

Matter and the Kinetic Molecular Theory

WHAT IS MATTER?

Matter: anything that has mass and volume

Mass: how much matter is in an object

- Usually measured in grams (g) or kilograms (kg)

Volume: how much space an object occupies

- Usually measured in litres (L), millilitres (mL), or cubic centimetres (cm³)

DEMO #1: MARSHMALLOW MADNESS

Which parts of the demonstration were matter? Which weren't? Write in the space below each column.

<u>MATTER</u>	
marshmallow	
stick	matches
gas	wick
air	jar
smoke	
ethanol	

NOT MATTER?

heat
light
sand

So, is everything matter?

There are some aspects of our universe that are present, but that do not take up space or have mass.

For example:

- heat - light - sound

All of the above are examples of ENERGY.

Everything in the universe is either matter or energy !

DEMO #2: ALUMINUM & COPPER (II) CHLORIDE

Make Observations

BEFORE COMBINATION:

AFTER COMBINATION:

Make an Inference about what happened:

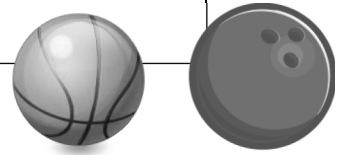
Which parts of the demonstration were matter? Energy? Write in the space below each column.

MATTER

ENERGY?

Practice:

<p>1. What has more mass? Circle your choice.</p> <p>a. A basketball or a <u>bowling ball</u></p> <p>b. A helium balloon or a <u>glass marble</u></p> <p>c. A kitten or an <u>adult cat</u></p>	<p>2. What has more volume? Circle your choice.</p> <p>a. <u>A basketball</u> or a bowling ball</p> <p>b. <u>A helium balloon</u> or a glass marble</p> <p>c. A kitten or an <u>adult cat</u></p>
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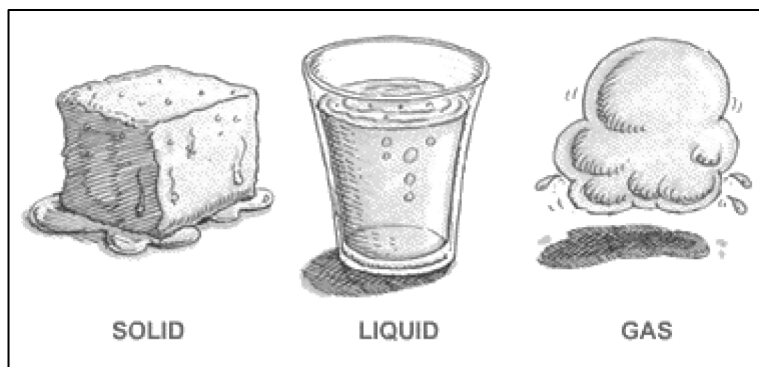


STATES OF MATTER

There are three main states of matter:

SOLID, LIQUID, and GAS

(There is also a fourth state of matter, called PLASMA. You'll explore that later on.)



	Do they have a fixed volume? (“fixed” = set, unchanging)	Do they take the shape of their container?	Example substance
SOLIDS	FIXED	NO	brick
LIQUIDS	FIXED	YES	milk
GASES	NOT FIXED	YES	air

Homework:

- Start a **key words list** for this unit in google docs or on a sheet of paper.
*Define the terms **matter**, **mass**, and **volume**. Write the definition beside each word.*
- Find **2** examples of each state of matter at home. Write them in the space below
SOLIDS AT HOME LIQUIDS AT HOME GASES AT HOME