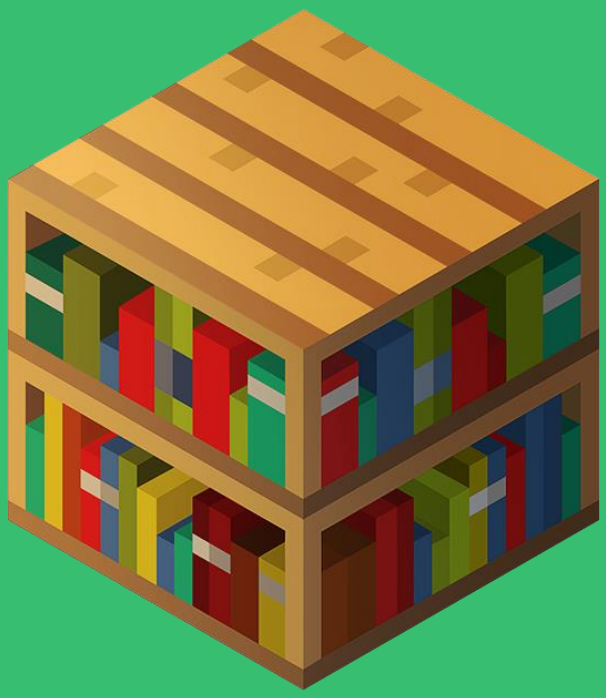


MINECRAFT
EDUCATION EDITION

CURRICULUM ALIGNMENT GUIDE

NATIONAL CURRICULUM IN ENGLAND

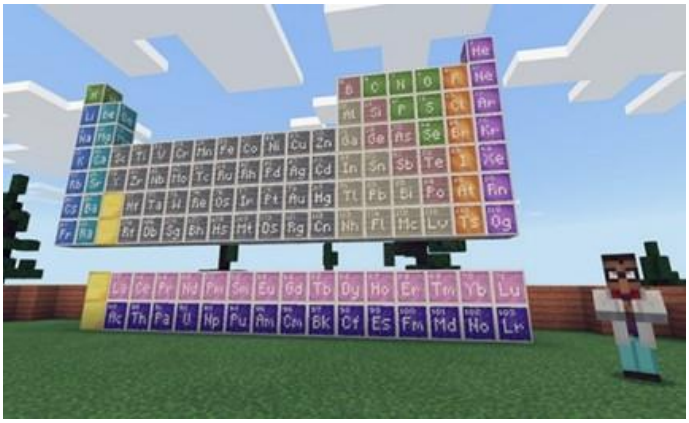
SCIENCE PROGRAMMES OF STUDY (KEY STAGE 2)

Introduction

Minecraft: Education Edition is an open-world game that promotes creativity, collaboration, and problem-solving in an immersive environment where the only limit is your imagination. As a game-based learning platform, Minecraft offers educators a transformative way to engage students and ignite their passion for learning. Teachers from around the world are using Minecraft in their classroom to successfully:

- Increase Student Engagement,
- Facilitate Classroom Collaboration
- Provide opportunities for Creative Exploration
- Connect Learning to Tangible Outcomes

This alignment guide will provide you with links to activities you can use in your classroom. These activities take full advantage of Minecraft's capabilities to complement and enhance classroom teaching. In this guide, you will find a list of applicable standards along with links and descriptions of Minecraft activities that focus on each objective.



For more information on using Minecraft in your classroom or to find additional education resources and training materials, visit us online.

EDUCATION.MINECRAFT.NET

LOWER KEY STAGE 2

YEAR 3 PROGRAMME OF STUDY

READING – WORD READING

ATTAINMENT TARGET	ACTIVITY
Apply their growing knowledge of root words, prefixes and suffixes (etymology and morphology) as listed in English appendix 1, both to read aloud and to understand the meaning of new words they meet.	Fantastic Mr. Fox Identify how words and phrases supply meaning to a story, create your own narrative, and build an underground world in Minecraft. The Treasure Hunt Activity designed to help teach literacy concepts through the study of Robert Louis Stevenson's Treasure Island. Students read and respond to text from the book and use a map to find buried treasure in Minecraft.

PLANTS

ATTAINMENT TARGET	ACTIVITY
Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.	Build With Bees: Pollination Students dissect a flower to explore how its structures and functions relate to a pollinator's physical and behavioural adaptations.
Investigate the way in which water is transported within plants.	Wonderful Plant World In this lesson students will learn about: Xylem and Phloem; Forces that allow matter to circulate; Variables that effect transpiration and absorption.

ANIMALS, INCLUDING HUMANS

ATTAINMENT TARGET	ACTIVITY
Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.	Healthy Food Village Students will apply their knowledge of healthy eating to build a functioning village with farms and crops that promote healthy eating for students.

LOWER KEY STAGE 2

YEAR 4 PROGRAMME OF STUDY

LIVING THINGS AND THEIR HABITATS

ATTAINMENT TARGET	ACTIVITY
Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.	A Case for Biodiversity Students explore the delicate balance of ecosystems with this Minecraft student build challenge.
Recognise that environments can change and that this can sometimes pose dangers to living things.	Extinction! Biodiversity Lab Students take a journey through time to learn about species past and present, and how biodiversity impacts our world. Extinction! Orangutans Future Students learn about the value, threats, sustainable management of biodiversity before building an Orangutan reserve.

ANIMALS, INCLUDING HUMANS

ATTAINMENT TARGET	ACTIVITY
Describe the simple functions of the basic parts of the digestive system in humans.	Human Body and Organs Students take an amazing ride through the human body and organs to look at what's inside.

STATES OF MATTER

ATTAINMENT TARGET	ACTIVITY
Compare and group materials together, according to whether they are solids, liquids or gases.	States of Matter Students create particle models of the 3 states of matter (solid, liquid and gas) by using 64 blocks configured in different ways inside closed jars. Characterizing Elements Students create or obtain elements, using the Chemistry feature in Minecraft, and group the elements according to their properties.
Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Let it Rain! Water Cycle Students recreate and represent the different stages of the water cycle in Minecraft.

ELECTRICITY

ATTAINMENT TARGET	ACTIVITY
Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.	Redstone Circuits Challenge students to create a simple circuit which operates a note block (buzzer) or Redstone lamp (bulb) via a lever (switch) and label each of the parts.
Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.	Redstone Circuits Challenge students to create a lighting system for a village which is powered by a block of Redstone to simulate a battery.
Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.	Redstone Circuits Challenge students to create a lighting system for a village which is operated by a lever.

UPPER KEY STAGE 2

YEAR 5 PROGRAMME OF STUDY

LIVING THINGS AND THEIR HABITATS

ATTAINMENT TARGET	ACTIVITY
Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.	Build with Bees: Life Cycle Students explore the life cycle of bees, learning what the bees need to thrive -- and what can threaten survival -- at each stage.
Describe the life process of reproduction in some plants and animals.	Build With Bees: Pollination Students dissect a flower to explore how its structures and functions relate to a pollinator's physical and behavioural adaptations.

EARTH AND SPACE

ATTAINMENT TARGET	ACTIVITY
Describe the movement of the Earth and other planets relative to the sun in the solar system.	Space Theme Park Students work in groups to take their knowledge of the 8 planets and turn it into an exciting theme park!
Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	Signifying Seasons Students explore the effects of Earth's orbit and axis before creating a representation in Minecraft to signify one of the seasons.

FORCES

ATTAINMENT TARGET	ACTIVITY
Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.	Invisible Forces at Work Students will review magnetism and gravity. They will design a magnetic structure that could protect the ISS or assist its astronauts.

UPPER KEY STAGE 2

YEAR 6 PROGRAMME OF STUDY

LIVING THINGS AND THEIR HABITATS

ATTAINMENT TARGET	ACTIVITY
Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals.	Build with Bees: Anatomy Students compare characteristics common to all insects with a honeybee's anatomy before using this information to design and build their own bees.

ANIMALS, INCLUDING HUMANS

ATTAINMENT TARGET	ACTIVITY
Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.	Circulatory System Students explore a model of the circulatory system in Minecraft.

EVOLUTION AND INHERITANCE

ATTAINMENT TARGET	ACTIVITY
Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.	Extinction! Safari Students take a ride on a rollercoaster through extinction history where they will investigate the causes and what we can do to stop the biodiversity crisis.
Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.	Adaptation of Marine Organisms In this lesson students will learn about the difference between life on land and life in water and how living organisms adapt to their environment.

LIGHT

ATTAINMENT TARGET	ACTIVITY
Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.	The Human Eye Students explore how the human eye sees objects and colours in terms of wavelengths
Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.	The Human Eye Students explore how the human eye sees objects and colours in terms of wavelengths.