



The Mall School

Curriculum Guide

Science – Autumn Term 2019

Year 6

Teachers: Dr Alistair Miller
Lessons: One double and two single lessons per week
Homework: 1 x 30min from the spring term

Introduction:

The science syllabus is split into biology, chemistry and physics. Over the course of Year 6 the boys will learn about materials and their properties, focusing on the difference between metals and non-metals, chemical reactions, acids and alkalis, Earth in space, forces and pressure, followed by classification of living things and interactions in their environment. There will be an assessment after each unit studied, and the boys will record their results on their tracking sheet. The tracking sheet can be used for the boys to check their progress throughout the year and to identify areas, which they need to spend more time revising before their summer examination. Whilst learning about each topic the boys will be given many chances to carry out practical investigative work in order to develop their skills in *How science works*, which is a key component of the course examined in the 11+ and the 13+ Common Entrance examinations.

Key Objectives:

- To know the properties of metals and non-metals and their positions on the periodic table.
- To know the most widely used metals.
- To understand how the uses of metals are related to their properties.
- To know that metals must be extracted from ores.
- To understand what an alloy is.
- To understand and know the word equations for lime chemistry.
- To recognise the evidence for chemical reactions.
- To understand oxidation, reduction, thermal decomposition and combustion as types of chemical reactions.
- To know about acids, bases and indicators, and understand the pH scale and use of universal indicator.
- To understand neutralisation as a chemical reaction and its importance in everyday life.
- To know what is in air.
- To revise combustion and tests for water and carbon dioxide.
- To understand how carbon dioxide from combustion contributes to the greenhouse effect.

These key objectives will be covered alongside others in the units of work in each term. The topic areas to be covered for the Autumn Term are as follows:

- Metals and Non-Metals
- Chemical Reactions
- Chemical Change Caused by Heating
- Acids, Bases and Indicators
- Air

Resources:

All boys must bring the following equipment to all lessons:

Pen (black or blue), pencil, rubber, pencil sharpener, 30cm ruler, calculator, colouring pencils, and a glue stick.

All boys have been issued with the textbooks Biology First, Chemistry First and Physics First by George Bethel and David Coppock, Oxford University Press.