# ANIMALS including HUMANS

## Key Facts

- Living things need food to grow and be strong and healthy.
- Plants can make their own food but animals can't.
- Skeletons do 3 important jobs:
  - support the body and stop it falling to the floor
  - allow movement
  - protect organs inside the body

| Nutrient | Found in... (examples) | What it does/they do |
|---|---|---|
| carbohydrates | | provide energy |
| protein | | helps growth and repair |
| fibre | | helps you to digest the food that you have eaten |
| fats | | provide energy |
| vitamins | | keep you healthy |
| minerals | | keep you healthy |
| water | | moves nutrients around your body and helps to get rid of waste |

## Prior Knowledge?

I can identify, name and locate parts of the human body.
I know that animals need water, food and air to survive.
I know exercise, eating the right foods and hygiene are important for humans to live well.

## Images / diagrams

| Key Vocabulary | Definition |
|---|---|
| Healthy | Being in good physical and mental condition. |
| Nutrients | Substances that living things need to stay alive and healthy. |
| Energy | Strength to be able to move and grow. |
| Vertebrates | Animals with backbones. |
| Invertebrates | Animals that don't have backbones. |
| Joints | Parts of the body where two or more bones are fitted together. |
| Muscles | Soft tissues in the body that contract and relax to cause movement. |
| Tendons | Cords that join muscles to bones. |

Skeletal muscles work in pairs to move the bones they are attached to by taking turns to contract (get shorter) and relax (get longer).

## Important People / Place / Events

Andreas Vesalius (1514-1564): an anatomist who really improved our understanding of human anatomy (the study of the structure of the body of humans as well as other animals and living things).

# Key Facts

- There are 3 types of naturally occurring rock: igneous, sedimentary, metamorphic. These rocks are formed in different ways.
- A fossil is the preserved remains of something that was once living.

| Natural Rocks | | | Human-Made Rocks |
|---|---|---|---|
| Igneous | Sedimentary | Metamorphic | |
| Obsidian | Chalk | Marble | Brick |
| Granite | Sandstone | Quartzite | Concrete |
| Basalt | Limestone | Slate | Coade Stone |

# Prior Knowledge?

I can identify, name and give properties of everyday materials.
I can know that things can be sorted into groups.
I can compare and group materials based on their properties.

# ROCKS

| Key Vocabulary | Definition |
|---|---|
| rock | A solid mass made of minerals. |
| igneous rock | Rock that has been formed from magma or lava. |
| sedimentary rock | Rock that has been formed by layers of sediment being pressed down hard and sticking together. You can se the layers of sediment in the rock. |
| metamorphic rock | Rock that started out as igneous or sedimentary rock but changed due to being exposed to extreme heat or pressure. |
| magma | Molten rock which remains underground. |
| lava | Molten rock which has come out of the ground. |
| sediment | Natural solid material that is moved and dropped off in a new place by water or wind e.g. sand |
| permeable (impermeable) | Does (does not) allow liquid to pass through it. |
| palaeontology | The study of fossils. |
| erosion | When water, wind or ice wears away land. |

# Images / diagrams

# Important People

Mary Anning (1799-1847) was an English fossil collector and palaeontologist who became famous around the world for the discoveries she made in Jurassic marine fossil beds in the cliffs at Lyme Regis in Dorset.

# Stone Age Y3

## Key Facts

- BC or BCE means the period of time we refer to before the year 0 – it stands for Before Christ or Before Common Era
- AD means Anno Domini and is after the year 0
- The Stone Age is split into 3 distinct periods. We do not have exact dates
- Nothing is written down, nor do we have calendars to prove when the stone age was
- Farming was the key way of life
- Hunter-Gatherer was how people lived – using what they could kill and find to live

## Prior Knowledge

- Children understand time is split into two distinct eras, BC and AD
- Children know dinosaurs existed, but not at the same time as humans
- Children have a concept of cavemen

| Key Vocabulary | Definition |
|---|---|
| Archaeology | The remains of the past |
| Flint | A type of stone used to make and be tools and weapons |
| Mesolithic | the middle period where stone tools were improved by making them smaller and more precise (known as microliths). The earliest farming developments began to emerge. |
| Neolithic | the latest period of the Stone Age where stone tools were further improved and polished, farming was developed and settlements grew. |
| Palaeolithic | the earliest period where people first used chipped stone tools. |
| Quarry | A place where stone comes from |
| Stone Age | A period of prehistory where we look at how stone was a key part of peoples lives. |

## Image / diagram

## Important People / Places

- Skara Brae
- Stonehenge

# Earthquakes and Volcanoes

## Key Facts

Volcanoes are made when pressure builds up inside the Earth.
There are 3 types of volcano: active, extinct and dormant.

Earthquakes are caused when the Earth's tectonic plates suddenly move.
Most earthquakes occur near tectonic plates/boundaries.
Earthquakes and Volcanoes can cause lots of damage and even loss of life.

## Prior Knowledge

There are 7 continents and 5 oceans.

| Key Vocabulary | Definition |
|---|---|
| erupt | To suddenly burst out causing lava to explode out of the Earth's surface. |
| Volcano | An opening or rupture in the Earth's crust through which lava, gas and ash escape. |
| Earthquake | A violent movement of part of the Earth's surface. |
| lava | Molten, hot flowing rock from a volcano. |
| Tectonic plates | The Earth's crust is made up of large areas called tectonic plates which join together. |
| epicentre | A point of the Earth's surface at the centre of the earthquake. |

## Image / diagram

## Important People / Places

## Key Facts

- Comment t'appelles-tu? – What is your name?
- Je m'appelle… – My name is …
- être – to be
- Quel âge as-tu? – What is your name?
- je suis – I am
- Adjectives for boys and girls have different spellings and pronunciations
- Months of the year do not have capital letters in French.

## Prior Knowledge

**Bonjour – hello**
**Salut - hi**

## C'est moi! Year 3

| Key Vocabulary | Definition |
|---|---|
| Écoute | Listen |
| Répète | Say it back (repeat) |
| grand / grande | tall |
| petit / petite | small |
| Il y a … | There are … |
| j'ai ___ ans | I am ____ years old |
| Mon anniversaire c'est en _____. | My birthday is in ____. |

## Image / diagram

| | | | |
|---|---|---|---|
| 1 | un | 7 | sept |
| 2 | deux | 8 | huit |
| 3 | trois | 9 | neuf |
| 4 | quatre | 10 | dix |
| 5 | cinq | 11 | onze |
| 6 | six | 12 | douze |

## Important People / Places

Royaume-Uni – United Kingdom

## Prior Knowledge

Levers and sliders can be found in existing products such as pop up books.
You can adapt materials to allow them to move.

## Technical Knowledge

Levers have a pivot point that allows it to move an object. Pushing one end of the arm will cause the opposite end to move.

A product must be appealing to the person it is being made for. You can do this by decorating the product.

## What will I be able to do after I make my pop up book.

### Design

Use my imagination to design how I will present my pop up book. Share my ideas through talking and drawing.

### Make

Choose a specific movement to represent my natural disaster. Choose a range of pop up mechanisms to make my book interesting and appealing.

### Evaluate

Explore and evaluate a range of existing pop up books to help me choose my mechanisms.
Is my pop up book appealing and functional?
Say what I like about my pop up book.

# Pop Up Book – Angry Planet Year 3

| Key Vocabulary | Definition |
|---|---|
| Functional | Designed to practical and useful. |
| Appealing | Attractive or interesting. |
| Pop up | (of a book or greetings card) containing folded cut-out pictures that rise up to form a three-dimensional scene or figure when the page is turned. |
| Mechanism | A system of parts working together in a Machine. |
| Component | A part or element of an object. |
| Lever | An arm or handle that is moved to operate a mechanism. |
| Pivot | The central point or pin on which a mechanism turns or moves around. |

## Image / diagram

Box Fold Pop Up

Incised Fold Pop Up

V Fold Pop Up

slider

## Health and Safety

Hold scissors safely: blades closed, hand around the blade, always walk when carrying scissors.

Purple Mash Computing Scheme: Knowledge Organiser

# Year 3 Spreadsheets

## Key Learning

- To understand the layout and features of 2Calculate in Advanced Mode.
- To use the arrows toolbar to be able to automatically total rows and columns.
- To use simple formulae in a spreadsheet by using the formula wizard.
- To use advanced formulae in a spreadsheet to calculate totals, averages and to find the highest and lowest values.
- To apply spreadsheet skills to solve real-world problems.
- To design and use a spreadsheet to answer a series of questions.

## Key Resources

2Calculate

## Key Vocabulary

**Advanced Mode**
A mode within a system that offers greater control or more complex options than a basic mode.

**Copy Tools**
The Copy tools will copy the contents of the cell on one side of the tool over to the other side.

**Data**
A set of facts or information about something.

**Formula**
A set of instructions that tells a spreadsheet what to calculate.

**Formula Bar**
An area of a spreadsheet where formulae can be entered using the '=' sign.

**Formula Wizard**
A tool in a spreadsheet that helps you to choose and make formulae without having to type them in.

**Function**
A built-in formula that performs a specific job automatically.

**Merge**
The process of combining multiple cells into one larger cell, often for formatting or for creating titles.

**Operations**
The four operations of mathematics (addition, subtraction, multiplication and division.)

**Range**
A group of cells that you select together to use in a function.

**Sheet**
A single page within a spreadsheet file. You can have more than one sheet in a file.

**Total Tools**
The Totals tools will add up all the cells before it and present a total.

Purple Mash Computing Scheme: Knowledge Organiser

Year 3 Spreadsheets

## Key Images

Total Arrow

Formula Wizard

Cell Address Box

Formula Bar

Advanced Mode

Add Sheet

Add Column

Merge Cells

## Key Questions

**What is the difference between the copy and total arrows?**

The copy arrow copies the number in the cell to the left of the tool and displays it in the cell to the right. The total arrows are used to find the total amount of multiple numbers in a row, column or diagonal.

**What is a formula?**

A formula is a set of instructions that tells a spreadsheet what to calculate. It can often help you to complete different mathematical problems.

**What is the formula wizard?**

The formula wizard is a tool in a spreadsheet that helps you to choose and make formulae without having to type them in yourself.

**What is a function?**

A function is a built-in formula that performs a specific job automatically. For example, the SUM function adds up all numbers in a range of cells, and the MIN and MAX functions will find the smallest or largest number in a set of data.

Purple Mash Computing Scheme: Knowledge Organiser

# Year 3 Coding

## Key Learning

- To understand what a flowchart is and how flowcharts are used in computer programming.
- To understand that there are different types of timers.
- To understand how to use the repeat command.
- To understand the importance of nesting when coding, testing and debugging.
- To design a program.
- To use design documentation to code a program.

## Key Resources

2Code

## Key Images

Open Design view

Open Code view

Object and actions

Timer after

Timer every

Repeat

## Key Questions

**How have you used sequencing and repetition in programming?**

When a program runs commands step by step, it is a sequence.
Repetition causes part of the program to repeat; this can be done using repeat blocks or timer every blocks.

**What process do you follow when debugging?**

Refer to design documents that explain how the program should run. Run the code to find where this is not happening correctly. Read the code systematically line by line to identify where errors might have happened and then debug those parts of the code.

**Explain why exploring the way code is nested is a good place to investigate bugs.**

It can be easy to incorrectly nest commands so that the code does not run in the intended order. Checking that all code is nested correctly can help to work out where there are bugs in the program.

Purple Mash Computing Scheme: Knowledge Organiser

Year 3 Coding

## Key Vocabulary

**Action**
The way that objects change when programmed to do so. For example, move.

**Alert**
This is a type of output. It shows a pop up of text on the screen.

**Algorithm**
A set of detailed, step by step instructions.

**Attribute**
A detail about an object in a program that can be changed. For example, its name, scale or position.

**Button Object**
A type of object in 2Code that responds only to click events.

**Collision Detection**
An event command that detects whether two objects have touched each other.

**Debug\ Debugging**
Fixing code that has errors so that the code will run the way it was designed to.

**Design**
Planning how a computer program should look and work before building it.

**Event**
Something that happens in a program that causes a block of code to be run. Events include 'When Clicked', 'When Key' and 'When Swiped'.

**Flowchart**
A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm.

**Interval**
In a timer, this is the length of time between the timer code running and the next time it runs e.g. every 1 second.

**Nesting**
When coding commands are put inside other commands. These commands only run when the outer command runs.

**Object**
An item in a program that can be given instructions to move or change in some way (carry out an action).

**Repeat**
This command can be used to make a block of commands run a set number of times or forever.

**Sequence**
When a computer program runs commands in order.

**Timer**
In coding, use a timer command to run a block of commands after a timed delay or at regular intervals.

**Turtle Object**
A type of object in 2Code that moves by coding angles of rotation and distance to move.