It can be poured

Name Key

states

Particles are always moving, but not always and how they are arranged is determined by

There are three states of matter that you see together and vibrate in place. They are often have a fixed volume and a fixed shape. This they are constant. Some solids are rocks, ice

In a liquid, the particles are close together but to move and slide past one another much like around, they stay near one another. This means constant, but not a fixed shape. Any amount can. The shape can change to the shape of visible things like milk, water, and juice.

Gases are an invisible state of matter where particles move in all directions. They typically bounce off one another. They definitely don't stay near each other and do not have a fixed volume or a fixed shape. The amount of space they take can change. That means, depending on the container, air and water vapor are all examples of gas.

Based off of the reading above, complete the

	Visible or invisible?	
Solid	visible	
Liquid	visible	no
Gas	invisible	

an example

