

Knowledge Organisers

1st Summer Term

Science

History

Geography

Art

PSHE

French

Computing

R.E.

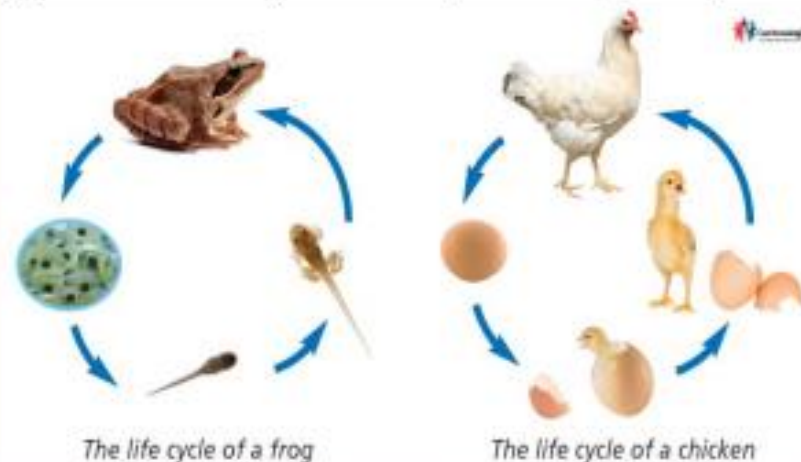
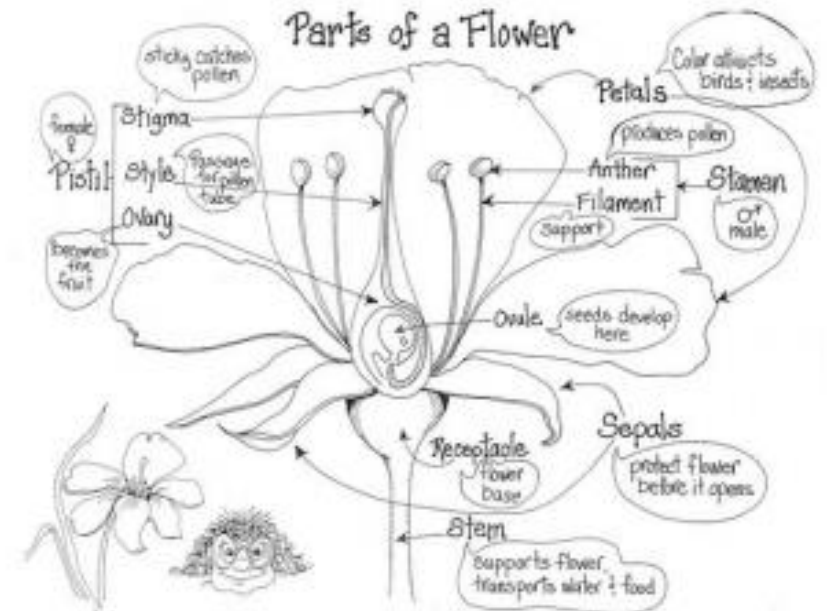
P.E.

Swimming

Year 5

Knowledge Organiser – Science – Year 5 – Life Cycles and Reproduction

Key Vocabulary	Definition
life cycle	development of an organism from birth through reproduction to death
reproduce	to make again or make a copy of
reproduction	the process of making a copy of
asexual	non-sexual reproduction
spore	seed released by a fungus
cloning	to make an exact copy of the parent
regeneration	the ability to replace lost cells or even lost body parts
gametes	male or female germ cell needed for sexual reproduction
internal fertilisation	sperm and egg join inside the body of the female parent
external fertilisation	sperm and egg join outside the bodies of the parents
embryo	a developing organism
zygote	a fertilised egg
gestation	the carrying of an embryo inside a female
monocot	a flowering plant whose seed only contains one embryonic leaf
stamen	the male reproductive organs of a plant
pistil	the female reproductive organs of a plant



Key Knowledge

I know that plants can reproduce asexually.

I know the parts of a flowering plant.

I understand seeds are dispersed by animals, humans, water, wind or the explosion of the seed pod.

I know about the life cycle and reproductive system of animals.

Knowledge Organiser - The Industrial Revolution - History - Year Five

Key Vocabulary	Definition
Industrial Revolution	A time of great change in Britain between 1750 to 1900
Population	The number of people living in a particular place
Invention	Something new which is created, can be an object or an idea
Economy	The system of how money is used within a particular country
Agriculture	The process of farming, including both growing and harvesting crops and raising animals, or livestock.
Poverty	The lack of basic human needs such as clean water, nutrition, healthcare, education and shelter
Industry	The process of making products by using machines and factories
Mass production	The manufacture of a product in large numbers and at a low cost.



Pre-industrial Britain



Post-industrial Britain

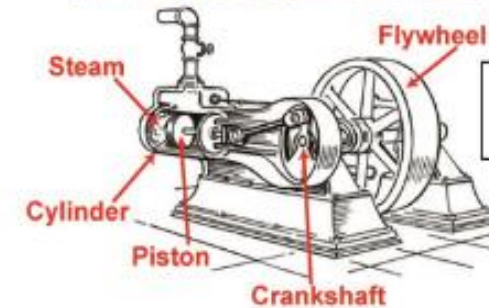
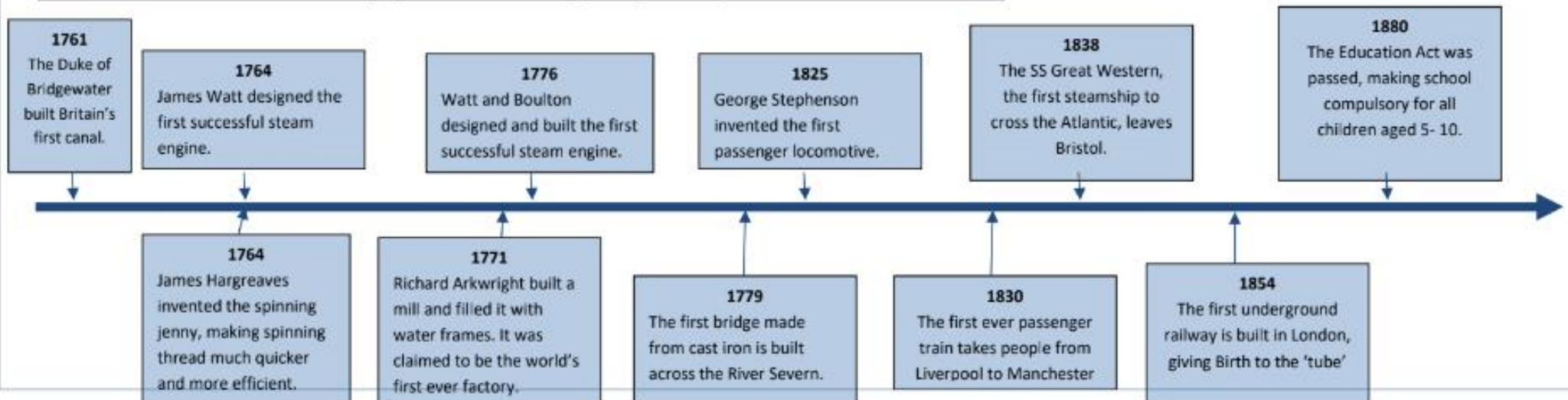


Diagram of a steam engine

Key Knowledge
I know the 'Industrial Revolution' describes the change from a society based on hand manufacturing and human or animal power, to a society based on machinery in factories.
I know the steam engine was one of the most important inventions of the industrial revolution.
I understand the how goods were transported in the Industrial Revolution.
I know industrial revolution caused cities to grow rapidly and that this was called urbanisation
I understand Victorian children played a role and had dangerous jobs during the industrial revolution.



Year 5 - Knowledge Organiser – Geography – New Zealand

Key Vocabulary	Definition
Southern Hemisphere	The half of Earth that is south of the Equator.
Volcano	A crater or vent through which lava, rock fragments and gases erupt from the Earth's crust.
Geyser	A hot spring in which water boils, sending a tall column of water and steam into the air
Tectonic plate	A massive slab of rock that moves over a liquid mantle
Active	A volcano that has erupted in the last 10,000 years. (Can be dormant or erupting).
Dormant	A volcano that is active but not erupting at the moment
Extinct	Volcano that has not erupted in the last 10,000 years, OR a species that has died out and no longer exists.
Predator	An animal that naturally preys or hunts other animals.

Key Knowledge
New Zealand is a country in the Southern Hemisphere made up of two islands
New Zealand is located on a plate boundary and so has active volcanoes and geysers
Maori were the first people to live in New Zealand and have their own customs and language.
New Zealand has many animals and plants that are only found on this island
The South Pacific has many small islands including Easter Island.



Wellington	Geyser	All Blacks	Kiwi	Easter Island
				
Wellington has been the capital city of New Zealand since 1865	Pohutu Geyser, which erupts up to 15 times a day and shoots hot water around 30m skywards.	The New Zealand national rugby team known as the All Blacks	A native flightless bird which is the national symbol of New Zealand	The distance between Easter Island and New Zealand is 7084km,

Knowledge Organiser –Moving Toys - Design Technology - Year Five

Key Vocabulary:

Pulley	A grooved wheel over which a drive belt can run.
Gear	A wheel with teeth around its circumference.
Axle	A rod or spindle (either fixed or rotating) passing through the centre of a wheel or group of wheels.
Frame structure	The fitting together of pieces to give a structure support and shape.
Reinforce	To strengthen or support (an object or substance), especially with additional material.
Join	To link or connect two parts together.
Innovation	The process of creating a new method, idea, product, etc.
User	The person who will use the new product.
Purpose	The reason for which something is done or created or for which something exists.
Design brief	A document for a <i>desian</i> project developed by a person or team. They outline the details of the project including any the function, aesthetics, timing and budget.
Crank	A part of an axle or shaft bent out at right angle used to create movement.
Cam	Devices which can convert round motion into a straight line motion.

Key Knowledge:

I can explore the shape, patterns and key feature of animals when sketching.

I know why prototypes are used.

I understand how different mechanisms, involving cranks and cams, create different movement.

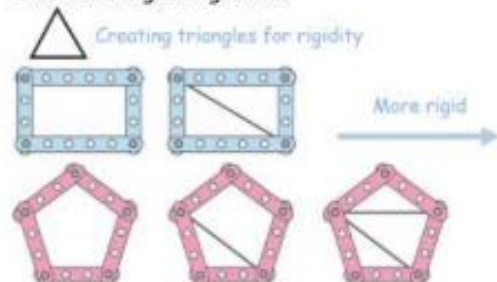
I know how triangulation strengthens a structure.

Gears

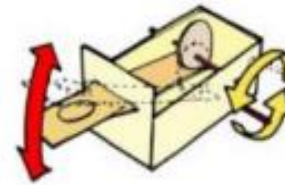
- Gears are toothed wheels that lock together and turn one another.
- The wheels are usually different sizes so that one gear speeds up to slow down the next gear. Gears are also used to change the direction of movement.



Understanding triangulation



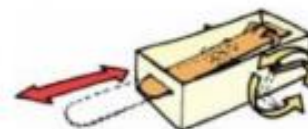
a simple crank mechanism for chewing the head (not shown) is fixed, the lower jaw moves



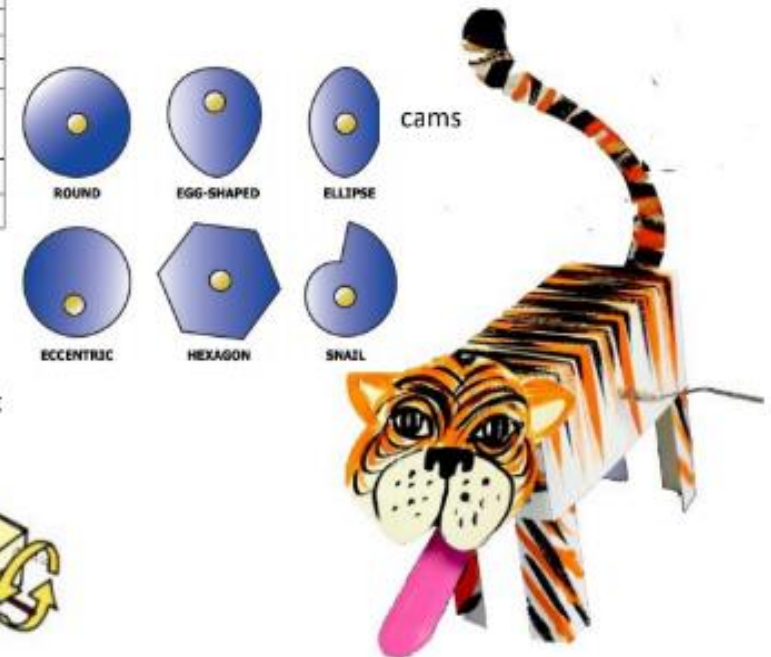
a simple cam and lever mechanism for gaping the lower jaw (not shown) is fixed, the rest of head moves



a simple cam and lever mechanism for roaring the lower jaw (not shown) is fixed, the rest of head moves



a simple crank and slider mechanism for licking the head (not shown) is fixed, the tongue moves in and out



Knowledge Organiser – PSHE – Relationships - Year Five



Key Vocabulary	
Self-esteem	A feeling of being happy with your own character and abilities.
Attributes	To regard a quality or feature as belonging to somebody/something.
Characteristics	A typical feature or quality that something/somebody has.
Compromise	An agreement made between two people or groups in which each side gives up some of the things they want so that both sides are happy at the end.
Pressure	The act of trying to persuade or to force somebody to do something.
Jealousy	Feeling angry or unhappy because somebody you like or love is showing interest in somebody else.
Bullying	The use of strength or power to frighten or hurt people. This can be face to face or through the use of technology.
Safety	To feel safe and protected from danger or harm.

Key Knowledge
I have an accurate picture of who I am as a person in terms of my characteristics and personal qualities
I understand how it feels to be attracted to someone and what having a boyfriend / girlfriend might mean.
I understand how to stay safe when using technology to communicate with my friends.



Reflective questions

Ask me this...

What does friendship mean to you?

How do you know who you are talking to online?

What are good ways I can keep myself safe when using technology?

Knowledge Organiser Year 5 French Unit 5: En vacances

Key Language	English
Où vas-tu en vacances?	<i>Where are you going on holiday?</i>
Je vais	<i>I'm going ...</i>
à la campagne	<i>to the countryside</i>
à la montagne	<i>to the mountains</i>
au bord de la mer	<i>to the seaside</i>
au camping	<i>to a campsite</i>
au parc d'attractions	<i>to a theme park</i>
à Hunstanton / à Paris etc	<i>to Hunstanton / to Paris</i>
en France / en Espagne etc	<i>to France/to Spain</i>
J'aime ça / Je n'aime pas ça.	<i>I like that/I don't like that.</i>
J'adore ça / Je déteste ça.	<i>I love that/I hate that</i>
Qu'est-ce que tu vas faire?	<i>What are you going to do?</i>
Je vais...	<i>I'm going ...</i>
faire du bateau	<i>to go boating</i>
faire du ski	<i>to go skiing</i>
nager	<i>to swim</i>
faire du sport	<i>to do sport</i>
faire du vélo	<i>to go biking</i>
voir mes grand-parents	<i>to see my grandparents</i>
faire les manèges	<i>to go on the fair-ground rides</i>



Je vais au camping
à la montagne.



Je vais faire du vélo.



Je vais au bord de la mer
à Hunstanton.



Je vais faire les manèges.

KEY QUESTIONS

Où vas-tu en vacances?

Where are you going on holiday?

Qu'est-ce que tu vas faire en vacances?

What are you going to do on holiday?

Tu aimes ça?

Do you like that?

Knowledge Organiser –Programming – Selection in Physical Computing – Computing – Year 5

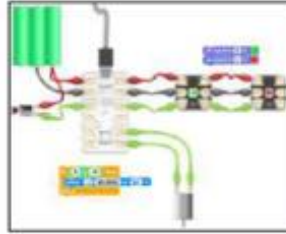
Key Vocabulary	Definition
Programming	Inputting a set of instructions into a device (usually a computer).
Circuit	A path created between two or more points which carries an electrical current.
Electricity	The flow of electrons through an object. It is the effects of an electric charge.
Microcontroller	A small device that can be programmed to control other devices that are connected to it.
Code	A set of instructions or rules that are written in a particular language understood by a computer system.
LED	An output device that can emit light when electricity is passed through it.
Algorithm	A set of instructions for performing a task, specifically used in coding.
Motor	An output device that can start, stop, go at different speeds and spin forwards and backwards
Modify	Changing or improving a programme
Debugging	The process of removing errors from computer hardware or software systems.

Sequencing and Algorithms	Trialling and Debugging
<p>-A sequence is a pattern or process in which one thing follows another.</p> <p>-We design algorithms (sets of instructions for performing a task) to help us program sequences involving multiple output devices (e.g. LEDs and motors).</p> <p>-Programming is the process of keying in the code recognized by the computer into the software (using your algorithm).</p>	<p>-Programmers do not put their computer programs straight to work. They trial them first to find any errors:</p> <p>-Sequence errors: An instruction in the sequence is wrong or in the wrong place.</p> <p>-Keying errors: Typing in the wrong code.</p> <p>-Logical errors: Mistakes in plan/thinking.</p> <p>-If your algorithm does not work correctly the first time, remember to debug it.</p>

Key Knowledge:
A microcontroller is a programmable device that can control outputs and respond to inputs
To know that an infinite loop means that an action will be repeated forever
To understand algorithms can be presented in different ways.
To know that count-controlled loops are used to control a condition and that conditions can only be true or false.
To understand that 'do until' loops are used to repeatedly carry out actions,
To be able to read code and describe what the output from given code will be.

Overview

Selection in Physical Computing



- Programming is when we make and input a set of instructions for computers to follow.


- Microcontrollers are devices that can be programmed to control output devices that are connected to them.

- We use algorithms which we can plan, model, trial and debug, in order to create accurate command sequences, involving multiple output devices (e.g. LEDs and motors).

Microcontrollers, LEDs and Motors


-**Microcontrollers:** A microcontroller is a small device that can be programmed to control devices that are connected to it.

-One brand of widely used microcontroller is called a Crumble controller, which can be used to control many things, e.g. LEDs and motors.




LEDs:

-LEDs are output devices that emit light. When electricity is passed through an LED it produces light. One type of LED light, controlled by a Crumble controller, is called a Sparkle.




Motors:

-Motors are another output device. A motor can start, stop, spin forwards, spin backwards, and go at different speeds.



Creating Circuits:



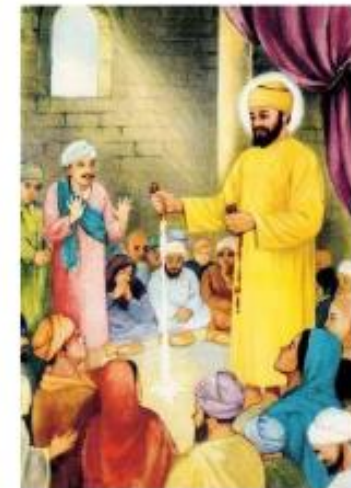
-The USB port connects the microcontroller to a computer. Crocodile clips pass electricity and data through to the LED/motor.

-The + and - power pads on the Crumble should be connected with the + and - power pads on the Sparkle and battery box. The D pads on the Crumble and Sparkle should also be connected.

R.E. Year 5 Summer 1 Knowledge Organiser
Enquiry: Are Sikh Stories Important Today?



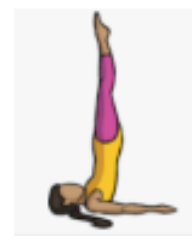

Key vocabulary	Definition
Guru	Teacher: used in Sikhism to refer to the ten human Gurus and Guru Granth Sahib
Guru Granth Sahib	Sikh Holy Book
Gurdwara	Sikh place of worship
Waheguru	A god
Guru Nanak	The first Guru and founder of the Sikh faith (1460-1539)
Compassion	Being sympathetic towards those less fortunate.
Equality	The same for everyone

Key Knowledge
I can say why a particular book is special for me.
I know the Sikh Holy Book is called Guru Granth Sahib and it is treated with great respect by the Sikhs. They do not call it a book, they call it Guru, meaning Teacher.
I can retell some stories from the Guru Granth Sahib.
I know that Sikhs value honesty, equality, and truthfulness.
I can explain the key Sikh values and how they can be reflected in my life.




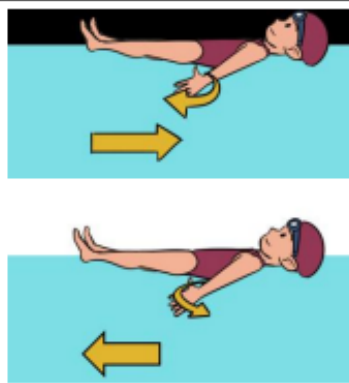
Key Vocabulary	Definition
Innings	One player's or one team's turn to bat (or bowl).
An over	The delivery of six consecutive legal balls by one bowler.
Crease	The lines in front of the wickets that mark positions for the bowler and batter.
Inverted movement	An action where the hips go above the head such as a shoulder stand, bridge and cartwheel.
Canon	When performers complete the same physical action one after another.
Unison	When performers complete the same physical action at the same time.

Skill development	
Cricket	Gymnastics
Develop a wider range of fielding skills and begin to use these under some pressure.	Use canon and unison, and matching and mirroring when performing with a partner and a group and say how it affects the performance.
Strike a bowled ball with increasing accuracy.	Lead a partner through a short warm-up routines.
Work collaboratively to score runs.	Create and perform sequences using apparatus, individually and with a partner.
Work co-operatively to manage a game.	Use feedback provided to improve my work.

Skills	
Crease	
Wicket keeper	
Shoulder stand	
Synchronisation	

Key Vocabulary	Definition
Dolphin kick	A dolphin kick is usually used for the butterfly stroke. Created by whipping motion with both legs together.
Stroke	A style of swimming. There are four competitive strokes: butterfly, backstroke, breaststroke, freestyle.
Inhale/Exhale	The acts of breathing in (inhale) and out (exhale).

Skill development
Swim competently, confidently and proficiently over a distance of at least 25m.
Use a range of strokes effectively (for example, front crawl, backstroke and breaststroke).
Perform safe self-rescue in different water-based situations.

Skills	
Front crawl arm action	
Sculling	
Breathing when swimming	