







Knowledge Organiser – Art ‘Living Things’ Year 4

Article 28 I have the right to an education

Key Knowledge and Skills	Key vocabulary		Cultural Heritage
<p>DISCUSSION AND SKETCHBOOKS To use art vocabulary and sentence stems to discuss wildlife photography. To give opinions and express feelings.</p>	<p>combine</p>	<p>Put together</p>	<p>Tariq Hameed Sulemani, a Pakistani wildlife photographer, has made the country proud by winning the Best of Nation Award at the World Photographic Cup 2019.</p>
<p>Know how to <u>combine graphics</u> and text</p>	<p>graphics</p>	<p>Images such as drawings and photographs</p>	
<p></p> <p>I like the way the lion is hidden I like how cheeky the giraffe looks.</p>	<p>texture</p>	<p>How something might feel (coarse, hairy, silky)</p>	
<p>Know how to use lines and marks to create <u>texture</u></p>	<p>pattern</p>	<p>Natural Plain Intricate Symmetrical Stamped Irregular Overlapped Continuous Tessellation Cross Hatch Stripes Zig - Zag</p>	
<p>Know how to use lines and marks to create <u>texture</u></p>	<p>line</p>	<p>Straight Broken Faint Free Angular Curvaceous Fine Sharp Thick Broad Short Curved Scribble Confident Strong Wavy Bold Thin Soft Jagged Loose Flowing</p>	<p>Daniel Mirlea, Romanian wildlife artist.</p>
<p>How to produce art in the style of Romero Britto, using pattern, line and block colour</p>	<p>colour</p>	<p>Primary Complimentary Pale Bright Warm Tinted Contrast Harmonious Flat Pure Secondary Dull Deep Vibrant Cool Soft Shade Pastel Hue Mixed</p>	<p>Pakistani wildlife</p>
<p></p>			<p> </p>
			<p>Somalian wildlife</p>
			<p> </p>

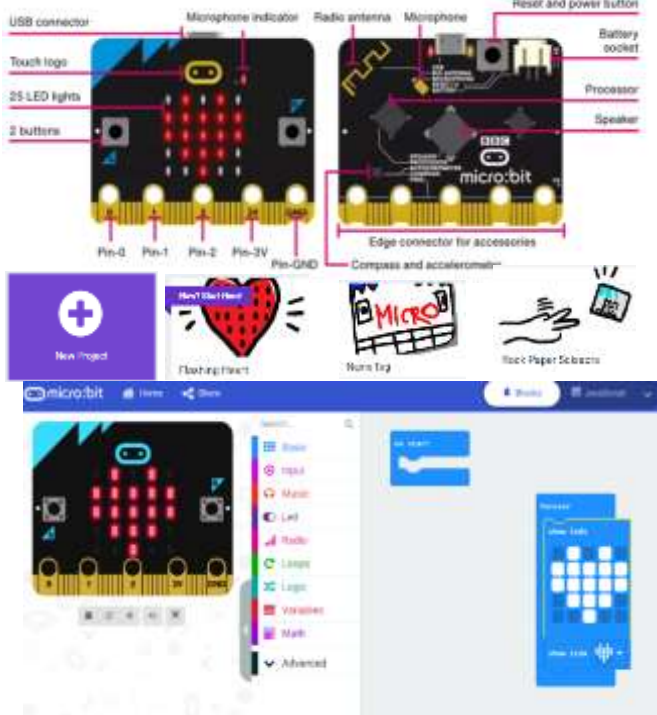
Key Knowledge

Unit 4.2: We are makers Coding for micro:bit

During this sequence of learning, pupils will write and test their own micro:bit project, after analysing and modifying others. We will explore the MakeCode environment using the BBC micro:bit simulator.

WWW.Micro.bit.org/code

Let's code



Key Vocabulary

Accelerometer	Hardware component providing data on changes in motion, typically in three directions
Algorithm	A sequence of precise instructions or steps (sometimes a set of rules) to achieve an objective
Bluetooth	Wireless digital communication protocol using low energy signals over short distances
If/else if/else	Programming selection construct which indicates what code should be run depending on which one of multiple conditions are satisfied
JavaScript	Text-based programming language, commonly used to power interactive web pages
LED	Light emitting diode, an electronic component that lights up when current flows in one direction
MakeCode	Block- and text-based editor from Microsoft, supporting a variety of hardware platforms including the micro:bit
Micro:bit	Simple, single board programmable computer with integrated input, output and network capabilities
Object code	A version of the program converted (compiled) into the detailed instructions to be followed by the computer's processor
Runtime	The complete software environment (operating system, drivers, interpreter) needed for a program to run on particular hardware
Simulator	Software allowing one computer system to behave as another; in this case the MakeCode editor include an on-screen simulator of a micro:bit so that programs can be tested
Source code	The program as written, in a language that can be understood by both the programmer and the computer
Variable	Lets computer programs store, retrieve or change simple data – typically thought of as a particular bit of the computer's memory that holds a specific bit of data

Cultural Heritage

Ada Lovelace
A British Born Computing Pioneer.






Ada Lovelace's story

Ada Lovelace is credited with writing the first algorithm that was meant to be processed by a machine. She was the first one to realize that a computer would be able to do more than just performing mathematical calculations.

Can you find any interesting facts about Ada Lovelace?

P.E Knowledge Organiser – Young Olympians – Year 4

Key Knowledge		Key vocabulary	Cultural Heritage																		
<p>There are lots of different events, which require a range of skills in the Olympics. They are broken down into two groups – track (running and jumping events) and field (throwing events).</p>	 	<table><tr><td>stamina</td><td>The ability to sustain prolonged physical activity.</td></tr><tr><td>speed</td><td>How fast, or slow someone moves.</td></tr><tr><td>pace</td><td>Speed in walking, running, or moving.</td></tr><tr><td>technique</td><td>How you perform or do a certain task or skill.</td></tr><tr><td>determination</td><td>The ability to continue to try something.</td></tr><tr><td>perseverance</td><td>To do something even if you find it hard.</td></tr><tr><td>power</td><td>To move or travel with great speed or force.</td></tr><tr><td>accuracy</td><td>To be able to do something with control.</td></tr><tr><td>personal best</td><td>To do your best in a sport or event.</td></tr></table>	stamina	The ability to sustain prolonged physical activity.	speed	How fast, or slow someone moves.	pace	Speed in walking, running, or moving.	technique	How you perform or do a certain task or skill.	determination	The ability to continue to try something.	perseverance	To do something even if you find it hard.	power	To move or travel with great speed or force.	accuracy	To be able to do something with control.	personal best	To do your best in a sport or event.	
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<p>Sprinting – there are 3 things to consider when sprinting:</p> <p>Stride length – stride lengthens when sprinting but remains comfortable (avoid overstriding).</p> <p>Arm action – arms swing from the shoulder with the elbow bent; they pump the more they accelerate. In full sprint, arms stay close to the body and move from ‘back pocket to chin’.</p> <p>Knee lift – knees lift high when sprinting.</p>																					
			<p><u>Bianca Denisa Răzor</u></p> <p>Bianca Denisa Răzor is a Romanian sprinter who specializes in the 400 metres. She represented Romania at the 2012 Summer Olympics as well as two World Championships.</p>																		
<p>Jumping</p> <ul style="list-style-type: none">• Swing arms back; bend knees and lean back onto the heels of your feet.																					



- Transfer weight forwards, swing arms forwards and back and extend legs.
- Keep head and body up in a tall position during flight.
- Land leaning forward with flat feet and bent knees, feet shoulder-width apart.

Javelin throw

1. Stand facing the direction of the throw.
2. Hold the javelin behind the body with the palm of the hand facing the sky.
3. Feet apart, with the opposite foot from the throwing arm in front of the body.
4. Move the body forward as the arm comes forward
5. Release the equipment as the arm moves past the head.

https://www.youtube.com/watch?v=7SRsN-Q8Deo&ab_channel=Lou55Harris



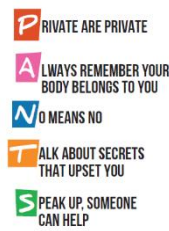





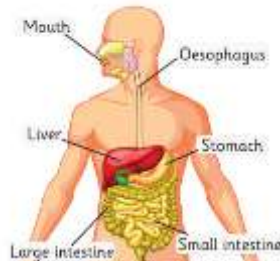




The Summer Olympic Games, also known as the Games of the Olympiad, are a major international multi-sport event normally held once every four years. The inaugural (first) Games took place in 1896 in Athens, Greece, and most recently the 2020 Summer Olympics were celebrated in 2021 in Tokyo, Japan.



Florence Delorez Griffith Joyner, also known as Flo-Jo, was an American track and field athlete. She set world records in 1988 for both the 100 m and 200 m. During the late 1980s she became a popular figure due to both her record-setting athleticism and eclectic personal style.

Knowledge Organiser – Year 4 –RHE 3.2 Article 28 I have the right to express myself

Key Knowledge		Key Vocabulary	Cultural Heritage																						
<p>Understanding and appreciating positive relationships</p> <p>Positive relationships</p> <p>How do people show that they care about each other?</p> <ul style="list-style-type: none">Showing respect to one another (listening, using manners, sharing)Spending time doing something together (sharing interests and experiences)Supporting someone when they are feeling upset (listening, offering help, showing that you care) <p>Sometimes people we care about live far away. <i>How can we show we care about them?</i></p> <p>Different types of bullying</p> <p>A bully is someone who threatens another person repeatedly in order to gain control over them. This may be done in different ways.</p> <div><p>Verbal Bullying – This is where a bully says things to you that are unkind. This could include name calling or saying nasty things to you.</p><p>Indirect Bullying – This includes ignoring someone, spreading rumours about someone or giving someone a nasty look more than once.</p><p>Physical Bullying – This is where someone physically hurts you. This could include hitting, scratching, pushing or tripping you up. It is a criminal offence to hurt someone else physically.</p><p>Cyber Bullying – This is where someone uses technology to be repeatedly unkind to someone. This could happen through the Internet, interactive computer games, text messages or phone calls.</p></div> <p>Who is the bully (abuser)? the victim? Who are the bystanders?</p> 	<p>Challenging stereotypes and misconceptions</p> <p>Stereotypes can limit our aspirations and self-belief. A girl may choose not to pursue a dream of being an astronaut, or a boy might feel he can't be a dancer. Damaging stereotypes are not only about careers and talents, but also about our own wellbeing and self-respect.</p> <p>Mental well-being and my family</p> <p>Some of the common mental health issues include:</p> <ul style="list-style-type: none"><i>Stress</i> –when someone feels overwhelmed by pressures or problems.<i>Anxiety</i> – when someone feels overwhelmed by worry<i>Depression</i> – when someone has an overwhelming feeling of sadness that will not go awayJust like when people have physical illnesses, they can get help from a GP and most people get better, the same thing is true of mental ill health.You can always speak to a trusted adult about yourself and your emotions or if you are worried about someone else.ChildLine is also a way of seeking support, or speaking to someone about worries. <p>Secrets and surprises</p> <p>People might touch you to..</p> <ul style="list-style-type: none">show affection (hugs, kisses, cuddles)keep you safe (hold your hand when you cross the road)if you're ill or hurt (doctors and nurses). <p>If someone needs to break any of the rules of PANTS they should explain why. You can say no, and should never be forced to keep secrets that make them feel worried or uncomfortable.</p>  	<table><tr><th>Word:</th><th>Meaning:</th></tr><tr><td>affection</td><td>a friendly feeling of liking or loving someone or something</td></tr><tr><td>aspiration</td><td>a goal, aim, or ambition</td></tr><tr><td>bystander</td><td>someone who happens to be present when something takes place but does not take part in it</td></tr><tr><td>consent</td><td>to give permission or approval; agree</td></tr><tr><td>decision</td><td>the act or result of making up one's mind</td></tr><tr><td>inappropriate</td><td>not right or proper for the situation</td></tr><tr><td>mental health</td><td>the condition of one's mind and emotions</td></tr><tr><td>misconception</td><td>an error in understanding/the wrong idea</td></tr><tr><td>overwhelm</td><td>to load or burden with too much of something</td></tr><tr><td>victim</td><td>someone who is hurt, injured, or killed by a person, group, or event</td></tr></table>	Word:	Meaning:	affection	a friendly feeling of liking or loving someone or something	aspiration	a goal, aim, or ambition	bystander	someone who happens to be present when something takes place but does not take part in it	consent	to give permission or approval; agree	decision	the act or result of making up one's mind	inappropriate	not right or proper for the situation	mental health	the condition of one's mind and emotions	misconception	an error in understanding/the wrong idea	overwhelm	to load or burden with too much of something	victim	someone who is hurt, injured, or killed by a person, group, or event	<p>Challenging stereotypes:</p>  <p><i>Mae Jemison, a female Afro-American astronaut</i></p>  <p><i>Sergei Polunin, a Russian male ballet dancer</i></p>  <p><i>Ayesha Farooq, the first woman to become a fighter pilot in the Pakistan Air Force</i></p>
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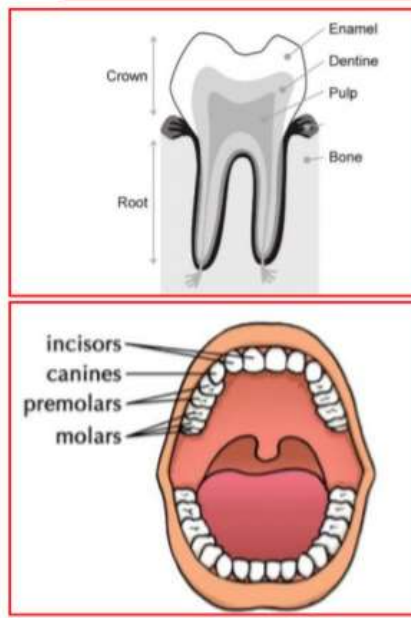
Key Knowledge	Key Vocabulary		Cultural Heritage
<p>Digestive System - in humans -</p> <p>The digestive systems help humans to digest food.</p> <p>Digestion is the how the body breaks down food so it can be taken in and used. There are many organs in the digestive system each with a particular job to do.</p> <p>The Process - Digestive System -</p> <p>The smell of food triggers saliva to be produced.</p> <ul style="list-style-type: none"> • The digestive system begins with the mouth and teeth where food is chewed. • Saliva is mixed with the food which helps to break it up. • When the food is small enough to be swallowed, it is pushed down the oesophagus by muscles to the stomach. • In the stomach, food is mixed further. • The mixed food is then sent to the small intestine which absorbs nutrients from the food. • Any leftover broken down food then moves on to the large intestine. • The food, minus the nutrients, arrives in the rectum where muscles turn it into faeces. It is stored here until it leaves the body. <p>Other organs such as the liver and pancreas also play a role in digestion by producing chemicals that help to break down food.</p>  <p>The digestive system</p>	Word	Definition	<p>Predator animals from Russia -</p> <ul style="list-style-type: none"> • Brown bear • Grey Wolf • Wild boar   <p>Predator animals from India -</p> <ul style="list-style-type: none"> • Lion • Bengal tiger • Indian Leopard  
	Digestion	the breaking down of food that is eaten.	
	Intestines	the tubes in your body through which food passes when it has left your stomach.	
	Oesophagus	the part of your body that carries the food from the throat to the stomach.	
	Stomach	the organ inside your body where food is digested before it moves into the intestines.	
	Enamel	The hard white substance that forms the outer layer of the tooth.	
	Canine	pointed teeth near the front of the mouth in humans and some animals.	
	Decay	natural process of slowly losing health or strength.	
	Food Chain	the order in which living things depend on each other for food	
	Producer	a plant that produces its own food	
	Predator	An animal that catches other animals and eats them.	
	Prey	An animal that is caught and eaten by another animal.	

Key Knowledge Continued

Teeth and their functions -

Human teeth -

Terrific Teeth	
What is the role of our teeth?	<ul style="list-style-type: none"> Teeth are used for cutting and chewing food. They start the digestive process which gives us the energy we need to live.
What are the different names and functions of our teeth?	<ul style="list-style-type: none"> Canines are pointed for tearing and ripping food - these are usually used when chewing meat. Incisors are shovel shaped and help bite lumps out of and cut food. Premolars and molars are flat and they grind and crush food.
How do we look after them?	<ul style="list-style-type: none"> Humans look after their teeth by brushing and flossing and ensuring that they do not eat foods high in sugar. Not looking after teeth can lead to an increase in plaque and tooth decay.



Other animal teeth -

Teeth in animals other than humans	
The teeth of an animal are designed to eat different foods depending on the diet of the animal. Examples of the types of teeth of a herbivore , a carnivore and an omnivore are below:	
Herbivore	Elephant - herbivore <p>incisors, incisors, molars</p>
Carnivore	Lion - carnivore <p>incisors, canines, carnassial teeth, premolars</p>
Omnivore	Human - omnivore <p>incisors, canines, molars, premolars</p>

Food Chains -

Food chains are the connections between **producers**, **prey** and **predators**. All the living things in a food chain rely on each other. A food chain describes how different organisms eat each other, starting out with a plant and ending with an animal. All food chains start with a **producer** which is always a green plant that converts the sun's energy into food. Animals then eat the producer and are called **consumers**. Sometimes animals eat other animals. These are called **predators**.

Example -



Grass is the producer which is first eaten by grasshoppers which are a consumer. The grasshoppers are eaten by frogs which are also consumers and predators. Frogs are eaten by snakes and finally at the top of the food chain is the Eagle which eats the snake.



Knowledge Organiser – Science – ‘All Creatures Great and Small’ - Living things and their habitats- Year 4



Article 28 I have the right to an education

Key Knowledge

Recap prior learning - What you should already know -

- All around us there are things that are living, dead and things that have never been alive.
- Living things live in habitats that suit them and their basic needs.
- Living things depend on other living things to help them survive.
- Animals can either be herbivores, carnivores or omnivores - depending on what they eat.

How can living things be grouped?

All living things, which can also be called organisms, have to do certain things to stay alive. These are the life processes.

Living things can be grouped, in a variety of ways, according to different criteria—

- Where they live / their habitats -
e.g. desert animals, arctic animals, rainforest animals
- What type of organism they are -
e.g. mammals, reptiles, amphibians, fish, birds, insects
- What features they have - **MRS GREN** -
Movement, Respiration, Sensitivity, Growth, Reproduction, Excretion and Nutrition.
- Vertebrate or invertebrate? (have a backbone/spine or do not have backbone)

Vertebrate Animals	Invertebrate Animals
<ul style="list-style-type: none"> • Mammals • Reptiles • Amphibians • Fish • Birds 	<ul style="list-style-type: none"> • Snails • Slugs • Worms • Spiders • Insects

Key Vocabulary

Word	Definition
amphibian	a cold-blooded vertebrate that can live in water and on land.
biomes	a natural area of vegetation and animals .
bird	warm-blooded vertebrates with feathers, pointed beaks and wings.
carnivore	an animal that eats meat.
classification key	a system which divides things into groups or types.
criteria	a factor on which something is judged.
environment	all the physical surroundings on Earth including everything living and non-living.
excretion	the process of eliminating waste from the body.
fish	cold-blooded (mainly) vertebrates that can only live in water.
habitat	the natural environment in which an animal or plant lives or grows.
herbivore	an animal that only eats plants.
invertebrate	creature that does not have a spine.
life processes	the seven processes that tell us that living things are alive.
mammal	a warm-blooded vertebrate that breaths air and grows hair.
microhabitat	a small part of the environment that supports a habitat.
nutrition	the process of taking food into the body and absorbing nutrients.
omnivore	person or animal that eats both meat and plants.
organism	a living thing.
reproduction	when an animal or plant produces one or more copies of itself.
reptile	cold-blooded vertebrates.
respiration	process of respiring; breathing ; inhaling and exhaling air.
sensitivity	responding to the external environment.
vegetation	plants, trees and flowers.
vertebrate	a creature which has a spine.

Cultural Heritage

The Lynx from Romania lives in the Carpathian Mountains.



The Giant Panda, from China, lives in forests high in the mountains of China.



Classification Keys -

A classification key is a tool that uses yes/no questions.



This can be used for classifying animals in your local and wider environment.

Changing Environments -

How can environments change? Habitats can change throughout the year and this can have an effect on the plants and animals living there. Humans can have positive effects on the environment, e.g. nature reserves, but instead often damage it.

People-made threats to the Environment -

- Air-pollution from cars, e.g. carbon monoxide, and the burning of fossil fuels.
- Water pollution through industrial waste and farm fertilisers that can pollute rivers and streams.
- Rubbish—Plastic and household waste ends up on the streets, in the sea or in rubbish dumps, destroying habitats and wildlife.

