

reflection

refraction

The bouncing of light from a surface.

Light traveling through an object causing it to slow down and bend (ex. Light traveling through a glass of water).

kinetic energy

potential energy

Moving energy (examples: light, sound, electrical, mechanical, heat and solar)

Non-moving energy: chemicals (batteries), elastic (rubber bands), gravitational

physical properties

mass

Properties of an object that can be observed
(ex. color, hardness, taste, length, etc.)

The amount of matter in an object. Mass is measured using a balance (examples: gram (g), milligram (mg), and kilogram (kg))

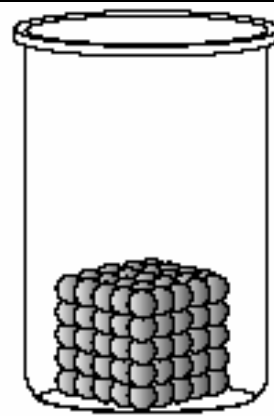
matter

3 states of matter

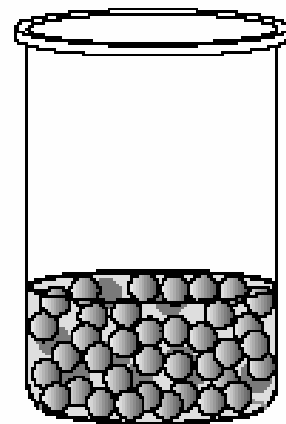
Matter is anything that has mass and takes up space. (examples: book, pencil, your own body)

Solid
Liquid
Gas

Solid



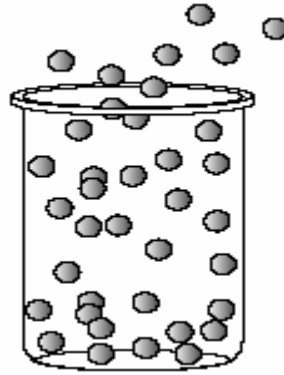
Liquid



Definite shape, definite volume. A solid does not change shape when you put it in a container.

Definite volume, NO definite shape: takes the shape of its container. (example: water)

Gas



Changes in Matter

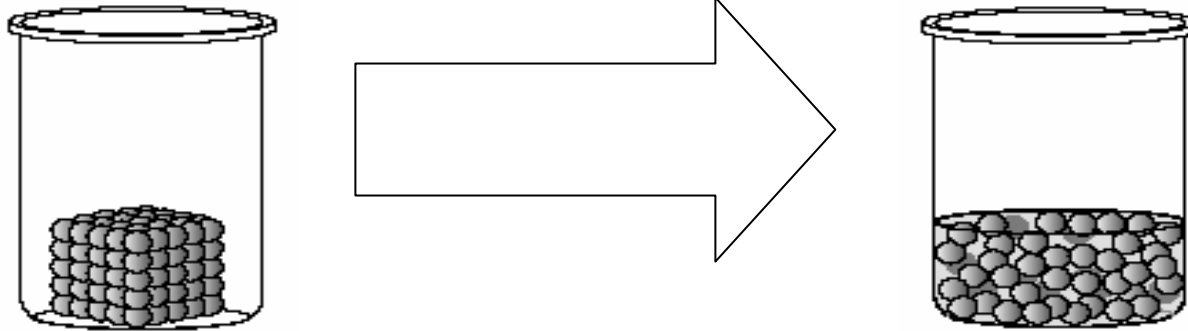
NO definite volume, NO definite shape,
particles can move around freely, takes
both the shape and volume of its
container.

Condensation, Melting, Evaporating
Freezing
CMEF (Change ME Fast)

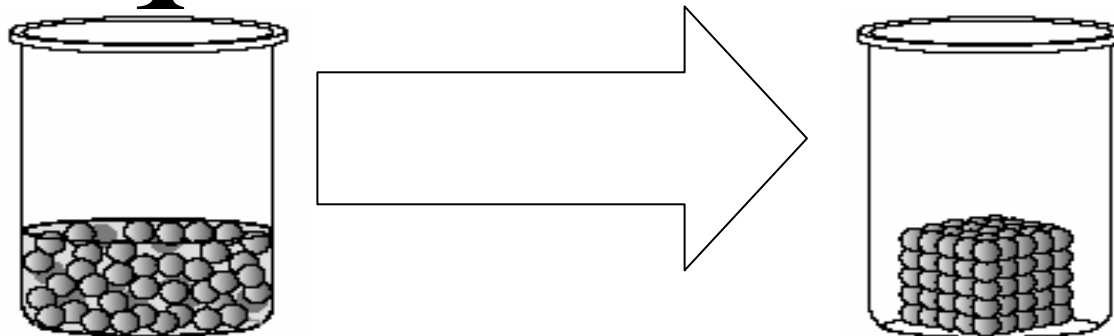
melting

freezing

Solid to a liquid



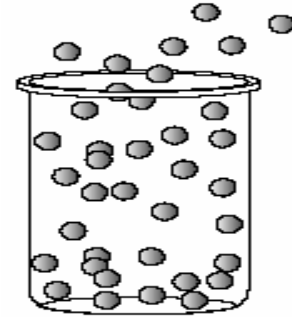
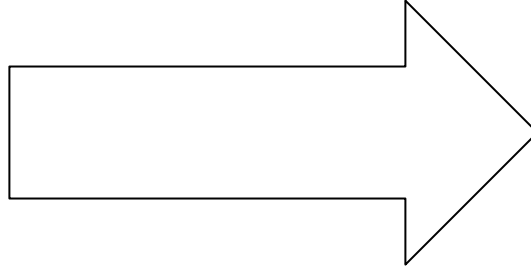
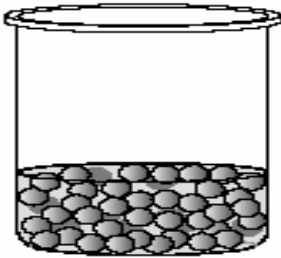
Liquid to a solid



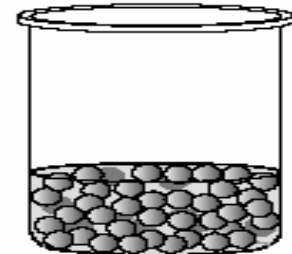
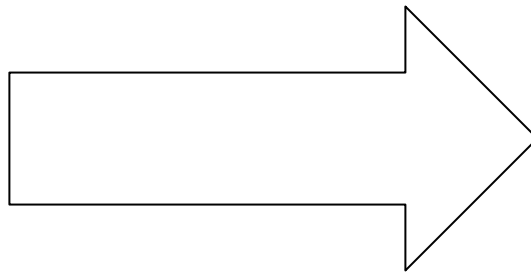
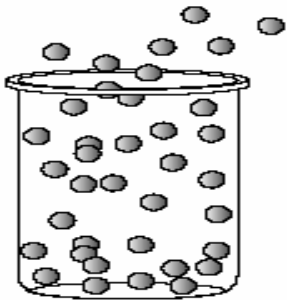
evaporating

condensing

Liquid to a gas

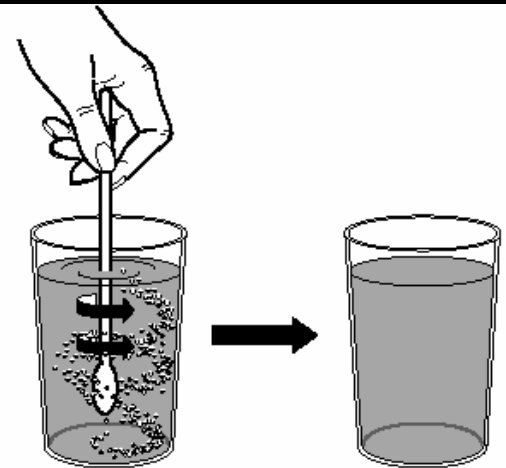


Gas to a liquid



mixtures

Solutions



A combination of 2 or more different kinds of matter that keep their physical properties and can be physically separated (example: salt and pepper, a salad, a fruit mixture).

A solution is a type of mixture in which items are evenly mixed and dissolved (example: sugar and iced tea, Alka-Seltzer in water, Kool-aid)

solute

solvent

Part of a mixture that dissolves (example:
Alka-Seltzer)

Part of a mixture that makes something
dissolve
(example: water)

force

3 types of force

A push or pull on an object.

[Force is what sets matter in motion. Forces cause an object to move, stop, or change direction.] (examples: pulling a cart, kicking a soccer ball, catching a baseball, hitting a volleyball)

Friction

Magnetism

Gravity

friction

magnetism

A force that acts against [opposes] motion when two surfaces rub against each other.
(example: rubbing hands together)

The magnetic force of pushing [repulsion] or pulling [attraction] between negative (-) or positive (+) poles of magnets.

gravity

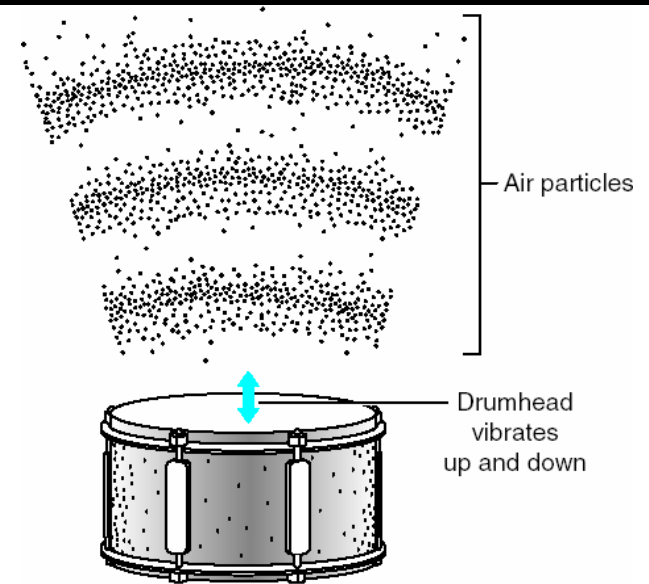
motion

A force that pulls [attracts] objects with mass towards one another (example: tossing a ball into the air gravity: pulls the ball towards Earth, moon's gravity: pulls on Earth creating tides)

An object in motion will remain in motion unless acted on by an outside force.

sound

vibration



Every sound comes from a vibrating object.
(example: the plucking of a guitar string)

Vibration is a back-and-forth motion.

weight

newtons

Weight is a measure of the force of gravity
on an object.

Weight is measured in units called newtons.

properties of matter

insulator

Melting point

Boiling point

Magnetism

Ability of conduct electricity

Observable features (look, texture, smell, sound)

Matter that does not conduct electricity well. (examples: plastic, wood, and oven mitts)

solar energy

electric circuit

Solar energy is energy that comes from the sun.

Electric circuit is the path that electricity takes which begins and ends at the source of electricity. It can produce heat, light, sound, and magnetic effects.

melting point

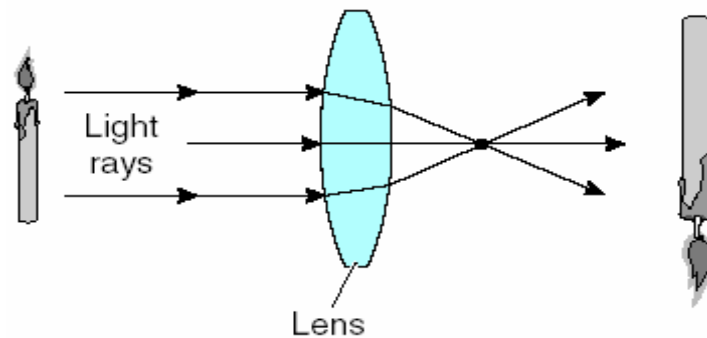
boiling point

The melting point of a substance is the temperature at which the substance changes from a solid to a liquid.

The boiling point of a substance is the temperature at which the substance changes from a liquid to a gas.

lens

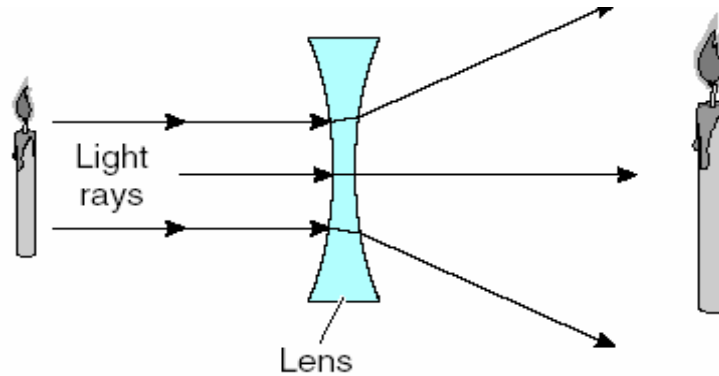
convex lens



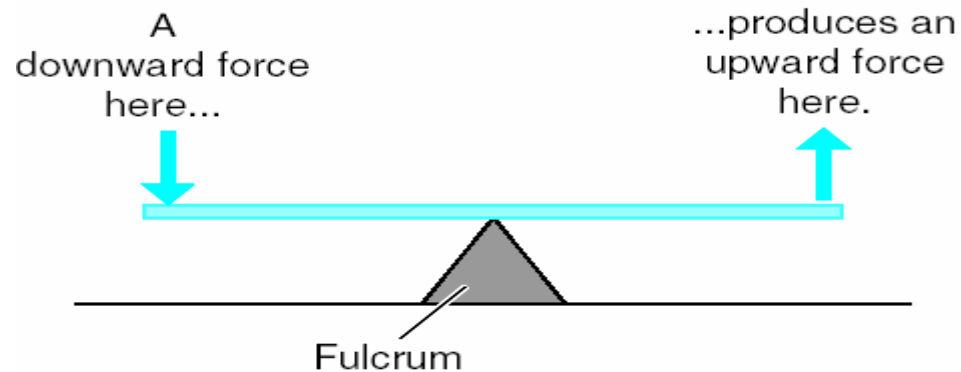
A lens is a curved piece of clear material that bends [refracts] light rays as they pass through it (the lens).

A lens that is thicker in the middle than at the edges bends light rays toward one another. (example: lens found in an eye and telescope)

concave lens



fulcrum



A lens that is thicker at the edges than in the middle bends light rays away from one another.

Fulcrum is the fixed point that the lever rests on.

