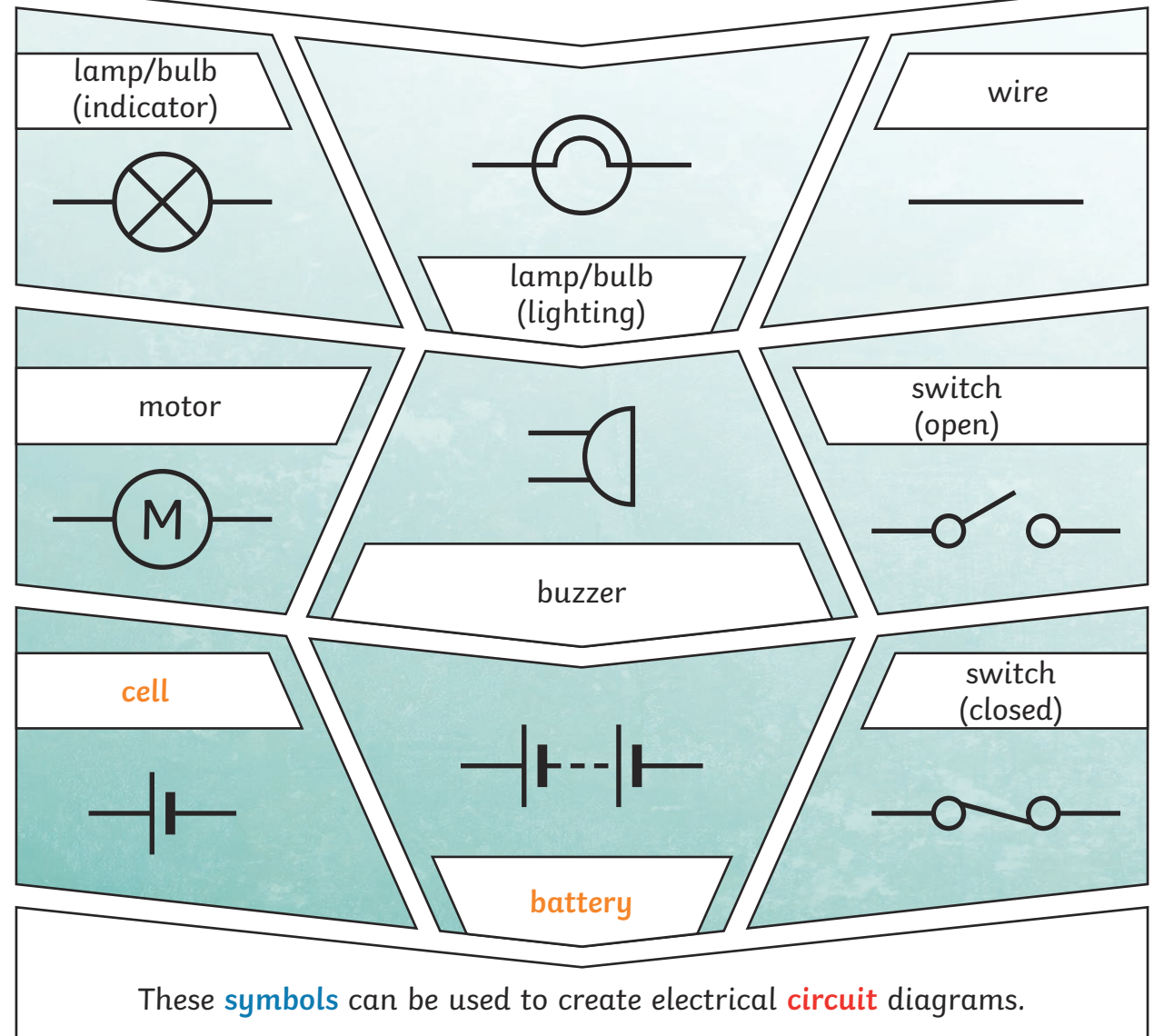


Key Vocabulary

circuit	A path that an electrical current can flow around.
symbol	A visual picture that stands for something else.
cell/battery	A device that stores chemical energy until it is needed. A cell is a single unit. A battery is a collection of cells .
current	The flow of electrons , measured in amps .
amps	How electric current is measured.
voltage	The force that makes the electric current move through the wires. The greater the voltage , the more current will flow.
resistance	The difficulty that the electric current has when flowing around a circuit .
electrons	Very small particles that travel around an electrical circuit .

Key Knowledge

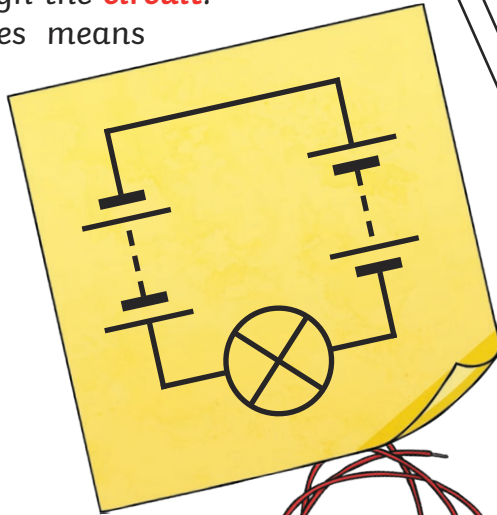
Components of a **Circuit** and Their **Symbols**

To look at all the planning resources linked to the Electricity unit, [click here](#).

Key Knowledge

What will make a bulb brighter or a buzzer louder?

- More **batteries** or a higher **voltage** create more power to flow through the **circuit**.
- Shortening the wires means the **electrons** have less **resistance** to flow through.

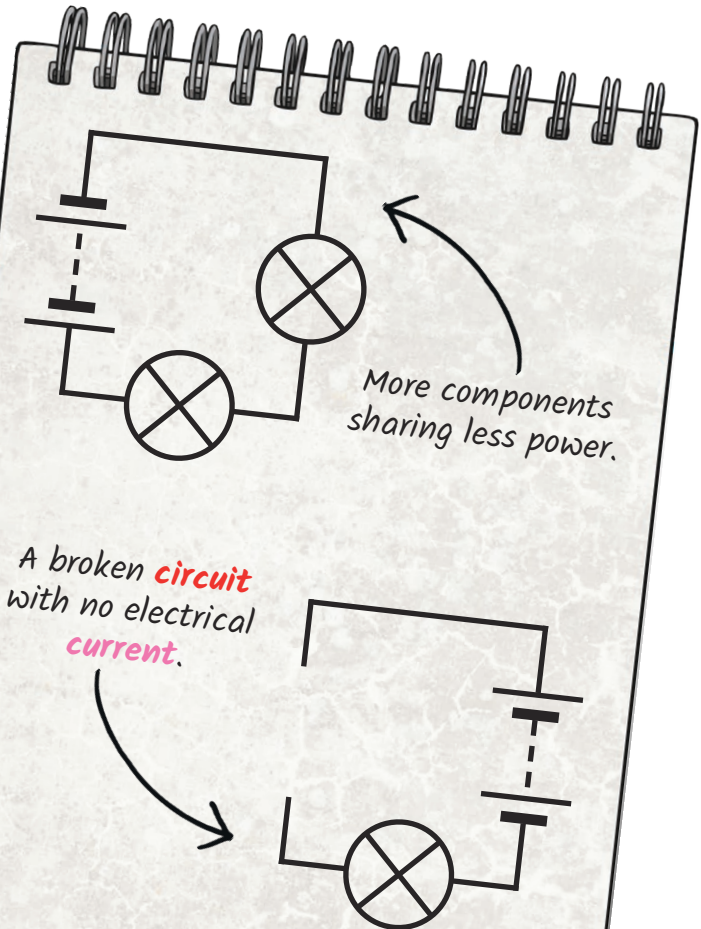


Series Circuit

A **circuit** that has only one route for the **current** to take. If more bulbs or buzzers are added, the power has to be shared and so they will be dimmer or quieter. If just one part of this series **circuit** breaks, the **circuit** is broken and the flow of **current** stops.

What will make a bulb dimmer or a buzzer quieter?

- Fewer **batteries** or a lower **voltage** give less power to the **circuit**.
- More buzzers or bulbs mean the power is shared by more components.
- Lengthening the wires means the **electrons** have to travel through more **resistance**.



Key Vocabulary	
biomes	large geographical area which is home to certain plants and animals, specially adapted to suit the environment.
climate	The usual or average weather conditions over a long period of time.
continent	A large landmass made up of many countries .
country	An area that is controlled by its own government.
equator	An imaginary line around the globe at latitude 0° north dividing the earth into northern and southern hemispheres.
flora/fauna	Plant and animal life.
latitude	Imaginary parallel lines which circle the globe from east to west.
longitude	Imaginary lines which run north to south across the globe from pole to pole.
weather	The specific atmospheric conditions on a given day including temperature and rainfall.

The Americas
<ul style="list-style-type: none"> The Americas are two separate continents consisting of North America and South America. North America contains 23 different countries. The Americas cover a huge area of the globe, extending over several lines of latitude and longitude. The characteristics of different countries and regions vary significantly, including weather, land use and flora and fauna.



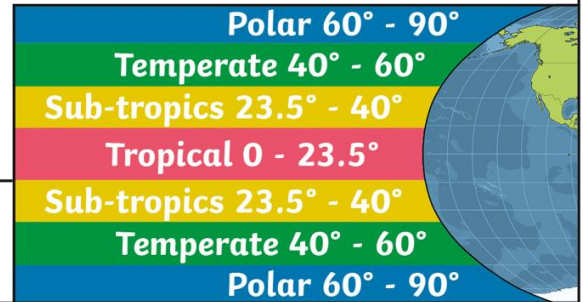
How Can You Compare Different Places?	
<p>Physical Geography</p> <p>The natural features of a place or environment.</p> <ul style="list-style-type: none"> oceans and coastlines rivers and lakes mountains and volcanoes flora and fauna land-form 	<p>Human Geography</p> <p>Features of an environment that have been shaped by people.</p> <ul style="list-style-type: none"> country/region boundaries buildings, roads and land use changes to river courses languages/signs religion, government, art and music

Climate Groups

The Köppen System is a climate classification system. It is split into five main groups which each consist of a range of climate types:

- Temperate - hot dry summers, and cooler wetter winters, Mediterranean e.g. United Kingdom
- Continental - long, cold winters and short, hot summers, inland areas e.g parts of Turkey
- Polar - long periods of extreme cold, tundra, ice cap e.g. Antarctica
- Tropical - hot and humid, wet, rainforest e.g. Brazil
- Dry - arid, desert e.g. Saudi Arabia

The four main **climate** zones, determined by **latitude**.



The New Seven Wonders of the World

Christ the Redeemer, Brazil	Machu Picchu, Peru	Chichen Itza, Mexico	The Colosseum, Italy	Taj Mahal, India	The Great Wall of China	Petra, Jordan

Some of the Natural Wonders of the Americas

Grand Canyon, Arizona	Niagara Falls, Ontario/New York	Angel Falls, Venezuela	Yosemite Valley, California	Kilauea, Hawaii	Great Blue Hole, Belize	Amazon Rainforest, Brazil

Great Blue Hole - Belize by Larry Malvin is licensed under [CC BY 2.0](https://creativecommons.org/licenses/by/2.0/)

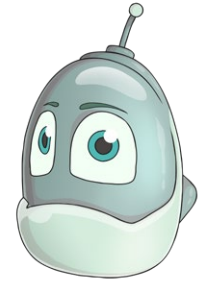
Key Vocabulary	
acceleration	An increase in speed or rate.
character	An object or 3D model that takes on a role in a computer game.
node	An angle point that connects two paths.
object	A character or an element that can be added to a world and programmed.
obstacle	Something blocking a pathway.
path	A trail that an object can be programmed to follow.
program	A set of instructions that a computer uses to perform a specific function.
world	An animated, 3D environment created with computer graphics where a user can interact with characters, objects or other game users.

What is Kodu?

Kodu is a simple visual programming language that uses picture tiles which can be added together to create a set of instructions.

In coding, a set of sequenced instructions or rules for solving a problem or completing a task in a logical order is called an algorithm.

Kodu teaches coding in a fun way.



What can I do in Kodu?

Kodu is great for creating computer games. You can build new **worlds**, add **characters** and **objects** and write the code to control game play.

As well as improving your programming skills, Kodu also helps to develop logical thinking, problem solving, collaboration and creativity. Using Kodu may start you on the path to a career in game design!



Worlds

From the start up menu, you can choose to load a **world** designed by someone else or create a new **world**.

You can also use the **RESUME** option to go back to a **world** you were working on before.

Choose **NEW WORLD** and use the tools in the **Tool Palette** to design your own landscape. Use the **Ground Brush** to add more land to your world.

Explore the tools to build hills and valleys and even add areas of water.



Adding Objects

Select the **Object Tool** on the **Tool Palette** and choose the **object** or **character** you want to add.

Click somewhere on the **world** and the **object** will appear.

Right click on the **object** to open a new menu. Here, you can choose to **Change Settings** or **Program** the **object**.

Explore the **Change Settings** menu to find out how to control different aspects of how an **object** behaves, such as its rate of **acceleration**.

Programming

Once you have added an object to your world, you can **program** it. All programming in Kodu is based on the two simple ideas of **when** and **do**.

When this happens... ...**do** this action.



To access the programming tiles, make sure that the **Object Tool** is selected. Right click on the **object** and select **Program** from the menu that appears.

Tool Palette (Some tools may have been renamed in newer versions of the Kodu software - these alternative names are shown below.)

Home Menu	Play Game	Move Camera	Object Tool	Path Tool	Ground Brush	Raise Up/Down	Smooth/ Flatten Flatten	Roughen	Water Tool	Delete Tool	World Change World Settings