

Matter Study Guide

1. What are physical properties of an object?

Describe 2 different physical properties (color, shape, size, texture) for each object.

Classify (sort) the objects by physical properties.

What physical property did you use to sort the objects?



2. **Objects are made of one or more *materials*. Wood, plastic, fabric, glass, metals are materials used to make things. Why are materials important?** They have physical properties (soft, hard, flexible, shiny, sharp, waterproof, transparent (we can see through it), etc.) that make them useful.



3. What is a physical change?



When paper is cut into smaller pieces...

What changes?

What stays the same?

Is it still paper?

4. **Some properties of matter can be measured:**

Mass – how much matter is in an object. You can't tell how much mass an object has by just looking at it. You can use a balance scale to measure mass.



Volume – the amount of space matter takes up. Volume can be measured by using a measuring cup.



5. All substances are made of matter. Matter is anything that has mass and takes up space. Matter can be found in three states. It can be a **liquid** like water, a **solid** like rock, or a **gas** like air. *We can decide what type of matter something is by studying its properties.*

| Liquid | Solid | Gas |
|-------------------|-----------------|--------------------|
| Definite volume | Definite volume | No definite volume |
| No definite shape | Definite shape | No definite shape |

6. **Matter can change from one state to another.** Changes from a solid to liquid to gas are **physical changes**. These changes require the **addition of energy**.

What happens to ice when heat energy is applied? To water?

7. What happens to water when **heat energy is taken away**?