

# ENTRY LEVEL CERTIFICATE IN SCIENCE

## Why choose Entry Level Certificate in Science?

The Entry Level Certificate in Science builds upon your prior learning in key stage 3. You will learn about the key ideas in science and how they are useful in modern life. You will develop your practical and problem-solving skills and understand the important role that science has in society.

## What will I study?

### Modern living and energy

Electricity is essential to modern-day living. You will learn about the different methods to generate electricity. You will find out how we get the electricity from where it is produced, to our home. Some of the methods of generating electricity cost more than others – why is this? Some methods of generating electricity are more harmful to the environment.

A large number of electrical devices are now used in our homes, at work, or for leisure. Electricity is used in every walk of life. You will learn about electrical circuits, and how components are arranged.

### Obtaining resources

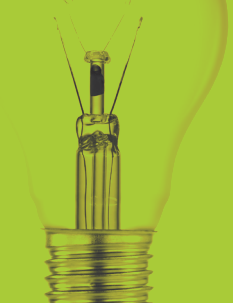
Water is a need of every living thing. You will find out what water is made up of and how we obtain clean water for household use. How does obtaining this water have an impact on the environment?

Metals, rocks and minerals are naturally-occurring materials that can be made into more useful products. You will find out where we can get these raw materials to make useful products from. How do we extract and process raw materials, and how long will supplies last?

The production of chemicals has made a big impact on the way we live. You will learn how we can produce chemical compounds in the laboratory. Sometimes there is more than one way of producing a compound so you will evaluate what method is best. We need to control chemical processes to make sure they are safe, yet also produce what we want in a reasonable time.



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## Our planet

Planet Earth is just one body that orbits a star that we know as the Sun. The Sun is just one of a very large number of stars that make up our galaxy. Stars are very far away and can only be examined by powerful telescopes using the electromagnetic radiation emitted from them. You will learn about the electromagnetic spectrum and how it helps us to learn about objects far from Earth.

Ecology is the study of interactions of organisms and their environment. You will learn how we classify organisms and how living things are suited to their environment. Living things are part of a food chain so you will learn about how energy and nutrients pass through food chains.

Human activities are affecting the other living things on our planet. You will learn about how we can monitor our effect on other living things and how we can treat our waste products to improve safety.

## Health, fitness and sport

Human health is affected by a number of factors. Here you will look at how inheritance, lifestyle and the environment affect human health. What are genes and how do they affect the way that organisms develop? How can we use our knowledge of genes to prevent disease? You will also learn how lifestyle affects our health as there are many things we can choose to do to keep healthy such as exercise, healthy diet, receiving vaccinations.

## What skills will I develop?

- knowledge and understanding of key areas of science and its application
- competence and confidence in a variety of practical, and problem-solving skills
- scientific enquiry and modelling skills and understanding in laboratory, and work-related contexts
- understanding of the relationships between data, evidence and explanations
- understanding of how society makes decisions about scientific issues
- communication, mathematical and technological skills in scientific contexts

## How will I be assessed?

There are three units.

**In Unit 1 you will be assessed by an exam which will be marked by WJEC.**

**Unit 2 consists of four end of topic tests. Your teacher will mark these tests.**

**Unit 3 consists of two practical tasks. Your teacher will mark these tasks.**

## Careers with Entry Level Certificate in Science

The transferrable skills developed by studying science are actively sought out by employers. There are many jobs that scientists can do in many different sectors. Most jobs have an element

of science in them, whether it be working for the health service, working to maintain our environment, working in manufacturing, or in the building sector.