MATTER: PROPERTIES AND CHANGES

CLEAR LEARNING GOAL

- AS A STUDENT I WILL BE ABLE TO IDENTIFY AND DEFINE MATTER.

Matter

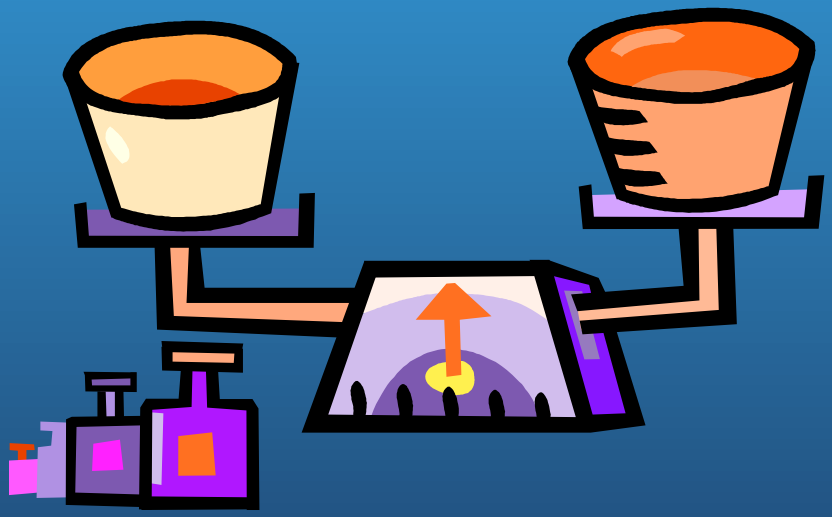
MATTER IS EVERYWHERE AND EVERYTHING!

MATTER IS ANTHING THAT TAKES UP SPACE!

MATTER IS MADE UP OF TINY PARTICLES CALLED ATOMS!

Matter

- Anything that has a **mass** and a **volume**



Matter

Matter can be found in three different types. These three types are considered the three STATES of MATTER.

1. Solids
2. Liquids
3. Gasses

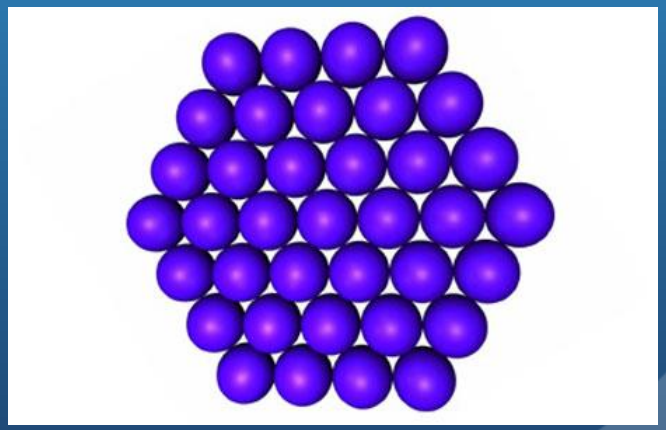
States of Matter
SOLIDS

A SOLID is matter that has a defined shape and will not lose its shape.

FIXED VOLUME AND FIXED SHAPE

Examples of solids:

1. Chair
2. Table
3. Golf Ball
4. Hockey Puck
5. Glass Jar

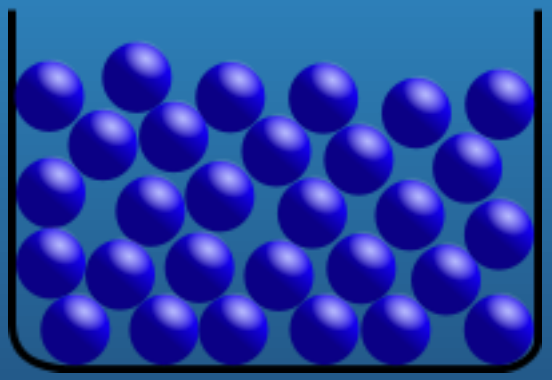


States of Matter
LIQUIDS

A LIQUID is matter that will take the shape of any container it is placed in put has a fixed volume.

Examples of LIQUIDS:

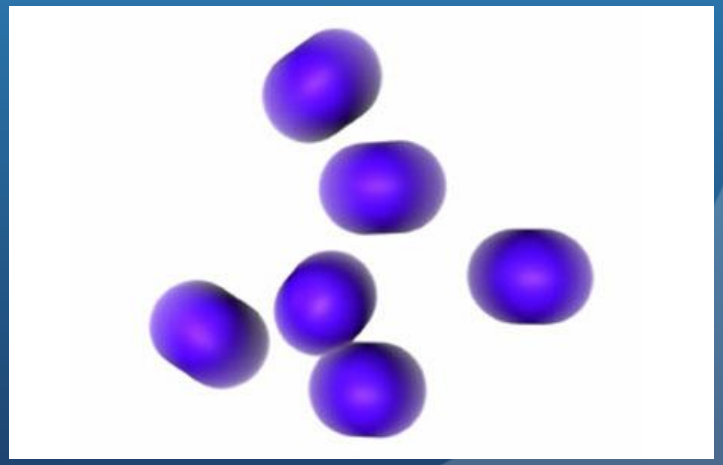
1. Water
2. Soda
3. Milk
4. Juice
5. Tomato Sauce



States of Matter
GASSES

A GAS is matter that does NOT have a fixed shape or volume, but will completely take up all the space in a container.

MOST GASSES ARE INVISIBLE!!!!



Examples of GASSES:

1. Oxygen
2. Helium
3. Carbon Dioxide
4. Nitrogen
5. Carbon Monoxide

VIDEO

- http://studyjams.scholastic.com/studyjams/jams/science/matter/solids-liquids-gases.htm

JOURNAL RESPONSE

In three or more sentences explain what matter is and give at least two examples of each state of matter. (Include: The three states of matter and their descriptions)

CLEAR LEARNING GOAL
DAY 2

- AS A STUDENT I WILL BE ABLE TO IDENTIFY AND CLASSIFY MATTER BASED ON ITS PROPERTIES

Matter Review

MATTER IS EVERYWHERE AND EVERYTHING!

MATTER IS ANTHING THAT TAKES UP SPACE!

Matter Review

Matter can be found in three different types. These three types are considered the three STATES of MATTER.

1. Solids
2. Liquids
3. Gasses

Matter

Although matter can be classified into three different states (types) it can also be described using its properties.

PROPERTIES: Characteristics, features, qualities, or traits.

Properties of Matter

- How It Looks (Shiny ,Dull, Color, etc.)
- How It Feels (Hard, Soft, Rough , Smooth, etc.)
- How It Smells (Sweet, Sharp, Terrible, No Smell, etc.)
- How It Sounds (Loud, Soft, Echo, No Sound, etc.)
- What It Does (Bounce, Stretch, Tear, Break, Magnetism etc.)

JOURNAL RESPONSE

Choose three objects in the room. Classify them based on their state (solid, liquid, gas) and their properties (smell, looks, feels, etc.)

CLEAR LEARNING GOAL
DAY 3

- AS A STUDENT I WILL BE ABLE TO IDENTIFY AND DETERMINE WHETER A CHANGE IN MATTER IS PHYSICAL OR CHEMICAL.

Matter

NOW THAT WE KNOW WHAT MATTER IS AND HOW TO DESCRIBE MATTER USING IT'S STATE AND PROPERTIES; WE NEED TO SEE HOW MATTER CAN CHANGE

Changes in Matter

Matter can go through two different types of changes.

Types of Changes:

1. Physical
2. Chemical

Physical Changes in Matter

A physical change in matter is when matter changes its property but not it's chemical nature.

Physical Changes in Matter

Physical changes:

Although some properties (like shape, phase, etc.) of the material change, the material itself is the same before and after the change.

The change can be “undone.”

Physical Changes in Matter

Examples: Changes in

1. Shape
2. Texture
3. Size
4. Dissolves
5. Breaks Apart

Physical Changes in Matter

PHYSICAL CHANGES	
THE MATTER IS THE SAME.	The particles of the substance are rearranged
THE ORIGINAL MATTER CAN BE RECOVERED	

Physical Changes in Matter

EXAMPLES:
Aluminum foil is cut in half
Clay is molded into a new shape
Butter melts on warm toast
Water evaporates from the surface of the ocean
Juice freezes
Rubbing alcohol evaporates on your hand

JOURNAL RESPONSE

In three or more sentences describe what a physical change is, how you know a physical change occurred in the lab, and three examples of physical changes.

CLEAR LEARNING GOAL
DAY 4

- AS A STUDENT I WILL BE ABLE TO IDENTIFY AND DETERMINE WHETER A CHANGE IN MATTER IS PHYSICAL OR CHEMICAL.

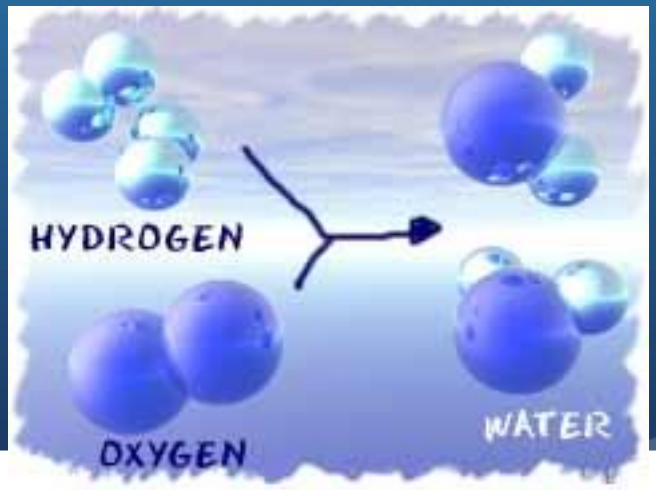
Chemical Changes in Matter

A chemical change in matter is when matter becomes something completely new. New matter is formed.

Chemical Changes in Matter

Chemical change:

The substances present at the beginning of the change are not present at the end; new substances are formed. The change cannot be “undone."



Chemical Changes in Matter

CHEMICAL CHANGES	
THE MATTER IS DIFFERENT.	THE PARTICALES OF THE SUBSTANCES ARE BROKEN APART
THE OLD MATTER IS NO LONGER PRESNT	ATOMS ARE REARRANGED INTO NEW PARTICLES
THE ORIGINAL MATTER CANNOT BE REMOVED FROM THE NEW MATTER	A NEW SUBSTANCE IS FORMED

Chemical Changes in Matter

EXAMPLES:
Milk goes sour
Jewelry becomes tarnished
Bread becomes toast
Rust forms on a nail
Gasoline is ignited
Hydrogen peroxide bubbles in a cut
A match is lit
Your body digests food
Fruit decomposes and rots

VIDEO

- http://studyjams.scholastic.com/studyjams/jams/science/matter/changes-of-matter.htm

JOURNAL RESPONSE

In three or more sentences describe the differences between a physical and chemical change. Include an example of each change.

MATTER: WHAT'S ITS WEIGHT?

5.P.2.2 Compare the weight of an object to the sum of the weight of its parts before and after an interaction.

CLEAR LEARNING GOAL
DAY 5

- AS A STUDENT I WILL BE ABLE TO IDENTIFY AND DETERMINE THE WEIGHT OF AN OBJECT BEFORE AND AFTER A CHANGE.

WEIGHT

Every object can be described based on it's weight. The heavier an object is the more it weigh's.

WEIGHT

THE WEIGHT OF AN OJECT

=

THE SUM OF THE WEIGHT OF ITS PARTS

WEIGHT

TOTAL WEIGHT OF CAR = 2,875 LBS

WEIGHT

TOTAL WEIGHT OF PARTS= 2,875 LBS

WEIGHT

THE WEIGHT OF AN OJECT (2,875 LBS)

=

THE SUM OF THE WEIGHT OF ITS PARTS (2,875 LBS)

WEIGHT

WEIGHT

14 OZ

32 OZ

8 OZ

20 OZ

20 OZ

WEIGHT

SO HOW MUCH DOES THE CAKE WEIGH?

INGREDIENTS

1. FLOUR
2. FROSTING
3. MILK
4. SUGAR
5. EGGS

WEIGHT

THE WEIGHT OF AN OJECT

=

THE SUM OF THE WEIGHT OF ITS PARTS

=

INGREDIENTS

1. FLOUR
2. FROSTING
3. MILK
4. SUGAR
5. EGGS

WEIGHT

14 OZ

20 OZ

32 OZ

20 OZ

8 OZ

TOTAL CAKE WEIGHT =

14
20
32
20
+ 8

94 OZ

JOURNAL RESPONSE

In three or more sentences determine the weight of the new object, what type of change occurred, and what state the object is in after the change.