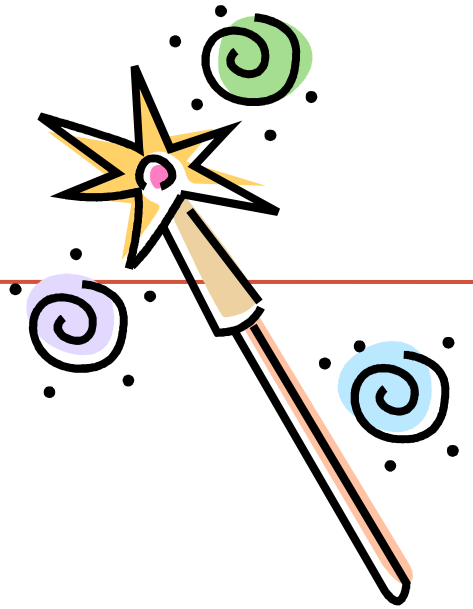
WHAT'S THE MATTER WITH ICE CREAM?

LESSON ONE

The Magic of Water

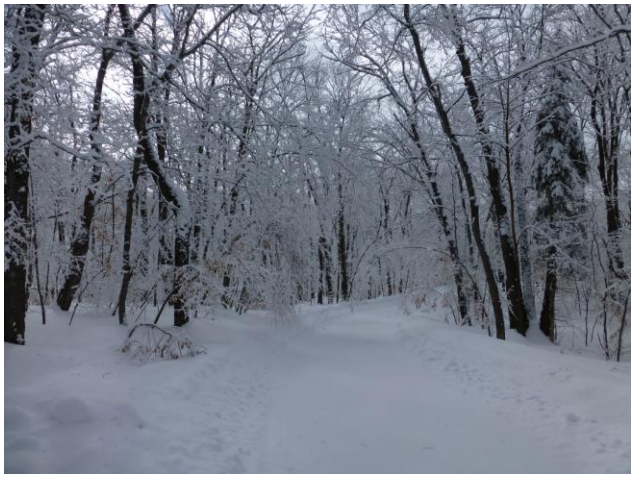


1-1 *Snowman*

1-2 *Making a Snowman*

1-3 *Cold and Freezing*

1-4 *Hot and Cold: Can Snowman live here? Can we make Snowman here?*



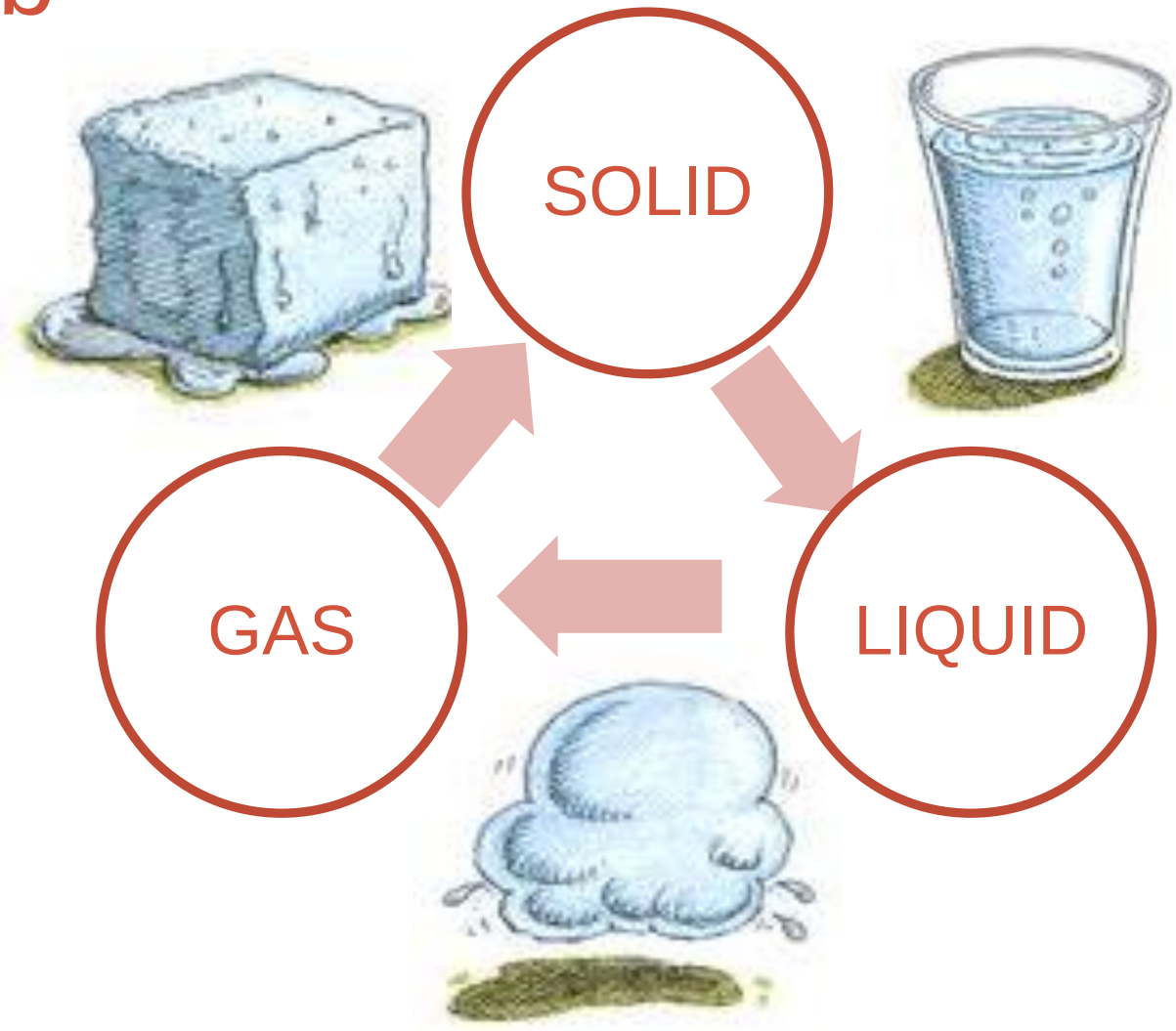
1-5a

1-5b *I am melting!*

1-6a

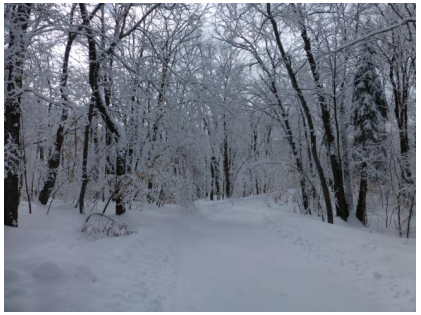
Ice is solid.➡ Water is liquid.➡Steam is gas.

1.6b

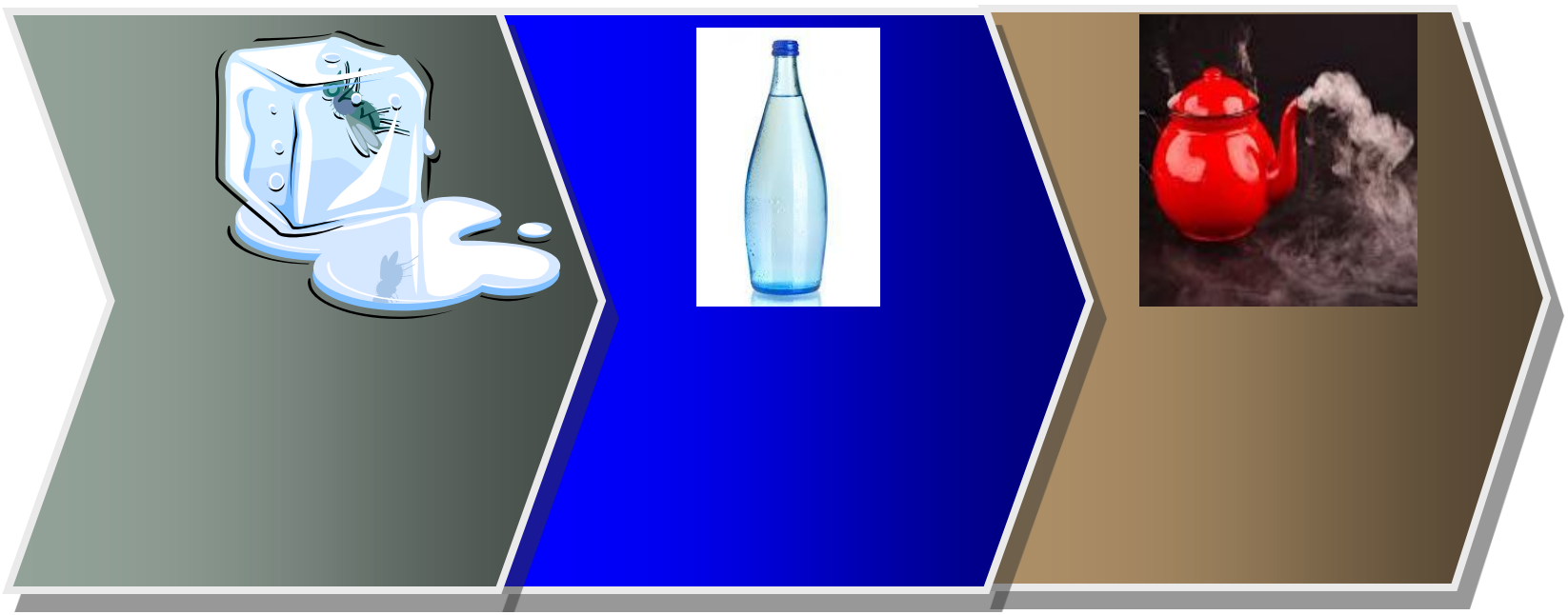


1-7 *Properties of water in three states*

How does it look, feel, smell, sound, and taste?



1- 8 *Water is matter.*
Can you tell others it comes in all 3 forms?



LESSON 2

The Three States of Matter

2-1a What is Matter?

Q: Is water matter?

2-1b What is Matter?

Matter is everything around you, including people.

2-2 Matter takes up space. Matter has volume or size.

2-3 What is matter?

Matter is anything that has volume, mass, and takes up space!

2-4 *What is matter?*

What is matter? What is matter?

Matter is everything.

Matter has mass.

Matter takes up space.

Matter makes up all things.

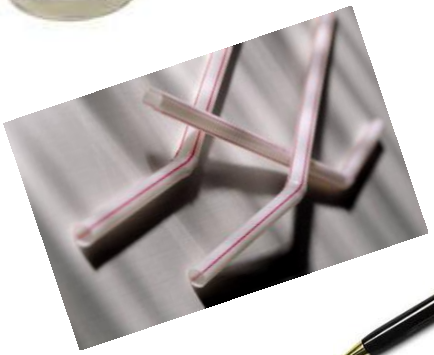
2-5 What is a solid? Do you remember?

Does a solid have a definite shape?

Does a solid have volume?

Does a solid take up space and have mass?

2-6 Which object is a solid?



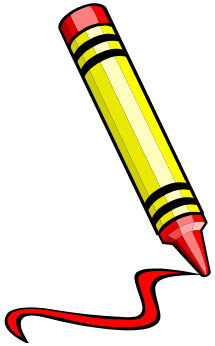
2-7

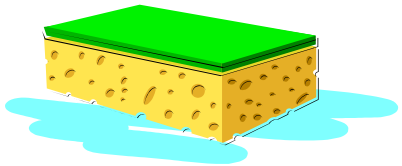
Which objects are rigid?

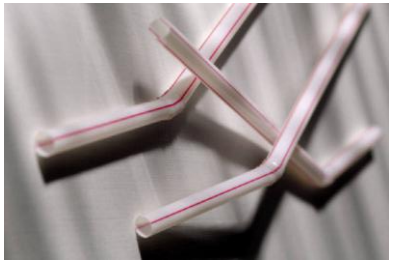
Which objects are bendable?

***Bendable** means that the matter can bend, curve, or turn.*

***Rigid** means that the matter cannot bend, it is stiff.*



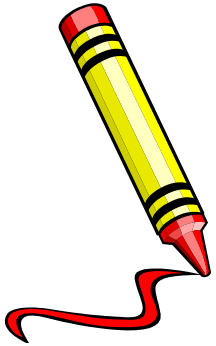




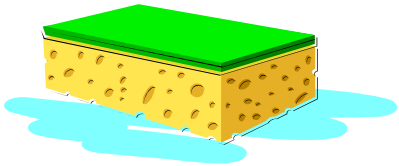
Answers in next slide.

2-8

These objects are rigid.



These objects are bendable.



2-9 *Matter has properties.*

Properties show something special about a solid. (Yes/No)

color: (Yes/No)
size: (Yes/No)
shapes (Yes/No)
texture (smooth, rough; hard/soft): (Yes/No)
rigid or bendable: (Yes/No)
smell: (Yes/No)
takes up space : (Yes/No)
has mass: (Yes/No)
Can we measure it? (Yes/No)

2-10 What are liquids?

- *Liquids do not have a definite shape.*
- *Liquids flow and take the shape of their container.*
- *Liquids have a definite volume.*
- *Liquids take up space and have mass.*

2-11 Which object is a liquid?

- *Does it have a definite shape?*
- *Does it flow?*
- *Does it take the shape of its container?*
- *Does it have a definite volume?*
- *Does it take up space and have mass?*









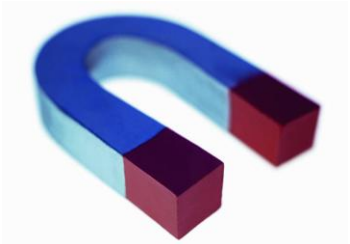


2-12 What are gases?

Gases do not have their own size.
They take the shape of their container.
Gases do not have their own shape.
Gases can take up more space than solids and liquids.
Gases have mass.

2-13 *What are the three states of water? What are properties of water in each state?*

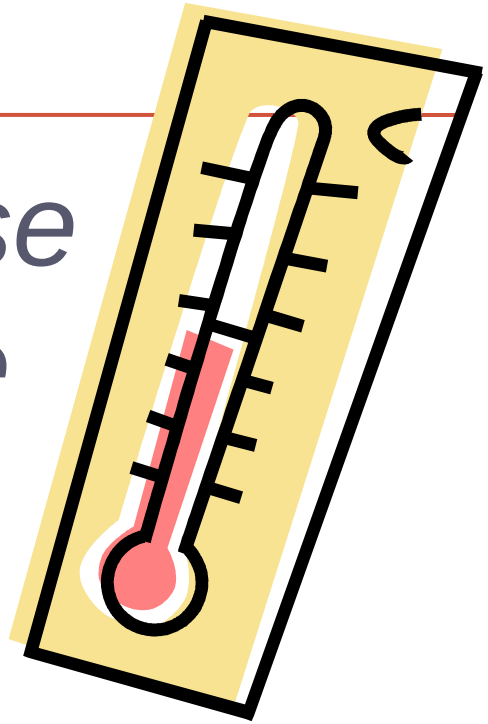
2-14 Is this a solid, a liquid, or a gas?



2-15 What matter do you like? Tell us about the properties of each state.

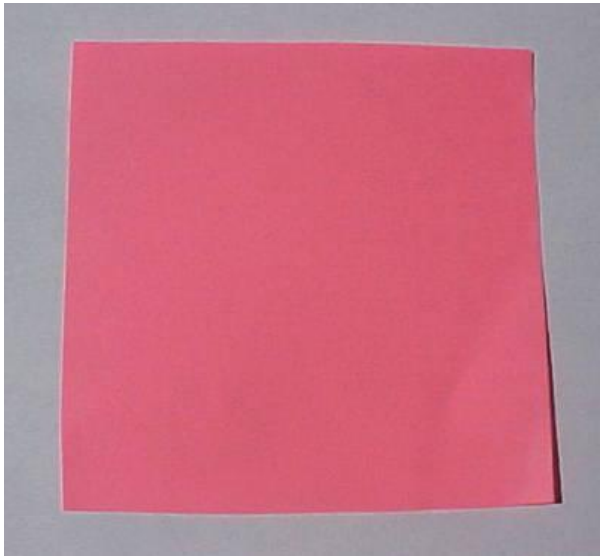
LESSON 3

Temperature Can Cause Matter to Change State



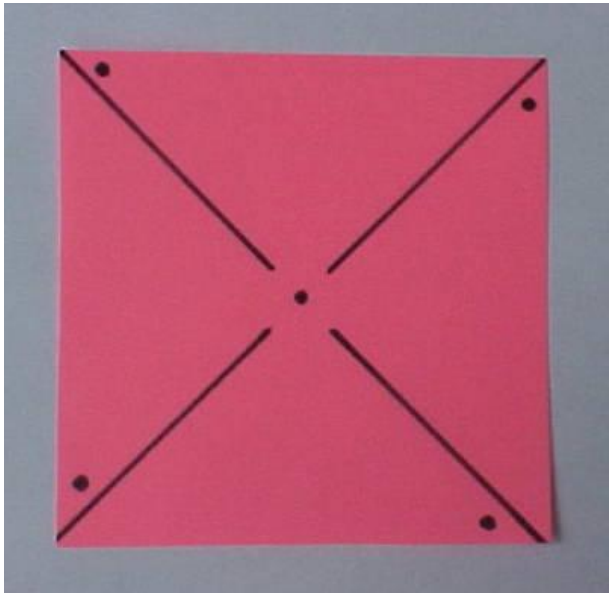
3-1 Pinwheels

3-2 How to Make a Pinwheel: Step 1



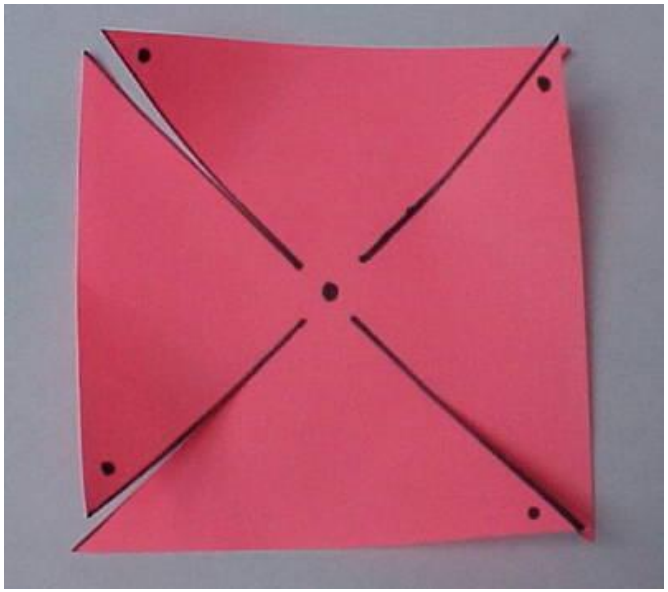
3-3 How to Make a Pinwheel: Step 2

- *Use a ruler to draw lines across your square to join the corners.*
- *Mark the center of the square with a dot.*
- *Draw an additional dot at each of the corners.*



3-4 How to Make a Pinwheel: Step 3

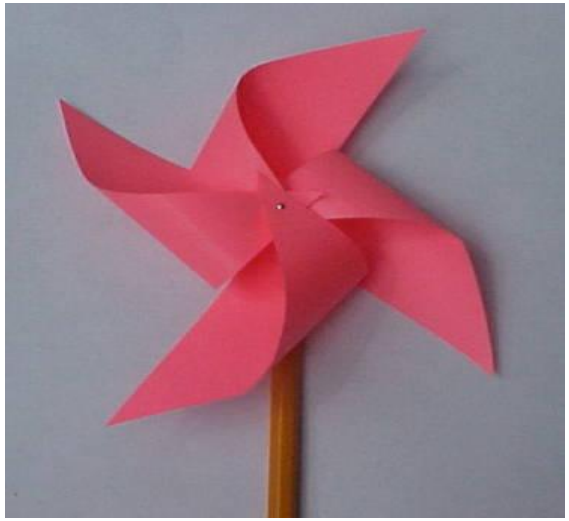
- *Cut along the diagonal lines toward the center dot, leaving about ½ “on each side of the dot.*
- *Punch a hole through each of your dots.*



3-5 How to Make a Pinwheel: Step 4

- *Line the dots on the outer edge of your pinwheel up with the dot in the center.*
- *Push a pin or thumbtack through the dots to hold everything together.*
- *Push the pin into the side of a pencil eraser or straw, leaving a space so that the pinwheel moves freely.*

You just made a pinwheel!



3-6 Blowing Air on a Pinwheel

3-7 Melting Chocolate, Gold, and Glass

3-8 Not all matter changes in the same way.

Camphor : solid ⇨ gas

LESSON 4

A Matter of Taste: Making Ice Cream

4-1 Frozen Foods

4-2 Ice Cream

4-3 What Ingredients Do We Need?

4-4 What We Need:

- *1/2 cup milk*
- *1 tablespoon sugar*
- *1/4 teaspoon vanilla*

4-5 Let's Review How to Make Ice Cream.

- *First…*
- *Second…*
- *Third…*

4-6 Watch Me Make Ice Cream!

4-7 How to Make Ice Cream

- *Fill the large bag half full of ice, and add the rock salt. Close the bag, squeezing out the air. Shake it to make sure the ice is covered with salt.*
- *Put milk, vanilla, and sugar into the small bag, squeezing out the air. Place this bag in another small bag. Close tightly, squeezing out the air. Mix the ingredients.*
- *Place the small bag inside the large one, and close the large bag again carefully, squeezing out the air.*
- *Shake the bag until the mixture turns into ice cream, which takes about 5 minutes.*
- *Open the big bag. Take out the doubled small bag. Open the inside small bag and scoop the ice cream into a bowl. Divide the ice cream between two cups.*

Enjoy!

4-8 Types of Milk – Low Fat Milk, 1%, 2%

Available in 64 and 96 fl. oz. containers.

LESSON 5

This is the Matter With Ice Cream

5 -1 The 3 States of Matter