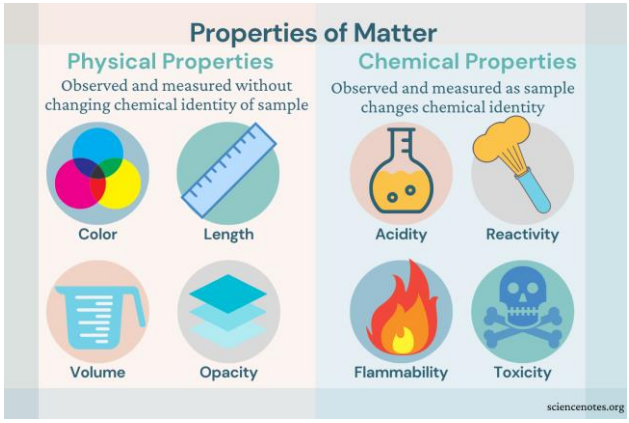
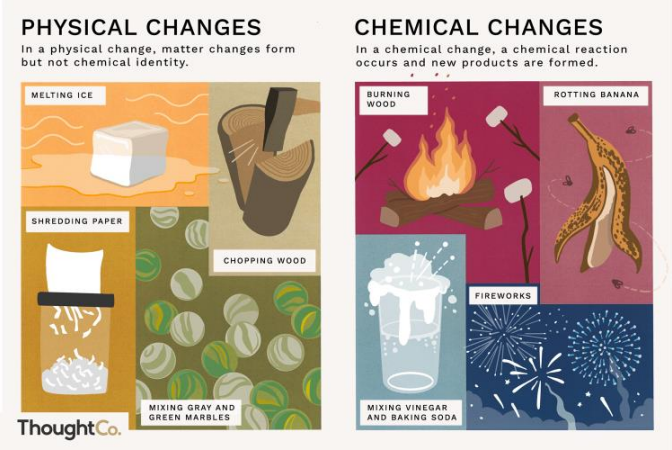
# Matter

## Section 3: Describing Matter




All matter has both physical and chemical properties. **Physical properties** are those that can be observed without changing the make-up, or identity, of the matter. For example, if you tear up a piece of paper, it does not change what it is made of. Similarly, if you crumple up a piece of paper, the make-up is still the same. However, if you were to set that piece of crumpled paper on fire, you have taken the paper and turned it into ash. Flammability is a **chemical property**, which means it's a property that has the ability to change something into a new kind of matter with different properties. Physical properties include color, hardness, density, and boiling and melting points. Chemical properties include flammability, combustibility, acidity, and ability to rust.

A **physical change** is a change in size, shape, or state of matter. The substance does not change its identity when it undergoes a physical change. When water freezes, it becomes a solid, but it is still water. Its composition has not changed. Physical changes can be reversed. If we heat an ice cube, it melts back into water. A **chemical change** is a change from one substance to another substance. The beginning substances called reactants change into different substances called the products. A firework exploding is an example of a chemical change. It's important to note that during a chemical change mass is neither gained nor lost. The **law of conservation of mass** says that the mass of all substances present before a chemical change equals the mass of all substances after the change.




Review:

1. Explain the difference between a physical property and a physical change.
2. Give one example of a chemical change.
3. What is the law of conservation of mass?