

YEAR 2 SCIENCE – ANIMALS INCLUDING HUMANS

KNOWLEDGE ORGANISER



What have we learnt in this topic before, what we will learn this year and what will we learn next?

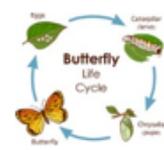
- In Year 1, we learnt in our topic: Animals including humans - (Common animals, parts and diets)
- to identify and compare the Animals, including humans (Common animals, parts and diets)
 - to identify and name a variety of common animals that are carnivores, herbivores and omnivores
 - to identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
 - to describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)
 - to identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- In Year 2, we will learn in our topic: Animals including humans - (Growth, survival and health)
- to notice that animals, including humans, have offspring which grow into adults
 - to find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
 - to describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
- In Year 2, we will learn in our topic: Animals including humans (Food, diet skeletons and muscles)
- to 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
 - to identify that humans and some other animals have skeletons and muscles for support, protection and movement.

OFFSPRING AND GROWTH

The offspring of different types of animals have different names and animals life cycles are all different too.



The Frog Lifecycle



The Butterfly Lifecycle



The Human Lifecycle



The Chicken Lifecycle

All living things have a lifecycle.
The names for the different stages of growth depend on the animal type.

Curriculum enrichment – LIVING EGGS

We will experience first hand the life cycle of a chicken, through the opportunity of having eggs hatching in the classroom.

We will engage in caring for the chicks and identify the importance of providing food, water and warmth.



Key Vocabulary

- lifecycle growth adult adolescent baby tadpole froglet chrysalis caterpillar carbohydrates protein dairy

BASIC NEEDS OF SURVIVAL



Most animals need water, food and air to survive. Humans need water, food, safety, shelter, clothing, sleep and air to survive; they also need love.

STAYING HEALTHY

We know that we need food to survive but to stay healthy we need to eat a balanced diet. It is important to eat the correct amount of each of these five food groups:



- Cereals and grains (carbohydrates)
- Milk and other dairy
- Meat and fish (protein)
- Fats
- Fruit and vegetables

To keep our bodies healthy we also need to look after it by doing exercise, keeping clean and sleeping well. It is important to exercise both your body and your mind.



YEAR 2 GEOGRAPHY – CONTINENTS AND OCEANS

KNOWLEDGE ORGANISER



What have we learnt in this topic before and what we will learn this year?

WHAT IS A CONTINENT?

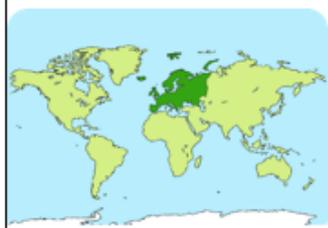
In Year 1, we learnt to identify the four countries making up the United Kingdom, to name some of the main towns and cities in the United Kingdom.

A continent is a large area of land that is separated from other continents by water. Five of the seven continents in the world are joined by land. The largest continent is Asia and the smallest continent is Australia.

There are seven continents in the world: Africa, Antarctica, Asia, Australasia, Europe, North America and South America.



In Year 2, we extend our knowledge during our topic 'Which material is best?' about islands by comparing and contrasting Barbados to the UK.



Each continent has a wide range of different landscapes, weather and animals.

As we live in the continent called Europe, we learn to locate where Europe is on a world map. Looking at famous landmarks from Stonehenge to the Eiffel Tower in France.

In Year 3, we will extend this through our topic 'It's a pirate's life for me.' When we will look at how maps can show features of a locality.

Inspirational Activity – Links to own lives

We will make our own globe using a balloon, locating all the continents and oceans.



We will add the different countries the children have visited on a world map including photos on our display.

WHAT IS AN OCEAN?

An ocean is large amount of water (salt water) found between the different continents around the water. Oceans are extremely big and they join smaller seas together. Along with the seven continents in the world, there are 5 oceans as well: Arctic Ocean, Atlantic Ocean, Indian Ocean, Pacific Ocean and Southern Ocean.



HOT AND COLD COUNTRIES

The world is made up of different countries with their own climate and weather.

Weather means the day to day changes that be visible for people to see. So, it can be sunny one day and rainy the next.



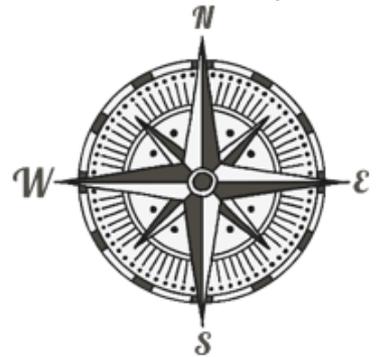
Climate is the average weather usually taken over 30 years for a particular place.

Some countries are hot such as Africa, found in the Southern Hemisphere or North America, found in the Northern Hemisphere.

COMPASS POINTS

A compass consists of 4 main directional points (North, South, East and West).

Directional language can also be used to help with locality (right or left, far or near) to describe the location of features and routes on a map.



Key Vocabulary

- world
- continent
- ocean
- equator
- Northern Hemisphere
- Southern Hemisphere
- sphere
- compass
- Europe
- weather
- hot
- cold
- climate
- temperature
- capital city
- habitats
- map
- atlas

Year 2 Geography - Autumn 2



YEAR 2 GEOGRAPHY – CONTRASTING NON-EUROPEAN LOCALITY KNOWLEDGE ORGANISER

What have we learnt before in Geography and what we will learn next?

Earlier in Year 2, through our topic 'What makes our world, so amazing?', we learnt about the continents and which continent we live in

In Year 2, during the spring term, we will extend our knowledge during our topic 'Which material is best?' about islands by comparing and contrasting Barbados to the UK.

In Year 3, we will extend this through our topic 'It's a pirate's life for me.' When we will look at how maps can show features of a locality.

WHAT IS AN ISLAND?

An island is **any area of land smaller than a continent and entirely surrounded by water.**



Islands may occur in oceans, seas, lakes, or rivers. A group of islands is called an archipelago.

Great Britain is an island in Europe.

Barbados is an island in North America.

WHERE WE LIVE - GREAT BRITAIN



We live in Hemel Hempstead, which is a town in the South-East of England. (The red arrow shows where Hemel Hempstead is.) London is the capital of England.

England is part of Great Britain. Great Britain is in Europe.

Great Britain is an island made up of three countries: England, Scotland and Wales.



The weather in England is varied and we have a temperate climate. In general this means we do not experience extremes of weather, but the weather is very changeable.

CURRICULUM ENRICHMENT/HOOK LESSON AN INTERVIEW WITH MR B



In our school we are lucky enough to have Mr Brathwaite who is from Barbados.

We will interview him and find out about where his family live in Barbados.

In this picture Mr B is wearing a face mask which shows the Barbados flag.

BARBADOS

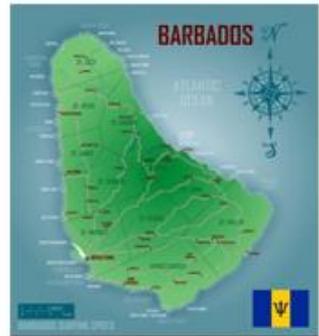


Barbados is a Caribbean Island. It is separated from the other Caribbean countries by the Caribbean Sea, which is part of the Atlantic Ocean.

All the Caribbean Islands, including Barbados are in the continent of North America.

The capital city of Barbados is called Bridgetown. It is in the South-West of Barbados.

The weather in Barbados is always warm. They only have two seasons, the wet season and the dry season.



Key Vocabulary

- Great Britain
- England
- ocean
- city
- sea
- land
- town
- village
- Barbados
- Caribbean
- capital city
- Bridgetown
- island
- North America
- Europe
- continent
- London

YEAR 2 ART – MAKING SHAPE PICTURES WITH COLOUR MIXING KNOWLEDGE ORGANISER



What have we learnt before in Art and what we will learn next?

In Year 1, we will extend our understanding of colour mixing so that we can name the primary and secondary colours. Developing our understanding of colour, we learn about moods and how to create movement in a dramatic sky.

In Year 2, we will continue to develop our colour mixing skills by making our own brown and adding white to colours to make different tints. We will also develop our pencil skills further, using patterns and texture in our sketching.

In Year 4, we will extend our knowledge by making all the colours we need for a piece of art using colour mixing. We will create moods in our paintings and successfully use shading to create these moods and feelings.

LINKED ARTIST – PIET MONDRIAN

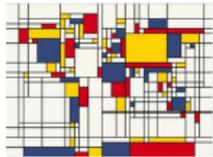
Piet Mondrian was born in the Netherlands.



In 1912, Piet moved to Paris having seen the work of other cubist artists, such as Pablo Picasso. Mondrian was heavily influenced by their work.

Cubism was a new way of painting using combinations of geometric shapes. He began to experiment with this new style.

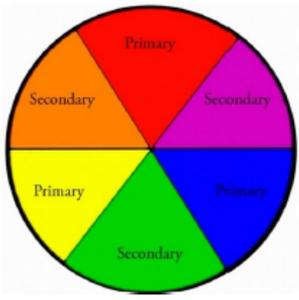
Piet developed a style of his own, called neoplasticism. His work became minimalistic. He painted using simple lines, right angles and blocks of primary colours.



We will be creating work in the style of Mondrian.

COLOUR WHEELS

There are three primary colours and these are **red**, **blue** and **yellow**. Mixing two primary colours together will create a secondary colour.



- Blue + Yellow = Green
- Blue + Red = Purple
- Red + Yellow = Orange

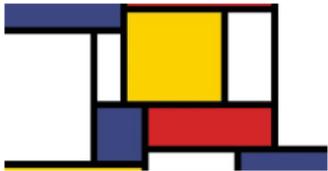
Brown #A52A2A	Coffee #8B4513	Marble #8B4513	Brown #8B4513
Dark #8B4513	Midway #8B4513	Nail #8B4513	Pink #8B4513
Midnight #8B4513	Caramel #8B4513	Engelwood #8B4513	Syren #8B4513
Chocolate #8B4513	Terrific #8B4513	Lumber #8B4513	Terry #8B4513
Brunette #8B4513	Chocoman #8B4513	Navy #8B4513	Clodan #8B4513

Orange and blue can make brown, and red and green can also make brown. The secondary colors can also be used to add variations to the brown shade created by the three primary colors.

USE OF COMPUTERS

Neoplasticism means new art, indicating it is a modern form of art.

Neoplasticism is the style of abstract painting developed by Piet Mondrian, using only vertical and horizontal lines and rectangular shapes in black, white, grey, and primary colours. Computers are often used to create this style of art using tools to add geometric shapes and changing the colour of them.

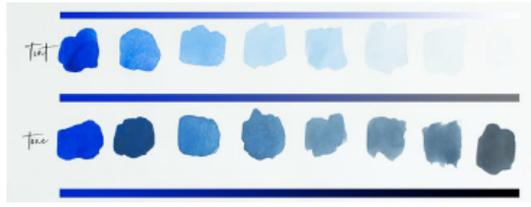


TINTS, TONES and SHADES

A **tint** is where an artist adds a colour to white to create a lighter version of the colour. An example of a tint is pink. Pink is a tint created by adding white to red.

A **tone** is where an artist adds grey to a colour.

A **shade** is where an artist adds black to a colour to darken it down



Key Vocabulary

- primary secondary mixing predict tints tones white black Piet Mondrian cubism
- neoplasticism minimalistic geometric

YEAR 2 DT – FRUIT MONSTER

KNOWLEDGE ORGANISER



What have we learnt before in DT and what we will learn next?

In Year 1, we looked at fruit salads and what makes healthy options in our diet.

In Year 3, this knowledge is extended when we created a tea party for a Royal celebration. We have also considered what it means to be hygienic and the importance of a clean surface.

In Year 5, this knowledge will be extended through making bread.

In Year 6, this is extended through looking at foods from WWII.

STAYING HEALTHY

To stay healthy, we need food to survive. This is achieved through a balanced diet. We learn about the main food groups and some examples of foods that belong to each food group. It is important to eat the correct amount of each of these five food groups to stay healthy:

- Cereals and grains (carbohydrates)
- Milk and other dairy
- Meat and fish (protein)
- Fats
- Fruit and vegetables



Fruits and vegetables are important to keep humans healthy because they are a good source of vitamins and minerals, including folate, vitamin C and potassium. They're an excellent source of dietary fiber, which can help to maintain a healthy gut, which help to keep us fit and strong.

CUTTING WITH KNIVES

Knives can be extremely dangerous and so before we use them we are taught how to use the knives correctly and safely. We learn how to hold a knife correctly and where the knife needs to go when we are not using it anymore- this would be on the chopping board in front of us.

Holding the knife correctly and cutting food carefully is important to prevent any accidents- we are encouraged to take our time when cutting.



HYGIENE IN THE KITCHEN

Before handling food, everyone must wash their hands before, during and after all aspects of food preparation. This ensures no germs are on our hands before we begin making our food.

Another hygiene factor that needs consideration is hair. Hair should be tied up to avoid strands of hair falling into food. The same applies to ~~jewellery~~, this should not be worn as it can contaminate the food.

Before any cutting or preparing begins, surface areas that will be used are wiped down and cleaned. This is because we must always work with clean equipment and surfaces, as germs can live on surfaces.

We should take care to not put our fingers near our mouths or eyes when making products as raw ingredients can sometimes be irritable.



TYPES OF SALADS



Fruit salads consist of a variety of different fruits from oranges and bananas to watermelon and strawberries.



Salads can also be different vegetables including lettuce, onions and tomatoes.

CURRICULUM ENRICHMENT

For this unit of work, Year 2 have a tasting opportunity whereby they we get the opportunity to try different fruits and vegetables that we may not have tried before. This is so we can use some of these fruits or vegetables in our own fruit and vegetable monster when we make them.



Key Vocabulary

design make product cutting fruit vegetable appealing hygiene chopping tasting
 evaluate discuss food groups grown new chopping board healthy eating

Year 2 - Gymnastics Unit 1

Knowledge Organiser

Prior Learning

To show a range of recognised point balances. To introduce turn, twist, rock, roll and to link these. To perform unison simple canon and unison techniques.

We are learning

1. To combine 4 elements into a floor sequence.
2. To create power in a variety of different jumps.
3. To take weight on our hands and move in different ways.
4. To use our flexibility in a bridge and japana gymnastic shape.
5. To perform the point balance arabesque.
6. To perform a teddy roll.

Assessment overview

Head - Explain the differences between types of balances, such as point and patch

Hand - Demonstrate flexibility in movements

Heart - Reflect on their own performances and identify their strongest skill/action

Equipment

Mats, hoops, cones, wall bars, bean bags, low apparatus, ropes.

Vocabulary

Balance, shape, bridge, jump power, weight-on, point, patch, teddy, dolly, front-straddle, cup, puck, v-sit, japana, arabesque.

Unit Focus

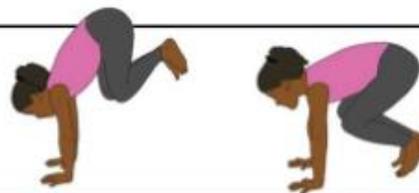
Describe and explain how performers can transition and link elements. Perform basic actions with control at different speeds and levels. Develop flexibility in a range of shapes and balances.

Key Questions

1. Why do we hold shapes for 3 seconds and try to move smoothly into and out of elements?
2. Why do you think taking weight on your hands rather than your feet is harder?
3. Why did we practice on the wall before attempting a bridge on the floor?

Skill Bunny Hop

- Feet and legs should be together, bent at the knee
- Push up and away with your feet off your toes to transfer all body weight to your hands
- Practice in place first, kicking up and returning feet to the same position
- See if you can hold your weight on your hands for longer periods
- Once confident, begin to travel forward, transferring weight from feet to hands



Year 2 – Hit Catch Run Unit 1

Knowledge Organiser

Prior Learning

Developed sending and receiving skills to benefit fielding as a team. Distinguished between the roles of batters and fielders. Introduced to the concept of simple tactics.

We are learning...

1. To hit a ball and score points running to cones
2. To defend a target by kicking
3. To bowl underarm with control
4. To hit a ball using different bats and techniques
5. To throw accurately to a base
6. To hot a ball into space, away from fielders

Assessment overview

Head – Make choices about where to hit the ball.

Hand – Has developed hitting skills with a variety of bats.

Heart – Display sportsmanship when competing against others.

Equipment

Small balls, large balls, beanbags, cones, hoops, quoits, targets, skittles, goals, button cones, bats.

Vocabulary

Hit, catch, runs, wicket, bats, bowl, feed, throw, catch, underarm, overarm, field, hitter, bowler, umpire, posts, stumps.

Unit Focus

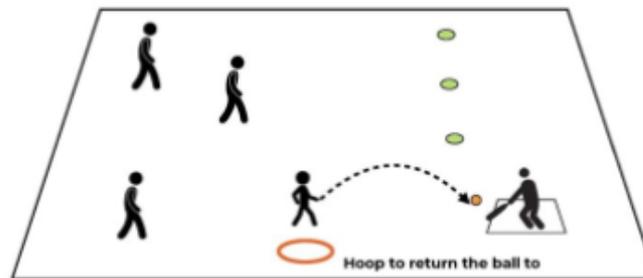
To develop hitting skills with a variety of bats. Practice feeding/bowling skills. Hit and run to score points in games.

Key Questions

1. What can we do as batters to help each other when trying to get runs?
2. What helped you decide where to hit the ball?
3. Why would you aim to the middle of a person in underarm bowling?

Rules

- Attempt to run to the furthest target possible.
- 1 point for every cone reached.
- Fielders collect the ball and return to a target to stop the batter running.



Year 2 - Dance Unit 1

Knowledge Organiser

Prior Learning

Able to build simple movement patterns from given actions.
Compose and link actions to make simple movement phrases.

We are learning...

1. To use penguin images to inspire our dance
2. To show feelings of abandonment through dance
3. To create movements that show friendship between two characters
4. To create a solo dance with changes of direction and speed
5. To match our movements to music
6. To choose a formation for our dance and explain our choice

Assessment overview

Head -Show confidence to perform in front of others.

Hand -Show good timing with the music

Heart - Attempt to work as part of a group to perform a dance.

Equipment

Music player, music, cones, hoops, throw down spots, balloons, laptop with internet access.

Vocabulary

Direction, huddle, group, mood, feeling, penguin, musicality, respond, galloping, flying, friendship, abandonment.

Unit Focus

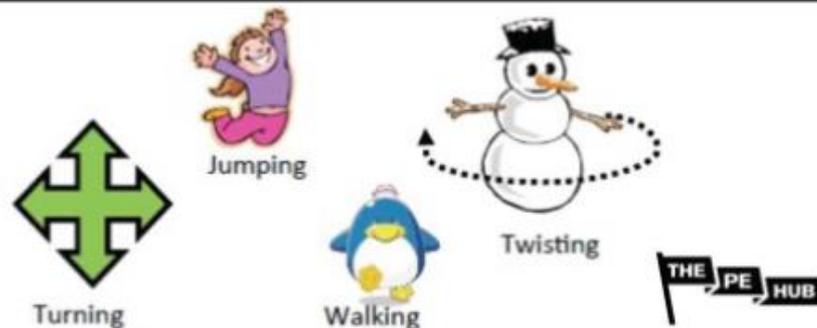
Describe and explain how performers can transition from shapes and balances. Challenge themselves to move imaginatively responding to music. Work as part of a group to create and perform.

Key Questions

1. What is the main mood/feeling you get from this dance?
2. What does it mean to perform as a soloist?
3. Explain what actions show the story.

Concepts

- Solo is an individual dancing alone apart from others with independent movements.
- A duet is two people dancing together with complimentary and contrasting actions.



COMPUTING SYSTEMS AND NETWORKS KNOWLEDGE ORGANISER

Overview

Technology Around Us



- You should already know that Technology is something that has been made by people to help us.
- Technology is 'man-made' and not 'natural.'
- Information technology (I.T.) includes computers and things that work with computers.
- Information technology is in lots of important items in our homes and around the world.
- It is important that we understand how to use information technology safely.

Information Technology

- Technology is the name for man-made things that help us.
- Information technology is made up of computers and things that work with computers.

-Information technology includes computers, for example desktop computers, laptops, games consoles, smart phones and tablet.



-Information technology also includes devices that work with computers, e.g. USB sticks, SMART boards and digital cameras.



Using Technology Safely

- We can create and follow a number of rules to use technology safely, e.g.:
- Make sure that the games and apps that we access are age-appropriate.
 - Always sit down when using devices. They can be broken if dropped!
 - Do not use devices at social times, e.g. at the table. It is bad manners.
 - Stick to using technology at agreed times. Too much screen time is not good for us!



I.T. in the Home

- There is lots of information technology in our homes. I.T. is used to:
- Control the tools and appliances that we use in the home, e.g. the panel for the heating, setting the washing machine, and programming the microwave.
 - Help us to communicate with one another, e.g. the internet router and the telephone.
 - Entertain us, e.g. the information technology in toys, consoles and computer games.



I.T. in the World

- There is also lots of information technology in the wider world
- I.T. can be found in shops, e.g. the barcode, barcode scanner and till all work together to scan your shopping items.
 - I.T. can be found in ATMs, e.g. the bank card, chip and PIN card reader help you to access your bank account.
 - I.T. can be found outside, e.g. traffic lights, buttons, and signals work together to tell you when to cross the road.



How I.T. Improves Our World

- Information Technology helps us in lots of different ways in our daily lives.
- I.T. can help to make things quicker and easier. E.g. at the supermarket, the barcodes/ scanners quickly add up the product numbers and costs of the things that we want to buy.
- I.T. can also help us to stay safe. E.g. The traffic lights, buttons and signals help us to avoid traffic when crossing the road.
- I.T. also helps us to communicate with one another and have fun! E.g. it can connect us to the internet, and can allow us to play games, share and receive information.



Important Vocabulary

Information Technology

Computer

Device

Barcode

Scanner

Communication

Entertainment

Appliances

Signal

E-Safety



COMPUTING: PROGRAMMING

KNOWLEDGE ORGANISER



Overview

Robot Algorithms



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



- **Robots** are one type of machine that can follow programs - they follow what we instruct them to do.



- We use **algorithms** (a set of instructions to perform a task) to help robots to do things that we want them to. **Debugging** can help to correct algorithms and programs.

Using a Floor Robot

- **Robots:** Robots are machines that we can program to do human jobs.
- Robots help us to do things, for example to help us clean, mow and learn!
- Robots in factories make things, and in hospitals they help make us better.



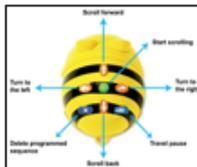
-Turning on a Bee-bot:

Before we use a Bee-bot, we need to make sure it is charged. To turn it on, using the switch underneath. You can tell that the Bee-bot is on because its eyes light up. Remember to switch it back off again after you have finished using it.



- **Buttons:** Bee-bots have buttons on the top. They each make the Beebot do something different (see picture).

- The arrows move the Bee-bot in different directions. The GO button makes the Bee-bot start its program. The X button makes the Bee-bot forget the last set of instructions.



Algorithms and Instructions

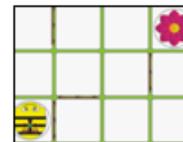
- **Algorithms:** Algorithms are precise set of instructions, that a computer can turn into a code. A floor robot has a computer inside of it.



- **Programs:** When we press the buttons of our floor robot, we are creating a program for it to follow. The program is how the algorithm is run as code on the robot.



- **Instructions:** It is important that our instructions to the floor robot are clear. If our sequence of instructions is in the wrong order, has anything missing, or has anything additional, the floor robot will end up in a different place! Plan the route to avoid obstacles and get to the right place.



Designing Algorithms

- We can buy or create mats for floor robots. We then need to design our algorithms so that the robot follows the given route.

- We should carefully consider the start point & end point that we want the robot to reach.

- Use symbols (e.g. arrows, crosses) to indicate the commands that will be inputted as a program.



Chunking and Debugging

- **Chunking:** With larger programs, we can break the task into chunks and create algorithms for each chunk.

- **Debugging:** Debugging is finding and fixing errors in our algorithms and programs. These errors can include:

- **Sequence errors:** An instruction in the sequence is wrong or in the wrong place.
- **Keying errors:** Typing in the wrong code.
- **Logical errors:** Mistakes in plan/thinking.

Important Vocabulary

Program

Robot

Algorithm

Direction

Route

Obstacle

Design

Error

Chunking

Debugging