

## Science Autumn Term 2017

### For year 10 and year 11 pupils

#### Chemistry: Elements, Mixtures and Compounds

**Aim:** for pupils to develop a basic understanding of Chemistry in order to help them better understand the world around us.

During this unit, pupils will discover that Chemistry is happening everywhere in the world around them! It happens in us. It is in the food we eat, the clothes we wear, the water we drink, medicines, air, cleaning products etc... In fact you name it, Chemistry can explain it. Chemistry is sometimes called the "central science" because it connects the other sciences to each other, such as biology, physics, geology and environmental science.

Pupils will learn that all matter is composed of tiny particles called atoms and there are about 100 naturally occurring types of atoms called elements. Elements are shown in the periodic table and are either metals or non-metals. Atoms are the building blocks for all substances. When two or more elements combine chemically, a compound is produced. Different substances have different combinations of atoms joined together in different ways, which gives them different properties, such as whether they are solid, liquid or gaseous at room temperature. Many materials we use are mixtures. Mixtures can be separated by various processes; such as filtration, evaporation, distillation. Long molecules called 'Polymers' have many useful applications.

Pupils will conduct several science practical experiments, complete their portfolio of work, a teacher devised practical and AQA's externally set assessment will complete the topic.