Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Science	Theme	Diversity	Year Group	4
Key Question	How and what do we eat?				

Prior Knowledge

- ❑ The parts of the human body and what they do.
- ❑ All animals need water, air and food to survive.
- ❑ The different ways in which humans are healthy.
- ❑ Animals get **nutrition** from what they eat.
- ❑ Humans and some animals have skeletons and **muscles** for support, protection and movement.
- ❑ What **carnivores**, **omnivores** and **herbivores** are.
- ❑ **Excretion** is one of the seven living processes.

Key Learning

- ❑ To compare the teeth of carnivores and herbivores and identify whether there are any similarities and differences.
- ❑ To identify the different types of teeth in humans and their simple functions.
- ❑ To describe the simple functions of the basic parts of the digestive system in humans.
- ❑ To plan, set up, and investigate the effects of different liquids on eggs, and draw simple conclusions.
- ❑ To interpret a variety of food chains, identifying producers, predators and prey.
- ❑ To create and draw food chains.

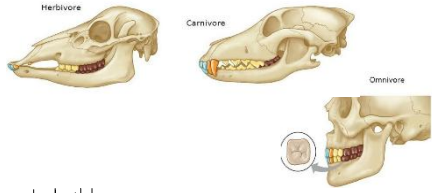
Key Vocabulary

canine	sharp, pointed teeth that help with ripping and tearing
carnivore	an animal that eats other animals
consumer	a living thing that eats other living things
decay	a process of a material breaking down
enamel	protective layer of a tooth
germs	living things that are too small to be seen by the human eye
herbivore	an animal that eats plants
incisor	flat teeth at the front of the mouth that are used to bite into food
molar	the large teeth at the very back of the mouth used to grind and chew food
omnivore	an animal that eats other animals and plants
plaque	a sticky coating made by germs that can harm the teeth and gums
prey	animals that are eaten by predators
predator	an animal that eats prey
premolar	the teeth found between canine teeth and molars that guide food to the back of the mouth
producer	a living thing that makes its own food from the Sun
root	the part of a tooth that holds it in place in the jaw
teeth	the hard structures in the mouth used to bite and chew through food

Key Learning - Teeth

<u>Animal teeth:</u>

- Carnivores have long, sharp teeth to help them with ripping and tearing through meat.
- Herbivores have large, flat teeth to grind and chew through grasses and plants.
- Omnivores have a combination of sharp and flat teeth, allowing them to tear through meat and grind plants.



<u>Human Teeth:</u>

- Humans have four different types of teeth — incisors, canines, premolars and molars.
- Human teeth have layers which include enamel, pulp and roots.
- The human mouth is full of different germs which feed on sugar in the mouth and can cause plaque to build up.
- If plaque is not removed from the teeth, it can cause the enamel layer to rot away, exposing the sensitive layers underneath.
- We can look after our teeth by brushing them twice a day, reducing our sugar intake and visiting the dentist regularly.

Key Learning - The Digestive System

- Digestion is the breaking down of larger pieces of food into smaller pieces so the body can use it for energy.
- The digestive system allows the body to take in nutrients from food as it passes through the body.
- Each organ within the digestive system has a function to help the body break down food.
- The digestion process begins when food is bitten by the teeth.
- Saliva turns smaller pieces of food into a more liquid substance, so it travels smoothly down the oesophagus to the stomach.
- The stomach churns the food and adds acid to break it down further before the partially digested food passes to the small intestine.
- The small intestine absorbs nutrients from the food and passes the remaining food to the large intestine.
- The large intestine absorbs water from the remaining food and then passes the remaining waste to the rectum.

digestive system – organs working together to break down food into smaller pieces

mouth – the organ that takes in food and begins digestion using teeth and saliva

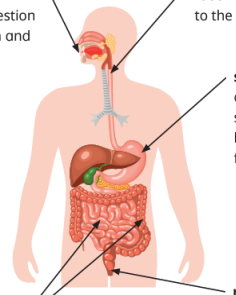
oesophagus – the organ that pushes food from the mouth to the stomach

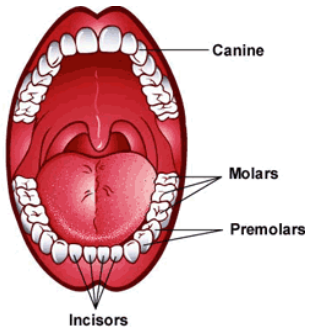
stomach – the organ that squeezes and breaks down food

rectum – part of the large intestine where waste exits the body

intestines (small and large) – the organs that absorb nutrients and water from food

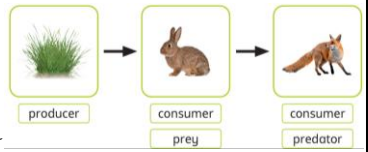
saliva – clear liquid in the mouth that softens food





Food Chains

- A food chain shows an order of living things, to show how energy is transferred when one living thing eats another.
- The arrows in a food chain show the energy transfer from one food source to another.
- Food chains begin with a producer.
- A food chain consists of producers, consumers, predators and prey.
- Food chains can be different lengths depending on the living things within a habitat.





Ridgeway Farm CE Academy - Knowledge Organiser

Topic	RE	Theme	Diversity	Year Group	4
Key Question	What does it mean to be Hindu in Britain today?				

Learning Outcomes

- To describe ways in which some Hindus express their faith through puja, aarti and bhajans.
- To explore the journey of life for some Hindus and themselves.
- To describe two of the four aims in Hindu life: Dharma and Moksha.
- To describe how vibrant British Hindu life can be.
- To compare Hindu weddings in Britain and India.
- What does it mean to be a Hindu in Britain today?

Key Vocabulary

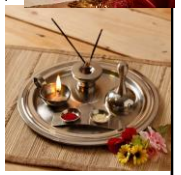
Mandir	A special place for Hindus to worship
Dharma	Means duty in Hinduism
Deities	The word in English is often used for Hindu gods and goddesses. Deity means god
Aarti	Light, which removes darkness (ratri)
Puja	Act of worship for Hindus
Bhajan	Hindu worship songs
Moksha	The ultimate aim of Hinduism is to leave the cycle of rebirth and become one with god.
Hindu	Someone who follows Hinduism
Kama	Pleasure and enjoyment of life
Reincarnation	The cycle of birth, death and rebirth. Key Hindu belief.
Murti	Special statues or images of Hindu gods and goddesses.

Key Learning - Hinduism as a way of life

Most Hindus believe in four core beliefs: dharma, karma, artha and moksha. Throughout their lives, many Hindus attempt to behave in a way that provides good karma in this life and the next. In this way, Hinduism is not just a religion; it is a culture, a code of behaviour and a way of life.

Key Learning

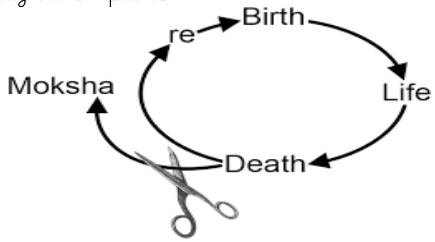




- Puja is how some Hindus show their faith in God. Puja is Hindu worship.
- A puja tray can be set up during worship. On the tray there is a small bell to wake the deity up for worship. Flowers which represent the beauty and fragrance of the created world. A diva lamp for aarti. Water in a pot which represents life. A spoon is used to give water to worshippers after it has been blessed. A murti (or image of Hindu deity) to worship and sweets or sugar to offer food for the deity.
- Aarti symbolises that worship removes darkness.



- Bhajans are worship songs devoted to different deities, some are fast and upbeat, and some are peaceful and meditative. They have been developed to help worship.
- The word dharma means duty in Hinduism. There are 10 duties 1) not getting angry 2) being truthful in speech 3) working for justice 4) forgiving people 5) having children when you are married 6) trying not to quarrel 7) living a simple life 8) looking after your family 9) fulfilling religious duties such as worship 10) study the scriptures.
- The metaphor of 'life as a journey' can be used about Hindu aims and duties



- The Hindu view of life is once you die, you are born again in another body, and live another life. This is called reincarnation.
- Hindus believe life is a cycle of birth, death and rebirth.
- Eventually, Hindus hope to not be reborn anymore, they hope to join God and not live any more lives, which is called 'moksha'.
- Hindu weddings are very big. In India, weddings are not only attended by the two families but two whole communities coming together.
- It takes huge amounts of planning as there are so many guests.
- There are lots of traditions at Hindu weddings. The couple are treated like king and queen for the day. A special necklace is given. The priest lights a fire. The couple walks around the fire 7 times. Nuts are shared together. Each nut represents a different quality that a couple need in their new life.









Ridgeway Farm CE Academy – Knowledge Organiser

Topic	Computing – Further Coding with Scratch	Theme	Diversity	Year Group	4



This program starts when the green flag is clicked. It asks for the player's name and says, "Hi!" followed by their answer. It then asks, "What is 3 × 2?"

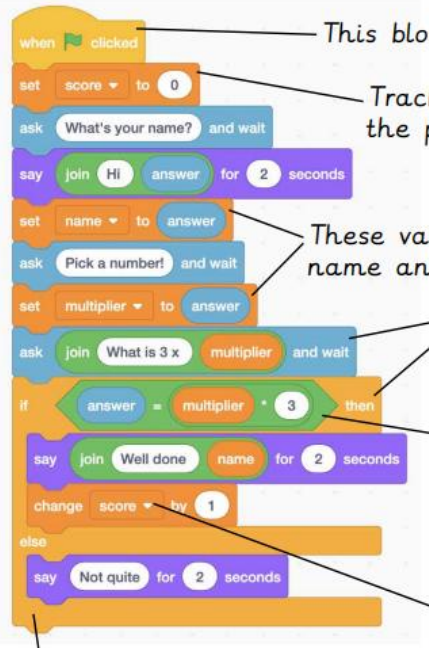
It checks the answer using an **if statement**. The **condition** 'if answer = 6' decides which message to show.

The 'answer' block stores what the player types, such as their name or maths answer.

Multiplication game blocks

- **Storing information**: use variables like **score**, **name** and **multiplier** to track what the player does.
- **Making choices:** use **if** and **if, then, else** to control what happens based on the user's **answer**.
- **Using sensors**: use blocks like answer, key pressed and touching sprite to react to input.

Multiplication game code



This block starts the program.

Tracks how many questions the player answers correctly.

These variables store the player's name and chosen number.

These blocks collect input from the player.

Checks if the answer is correct and shows a different message depending on the result.

This adds 1 point if the answer is correct using the score variable.

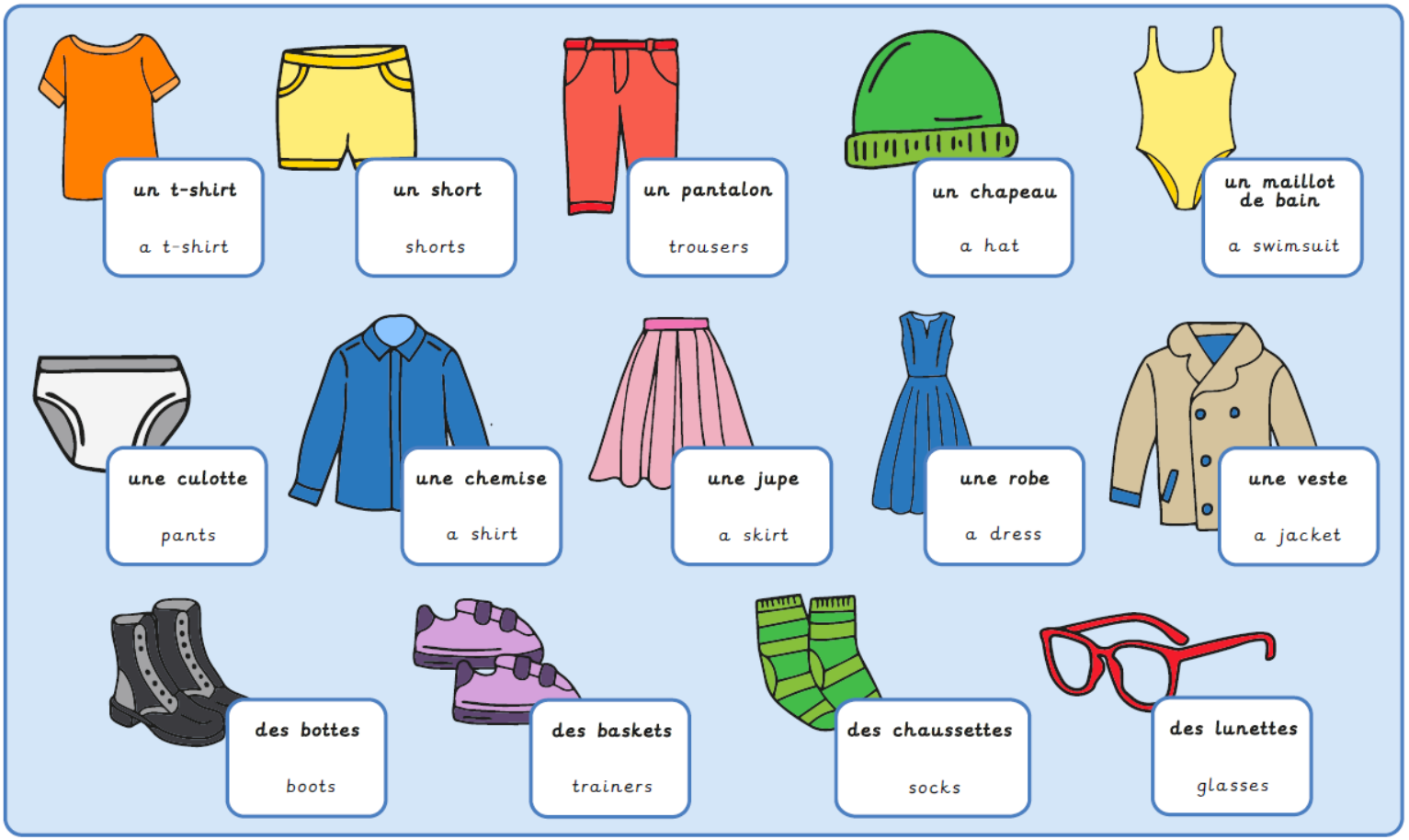
The 'if, then, else' block checks if the answer is correct and shows a different message depending on the result.

Prior Knowledge

- I can identify Scratch as a coding application and explore its different code blocks.
- I can make predictions about what code blocks will do and test these ideas.
- I can create a simple animation by combining motion, speech and wait blocks.
- I can plan how to remix an existing animation by choosing which parts to change.
- I can alter and remix code to create a new version of an animation.
- I can test and debug animations to fix problems and improve the code.
- I can reflect on the changes made, explaining what worked well and what could be improved.

Ridgeway Farm CE Academy – Knowledge Organiser

Topic	French – Clothes (Getting dressed in France)	Theme	Diversity	Year Group	4



Prior Knowledge

- I can change an adjective to describe a boy or a girl correctly.
- I can identify a person from a description of their hair and eye colour.
- I can put French words in the correct order, with the adjective after the noun.
- I can say a sentence in French to describe a friend.
- I can write four sentences in French using the correct adjective endings.

French nouns are either

masculine or feminine

Difference between **un** and **une**. Both mean 'a' or 'an'.

masculine	feminine
un	**une**

Un is used for masculine nouns and **une** is used for feminine nouns.

Different ways to say my:

mon	my (masculine singular)
ma	my (feminine singular)
mes	my (plural)

Other phrases

il porte / elle porte	+ clothing - he is wearing / she is wearing
j'aime	I like
je n'aime pas	I don't like

Colour adjectives come after the noun and must agree with the gender and number that they are describing. This is usually achieved by:

No change for masculine singular nouns

un pantalon rouge

a pair of red trousers



Adding an **e** for feminine singular nouns

une robe bleu**e**

a blue dress



Adding an **s** for masculine plural nouns

des t-shirts verts

(some) green t-shirts

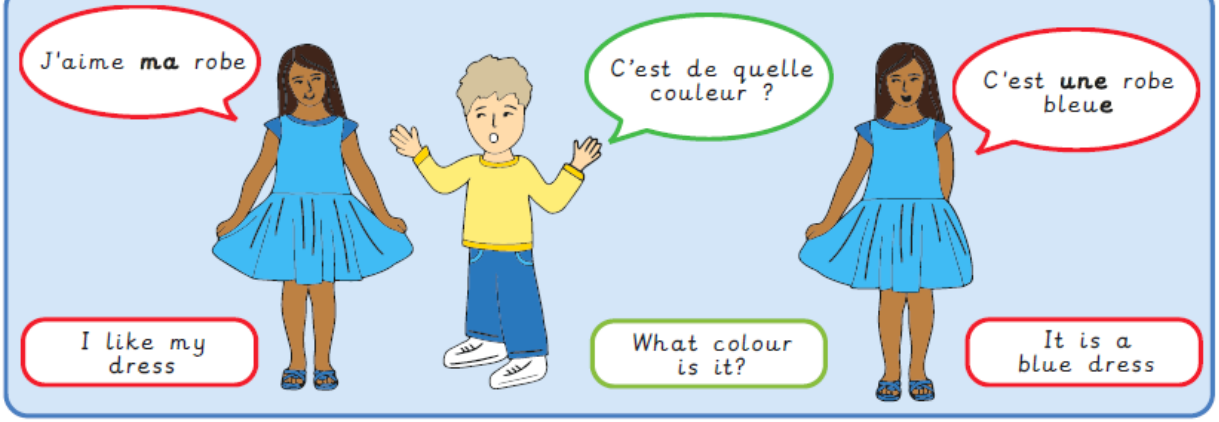


Adding es for feminine plural nouns

des chausett**es** vertes

(some) green socks





Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Music - Rock and Roll	Theme	Diversity	Year Group	4

Musical style: Rock and Roll

Rock and roll was created in America in the 1950s after the war and was made to depict happiness and a new life. The name comes from the phrase 'rocking and rolling' which was used by mariners to explain the movement of a ship, which influenced the dance steps.



Rock and roll stems from jazz, gospel and blues music and uses the blues structure and chords. It often has a fast tempo with strong vocals, which may use screaming and shouting. Rock and roll formed the basis of our modern day rock music.

Vocabulary

Bass line	The lowest part of the music, played by a bass or bass guitar in rock and roll.
Walking bass	A bass line that moves step by step using pitches that are next to each other.
Notation	The way that music is written so that others can play it.
In time	Playing or singing at the same speed as the music.

Hand jive	
A rock and roll dance where you move your hands a lot!	

In tune	Singing or playing with the correct pitch.
Tempo	The speed or pace of the music. It can change throughout a piece of music.
Dynamics	The volume of the notes. This often changes throughout a piece of music.
Pitch	How high or low a note sounds.

Instruments



Prior Knowledge

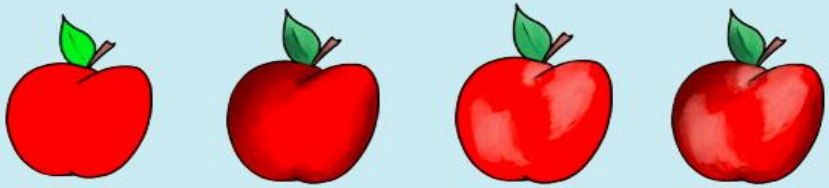
- Listen and describe musical features (tempo, dynamics, mood)
- Play simple patterns on tuned/untuned instruments
- Improvise short rhythmic or melodic ideas
- Begin to use musical notation (symbols or simple notes)
- Recognise that music has a style and time period (e.g., rock and roll from the 1950s)
- Understand that music can tell stories or express emotion.

Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Art and Design - Painting and Mixed Media	Theme	Diversity	Year Group	4

Composition	Putting different elements together in a pleasing way
Hue	Describing an exact colour: sky blue, dark green, rose pink
Proportion	How big a part of something looks compared to the rest of it
Shade	Adding black to a colour makes a shade
Shadow	A dark area created when light is blocked
Still life	An artwork showing a collection of things that don't move, e.g. objects rather than people
Tint	Adding white to a colour makes a tint
Tone	How light or dark a colour is

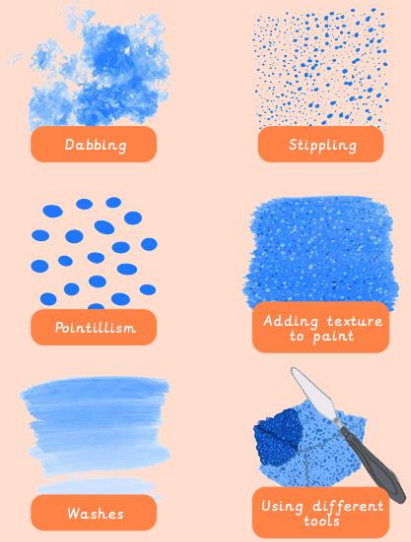
Using tints and shades can help a painted object appear three-dimensional



Prior Knowledge

- Use line, shape, colour, and texture
- Mix and use primary and secondary colours
- Use different tools and materials (paint, pencil, collage, etc.)
- Develop control in drawing and brushwork
- Experiment with pattern, tone, and shading
- Observe and draw from real life
- Plan and review their artwork
- Talk about ideas and choices in art

Painting techniques

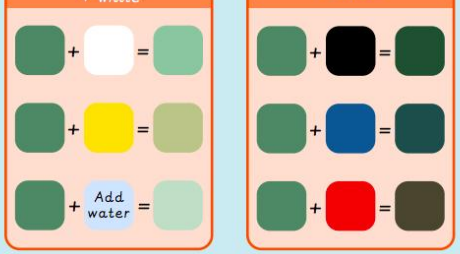


Colour mixing



Making colours lighter:
+ a lighter colour
+ water
+ white

Making colours darker:
+ a darker colour
+ black

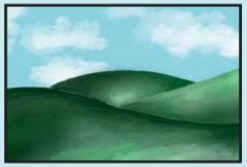


Creating contrast





Portrait



Landscape

Still life



Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Design Technology - Mechanical Systems - Slingshot Car	Theme	Diversity	Year Group	4

Aesthetic	How an object or product looks.
Air resistance	The level of drag on an object as it is forced through the air.
Chassis	The body of a car.
Design	To make, draw or write plans for something.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Function	The purpose of an object (for example a chair needs to hold a person when sitting down); or how the product works (for example a torch needs to provide light in a dark space).
Graphics	Images which are designed to explain or advertise something.
Kinetic energy	The energy that causes an object to move.
Mechanism	The parts of an object that move together as part of a machine.
Net	A flat 2D shape, that can become a 3D shape once assembled.
Structure	Something that has been made and put together and can usually stand on its own (eg a building, a bridge, a chair).

Did you know?



Key facts

Front view



Side view



Bird's-eye view



Which vehicle has the least air resistance?



Prior Knowledge

- Cut, join, and shape materials safely
- Use simple tools with control
- Understand how wheels and axles work
- Follow and evaluate a basic design
- Know that mechanisms create movement