

# **Building Blocks of Science: Matter and its Properties**

- 1. What is matter?**
- 2. What is density?**
- 3. What are the properties of matter?**
- 4. What are some examples of properties of matter you can see and feel?**
- 5. How do you find the properties of matter that are invisible?**
- 6. What is matter really made of?**
- 7. What are the basic units of matter?**
- 8. What is at the centre of an atom?**
- 9. What is inside the nucleus?**
- 10. What are electrons?**
- 11. Why are there different kinds of matter?**
- 12. What is an element?**
- 13. What is a compound?**
- 14. What are the different states of matter?**
- 15. What causes matter to change states?**
- 16. Name the two different groups of matter?**
- 17. Name the characteristics of non-metal elements.**
- 18. Why is it important to understand the properties of matter?**

## **ANSWERS: Building Blocks of Science – Matter and its Properties (Secondary)**

1. Matter is anything that has mass and volume.
2. Density measure how much matter is in a certain space.
3. Mass, volume and density.
4. Colour, size, texture and shape.
5. You can test matter to see if it floats or sinks, if it's magnetic, if it dissolves in liquid or if it freezes, melts or changes into gas.
6. Matter is made of molecule and molecules are made up of atoms which are tiny particles.
7. Atoms.
8. A nucleus.
9. Tiny particles called protons and neutrons.
10. Electrons are very tiny particles that move around the nucleus.
11. Protons. Atoms have different numbers of protons. The number of protons determine the type and size of an atom.
12. A substance with only one type of atom.
13. A compound is a molecule with two or more different types of atoms e.g. water has two atoms of hydrogen and one atom of oxygen. The compound is a molecule of water.
14. Matter has three different states: solid, liquid or gas.
15. Energy causes matter to change states. This occurs through heating or cooling.
16. Metals and non-metals
17. Non-metals can be solids, liquids or gases at room temperature  
Non-metals generally do not conduct heat or electricity well  
Almost all solid non-metals are brittle and break easily  
Non-metals cannot be shaped  
Non-metals have a range of colours.
18. It is important to understand the properties of matter in order to make many of the objects used at home. For example, a teapot needs to be the right matter so it doesn't melt before the water boils, tooth floss needs to be tough so it doesn't break between your teeth, and wire needs to be made of metal because it's a good conductor of electricity.