

# Science @ WBS Year 7 Roadmap

**Subject Aim:** In Year 7 we want you to enjoy science, to be able to work safely in a laboratory environment and to develop your science vocabulary, knowledge and basic skills.

Topics 1a and 1b will be taught at the same time, one by each teacher, then 2a and 2b etc.

## Topic 1a – 7.0 Being a Scientist

This is a general introduction to working scientifically, which is the first topic for all students. You will learn to use basic equipment including a Bunsen burner safely. You will experience planning and carrying out experiments and will collect and present data to answer scientific questions.

## Topic 1b – 7.1 Cells

You will learn that cells are the basic unit of life and study how they function. A look at specialised cells will follow, including how they are organised to form organs and systems. Experiments include a pulse rate investigation.

## Topic 2a – 7.4 Particles

This topic will give you a basic understanding of the particles that make up solids, liquids and gases. You will look at the periodic table and learn about groups of elements. Finally you will learn how elements are combined to form compounds and how they are named.

## Topic 2b – 7.6 Forces

A look at the different forces with specific examples. Practical activities will help your understanding and you will carry out a full investigation at the end of the topic.

## Topic 3a – 7.2 Life Processes

A look at aspects of human reproduction including puberty. You will learn about asexual reproduction in other organisms, look at growth in plants and study the lifecycle of different animals.

## Topic 3b – 7.5 Separation

You will learn about pure substances, mixtures and compounds. You will look at methods of separating mixtures and how they are useful. There is an investigation included in this topic and you will carry out a practical to study crystal size.

## Topic 4a – 7.3 Evolution and Classification

This topic looks at how organisms are different from each other and ways in which they are adapted to their environment. You will learn about theories of evolution as well as fossils and extinction. You will study how scientists group and classify living organisms.

## Topic 4b – 7.7 Light

You will observe and explain the properties of light. You will then investigate reflection and refraction through practical activities and finally learn about the spectrum and how we see colour.

## Topic 5 – 7.8 Space

The topic includes a study of the planets in the solar system. You will learn why we have days, seasons and years. Key historical ideas will be discussed and you will evaluate concepts of space exploration.

## Assessment

There will be two Science Key Assessments in year 7. The first, will be on the, Being a Scientist topic. This covers general ideas in science that go across all topics. The second assessment, will be on the Science content from topics that have been covered up to that point in the year.

Pupils will receive feedback on their current level following these tests and guidance on how to improve.

Key Assessment 1	Week beginning 4/12/2023
Key Assessment 2	Week beginning 25/3/2024

## Homework and Revision

Homework is set by your class teacher on Brightspace. You can expect to get two homework tasks per topic.

Revision for the assessments is set by the Head of Department several weeks before your assessments. Your class teachers will give you resources and strategies to help you revise. This will include revision guide and some example questions to help you prepare for the assessment. You should also use the work you do in class in your exercise books to help you to revise.

## Enrichment themes

You will look at careers in science throughout the year. You will have the opportunity to engage with Science outside the classroom through STEM club (Science, Technology, Engineering, Maths) and Gardening Club.

## Where Next?

In year 8 you will continue to develop your knowledge and practical skills in Science. In Biology you will study Microbes, Digestion and Energy Transfer. Chemistry topics include Acids and Alkalis and Chemical Change. In Physics you will learn about Electricity, Waves and Heating and Cooling.