



Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Science	Theme	Diversity	Year Group	4
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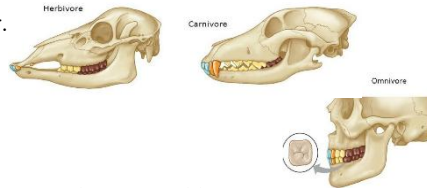
Key Question	How and what do we eat?
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What I should already know?	Key learning:	Key Vocabulary																																		
<ul style="list-style-type: none"> <input type="checkbox"/> The parts of the human body and what they do. <input type="checkbox"/> All animals need water, air and food to survive. <input type="checkbox"/> The different ways in which humans are healthy. <input type="checkbox"/> Animals get nutrition from what they eat. <input type="checkbox"/> Humans and some animals have skeletons and muscles for support, protection and movement. <input type="checkbox"/> What carnivores, omnivores and herbivores are. 	<ul style="list-style-type: none"> <input type="checkbox"/> To compare the teeth of carnivores and herbivores and identify whether there are any similarities and differences <input type="checkbox"/> To identify the different types of teeth in humans and their simple functions. <input type="checkbox"/> To describe the simple functions of the basic parts of the digestive system in humans. <input type="checkbox"/> To plan, set up, and investigate the effects of different liquids on eggs, and draw simple conclusions. <input type="checkbox"/> To interpret a variety of food chains, identifying producers, predators and prey. <input type="checkbox"/> To create and draw food chains. 	<table border="1"> <tr><td>canine</td><td>sharp, pointed teeth that help with ripping and tearing</td></tr> <tr><td>carnivore</td><td>an animal that eats other animals</td></tr> <tr><td>consumer</td><td>a living thing that eats other living things</td></tr> <tr><td>decay</td><td>a process of a material breaking down</td></tr> <tr><td>enamel</td><td>protective layer of a tooth</td></tr> <tr><td>germs</td><td>living things that are too small to be seen by the human eye</td></tr> <tr><td>herbivore</td><td>an animal that eats plants</td></tr> <tr><td>incisor</td><td>flat teeth at the front of the mouth that are used to bite into food</td></tr> <tr><td>molar</td><td>the large teeth at the very back of the mouth used to grind and chew food</td></tr> <tr><td>omnivore</td><td>an animal that eats other animals and plants</td></tr> <tr><td>plaque</td><td>a sticky coating made by germs that can harm the teeth and gums</td></tr> <tr><td>prey</td><td>animals that are eaten by predators</td></tr> <tr><td>predator</td><td>an animal that eats prey</td></tr> <tr><td>premolar</td><td>the teeth found between canine teeth and molars that guide food to the back of the mouth</td></tr> <tr><td>producer</td><td>a living thing that makes its own food from the Sun</td></tr> <tr><td>root</td><td>the part of a tooth that holds it in place in the jaw</td></tr> <tr><td>teeth</td><td>the hard structures in the mouth used to bite and chew through food</td></tr> </table>	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
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Teeth

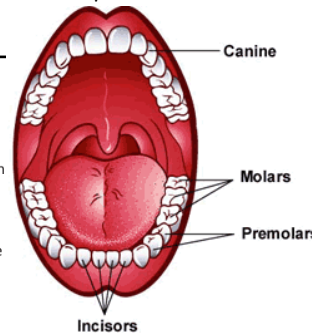
Animal teeth:

- 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.



Human Teeth:

- 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.



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

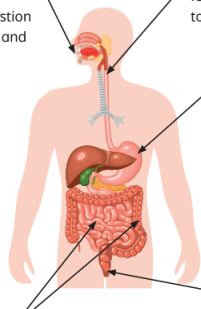
oesophagus – the organ that pushes food from the mouth to the stomach

stomach – the organ that squeezes and breaks down food

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

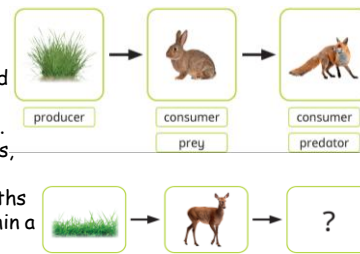
intestines (small and large) – the organs that absorb nutrients and water from food

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
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Key Question	What do Christians believe about the characters in the Christmas story?
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What I should already know	Key Knowledge
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- Christians believe that Jesus is God and that he was born as a baby in Bethlehem.
- The Bible points out that his birth showed that he was extraordinary (for example, he is worshipped as a king, in Matthew) and that he came to bring good news (for example, to the poor, in Luke).
- Christians celebrate Jesus' birth; Advent for Christians is a time of getting ready for Jesus' coming.

- The Christmas Story is part of God's Big Story and even if we are not Christians we can learn from the Christmas story.
- God chose Mary, an ordinary young girl, to be Jesus' mother. God saw something special in Mary. We are special too.
- Joseph did not expect Mary to be pregnant before they were due to be married. Like Joseph, things don't always go to plan in our lives. God spoke to Joseph through an angel. We have people who can help us when it feels like things are not going to plan.
- The Shepherds were not popular and were not always treated fairly. We can treat other people fairly and include those who are overlooked, ignored, rejected or forgotten.
- The Wise Men were from a distant country and another religion; God invited them to be part of the Christmas Story.. We can include others who are different to us.
- For Christians, the Christmas story is about love: God loving the world and all the people and giving Jesus as a gift. We can learn from the Christmas Story. We can still learn things from the story today.



Key Vocabulary

- God - Deity of Christianity
- Mary - Mother of Jesus
- Joseph - Carpenter and married to Mary
- Angel - Messenger from God
- Shepherds - Look after sheep in the fields
- Wise Men - Visitors who brought gifts to Jesus
- Jesus - Son of God



Objectives

Online Reputation

- ❑ I can explain how to search for information about others online.
- ❑ I can search for information about an individual online and summarise the information found.

Online Bullying

- ❑ I can give examples of how bullying behaviour could appear online and how someone can get support.

Privacy and Security

- ❑ I can explain how many free apps or services may read and share private information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others.
- ❑ I can give reasons why someone should only share information with people they choose to and trust. I can explain that if they are not sure or feel pressured then they should tell a trusted adult.
- ❑ I can describe effective ways people can manage passwords (e.g. storing them securely or saving them in the browser).

Online Reputation

- If you were to look at everything someone had posted online, all their pictures and videos, it would give you an idea of what kind of person they are. This is called an **online reputation**.
- The things online that you have liked, shared and commented on may shape your **online reputation**.
- What you share online could be a part of your online reputation forever. Think carefully before posting.
- A **search engine** is used to find out information on the internet.



Online Bullying

- **Online bullying** (often referred to as **cyberbullying**) is any form of bullying that is carried out through the use of electronic media devices, such as computers, laptops, smartphones, tablets, or gaming consoles.
- It's not OK to treat other people badly, online or face to face.
- You should always talk to a trusted adult if someone is being bullied online.



Privacy and security

- **Consent** is another word for **permission**.
- We need to ask for permission for some things and give permission for others, when we're online as well as offline.
- Agreeing to terms and conditions without reading them can be very tempting - they can be long and confusing, but it's important to know what you're agreeing to first!
- Speaking to a trusted adult is always a good choice as they can help you to understand the terms and conditions and decide if you want to agree to them and sign up.
- Online competitions can be really fun and sometimes have great prizes - but always make sure they are trustworthy. It's always best to speak to an adult first.
- Some games will need to know your location to work properly, but many others don't. If a game or app doesn't need to know your location, then it's always safest to choose to keep that information private.
- A **password** is a secret string of letters, symbols and numbers that you can use to restrict who can access something digital.
- You should always use strong **passwords**.
- Never use the same password.
- Always tell a trusted adult if your password is stolen.



Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Computing - Coding	Theme	Diversity	Year Group	4
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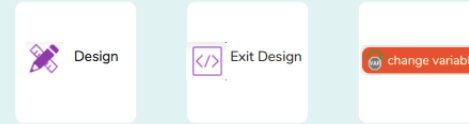
Key Learning

- To begin to understand selection in computer programming.
- To understand how an IF statement works.
- To understand how to use co-ordinates in computer programming.
- To understand the 'repeat until' command.
- To understand how an IF/ELSE statement works.
- To understand what a variable is in programming.
- To use a number variable.
- To create a playable game.

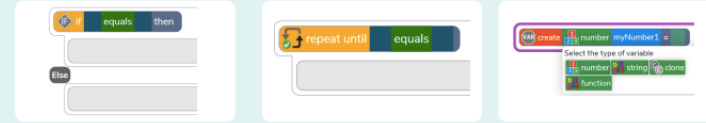
Key Resources



Key Images



Open design mode in 2Code. Switch to code mode in 2Code. A change variable block.



An 'if/else' command. Repeat until. Creating a variable in 2Code.

'If' Statement

A computer uses an IF statement to decide which bit of code to run. IF a condition is true, then the commands inside the block will be run.

Input

Information going into the computer. This could be the user moving or clicking the mouse, or the user entering characters on the keyboard. On tablets there are other forms such as finger swipes, touch gestures and tilting the device.

Key Resources



Key Vocabulary

Action

The way that objects change when programmed to do so. For example, move or change a property.

Alert

This is a type of output. It shows a pop up of text on the screen.

Algorithm

A precise, step-by-step set of instructions used to solve a problem or achieve an objective.

Nest

When coding commands are put inside other commands. These commands only run when the outer command runs.

Flowchart

A diagram that uses specifically shaped, labelled boxes and arrows to represent an algorithm as a diagram.

Prompt

A question or request asked in coding to obtain information from the user in order to select which code to run.

Background

In 2Code the background is an image in the design that does not change.

Button

A type of object that responds to being clicked on.

Code blocks

A way to write code using blocks which each have an object or an action. Each group of blocks will run when a specific condition is met or when an event occurs.

Implement

When a design is turned into a program using coding.

'If/Else' Statement

A conditional command. This tests a statement. If the condition is true, then the commands inside the 'if block' will be run. If the condition is not met, then the commands inside the 'else block' are run.

Repeat

This command can be used to make a block of commands run a set number of times or forever.

Command

A single instruction in 2Code.

Debug/Debugging

Fixing code that has errors so that the code will run the way it was designed to.

Repeat until

In 2Code this command will repeat a block of commands until a condition is met.

Object

Items in a program that can be given instructions to move or change in some way (action). In 2Code Gibbon, these include character, turtle, button, vehicle, animal, food, shape, number, input and label.

Run

Clicking the Play button to make the computer respond to the code.

Execute

This is the proper word for when you run the code. We say, 'the program (or code) executes.'

Selection

Selection is a decision command. When selection is used, a program will choose which bit of code to run depending on a condition.

Design

In coding, this is a plan for the program showing the visual look of the user interface (the screen) with the objects. The algorithm can be represented as part of the design, showing actions and events.

Sequence

This is when a computer program runs commands in order.

Variable

A named area in computer memory. A variable has a name and a value. The program can change this variable value. Variables are used in programming to keep track of things that can change while a program is running.

Properties

These determine the look and size of an object. Each object has properties such as the image, scale and position of the object.

Timer

In coding, use a timer command to run a block of commands after a timed delay or at regular intervals.

Event

An occurrence that causes a block of code to be run. The event could be the result of user action such as the user pressing a key (when Key) or clicking or swiping the screen (when Clicked, when Swiped). In 2Code, the event commands are used to create blocks of code that are run when events happen.

What I should already know

- Understand what algorithms are
- Turn algorithms into code
- Use sequence in programs
- Use repetition (loops)
- Use selection (if/then)
- Debug and fix errors
- Explain how code works
- Use inputs and outputs



Topic	Spanish	Theme	Diversity	Year Group	4
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En la cafetería

phonics

ca

- sound in:
- calamares
 - crema catalana
 - un chocolate caliente

co

- sound in:
- un chocolate caliente
 - una coca cola

accents

Accents indicate the vowel is stressed. As seen in the words jamón, limón and café.

stress placement

Words that end in a vowel, 'n' or 's' are normally stressed on the second to last syllable Like in cho-co-la-te.

vocabulary

20 words for foods, snacks and drinks.



Key questions and phrases for a role-play at the cafetería.

¡Hola! ¿Qué deseas? Quisiera y por favor

Hello! What would you like? I would like and please

¡La cuenta por favor! ¡Gracias! ¡Adiós!

The bill please! Thank you! Goodbye!

Key vocabulary to be able to pay the bill.



grammar

To understand when to use the four different indefinite articles/determiners.

un

una

Singular indefinite articles/determiners 'a/an'

unos

unas

Plural indefinite articles/determiners 'some'

To understand how to move a singular noun to plural form and understand better that the determiner may need to change in Spanish.



una paella

a paella



unas paellas

some paellas

What I will learn:

- Objective 1: I will learn 10 different foods, snacks and drinks in Spanish with the correct indefinite article/determiner.
- Objective 2: I will learn another 10 different foods, snacks and drinks in Spanish with the correct indefinite article/determiner.
- Objective 3: I will learn some key phrases to help me perform a role-play in the Spanish *cafetería*.
- Objective 4: I will learn some more key phrases to help me perform a role-play in the Spanish *cafetería*.
- Objective 5: I will learn about Spanish currency and will use my knowledge of numbers to help calculate the bill in Spanish.

What I should already know

- Spanish phonetic spellings
- Addressing people including my family
- Numbers to 100



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



What I should already know

- 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



Topic

Art - 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

Painting techniques



Dabbing



Stippling



Pointillism



Adding texture to paint



Washes



Using different tools

Colour mixing



Making colours lighter:

+ a lighter colour
+ water
+ white






Making colours darker:

+ a darker colour
+ black






Creating contrast



Contrasting texture




Contrasting colours


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



- ### What I should already know
- 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




Portrait



Landscape

Still life





Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Design Technology - mechanical systems - slingshot car	Theme	Diversity	Year Group	4
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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).

Key facts

Front view



Side view



Bird's-eye view



Which vehicle has the least air resistance?



Did you know?



Some of the first toy cars were made in 1901, that's over 100 years ago!

What I should already know

- 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