

What is matter?

Matter is anything that has mass and takes up space (volume).

Mass--the amount of matter

- measured using a scale
- reported in grams
- always constant despite location

Weight--a measure of the gravitational force exerted on an object

- measured using a spring scale
- reported in Newtons or pounds
- not constant

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What properties define matter?

Physical--can be observed or measured without changing the identity of the substance.

- Color
- Odor
- State/Phase
- Density
- Malleability
- Ductility
- Solubility
- Conductivity (Thermal vs Electrical)

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Physical Change--a change that does not change the identity of a substance. Can be undone.

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Chemical Properties--properties that define matter's ability to change into matter with different properties.

- Flammability
- Reactivity (chemical reactions)

Chemical Change--the atoms of a substance are rearranged into substances that have new and different properties. Typically not reversible.

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What are the signs of a chemical change?

- Color change
- Gas formation (bubbles/fizzing)
- Light Production
- Temperature Change
- Formation of a new solid

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Law of Conservation of Mass

The mass that you start with in a chemical or physical change is the mass that you will end with.

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EQ. How can you tell if a physical or a chemical change is occurring?

Hypothesis: If a chemical change is taking place, then...

Set up data table:

Name of Change	Detailed Observations	Physical or Chemical

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