



Ridgeway Farm CE Academy - Knowledge Organiser

Topic	History - Stone Age to Iron Age	Theme	Community	Year Group	4
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Key Question	How did community develop from the Stone Age to the Iron Age?				
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What should I already know?	Key Vocabulary				
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- I know that the Ancient Egyptian civilisation began around 3100 BC and ended around 30 BC, when the Romans took over.
- I know that timelines help us understand chronology by showing the order events happened, with BC (Before Christ) coming before AD (Anno Domini).
- I know that invaders try to take over land by force and settlers move to live in a new place.

Palaeolithic	the first era of the stone age - or 'the old stone age'
Mesolithic	the second era of the stone age - or 'the middle stone age'.
Neolithic	the third and final era of the stone age - or 'the new stone age'.
BC	BC stands for 'before Christ' and means the number of years before the year 0 - when Christians believe Jesus was born.
AD	AD stand for 'anno domini' - which means 'in the time of our lord'. AD is used for all years after the year 0.
tribes	a group of people that live together for protection.
settlement	a place where a group of people live together in many buildings.
prehistoric	before people could read or write, we only know what happened thanks to artefacts left behind.
community	a small group of people who all live in the same small area.
artefact	an object made by a human.
archaeologist	person who learns about the past by digging up artefacts and studying them.

Key Knowledge

- The Stone Age began 3 million years ago, followed by the Bronze Age and then the Iron Age.
- From the Stone Age to the Iron Age, communities grew as people stopped moving around and began farming. They built permanent homes, lived in villages, shared jobs and worked together to survive and stay safe.

Stone Age

- The Stone Age is split into three periods: the Palaeolithic, Mesolithic and Neolithic ages.
- During the Palaeolithic Age (old Stone Age), people controlled fire and developed weapons for hunting. They gathered food by hunting wild animals and birds, fishing and collecting fruits and nuts. People lived in caves and used flint to make tools.
- During the Mesolithic - Humans were hunter-gatherers and constantly on the move in order to stay safe and warm. They lived in animal skin tents.
- During the Neolithic period (late Stone Age), people began to farm and live in permanent homes. Communities started to grow as people settled in one place and worked together. They made homes from stones.



Bronze Age

- The Bronze Age:** During this era, people discovered how to make bronze. This was a huge development and meant their tools would be much stronger. The wheel was invented.

Iron Age

- The Iron Age:** This was the last period of prehistoric Britain before the Romans.
- Iron Age people built hill forts for protection because war was common. New iron technology meant more people had weapons like swords and spears.

Timeline							
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13,000 B.C.	4500-3500 B.C.	2300 B.C.	1800 B.C.	1200-800 B.C.	800-700 B.C.	700-500 B.C.	100 B.C.
People make cave paintings	Farming starts to begin to spread and pottery is made	Start of the Bronze Age	The first copper mines are dug	Metal tools are made and used	Start of the Iron Age / The first hill forts are made	Iron is more commonly being used	Coins are made and used for the first time / Iron Age end with Romans in 43 AD



Topic	Science - Electricity	Theme	Community	Year Group	4
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Key Question: How does electricity help us?

What should I already know?

- Electricity is a form of energy that can be carried by wires and is used for heating and lighting and to provide power for devices.
- Sources of light and sound may need electricity to work.

Key Vocabulary

battery	two or more cells joined together to store more energy
buzzer	a device that makes a sound
bulb	the glass part of an electric lamp, which gives out light when electricity passes through it
cell	a portable store of energy
circuit	a closed path that energy can flow through
conductor	a material that allows energy to flow through it
current	a flow of electricity through a wire or circuit
electricity	a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices
energy	the power from sources such as electricity that makes machines work or provides heat
insulator	a material that does not allow energy to flow through it
material	what an object is made from
metal	a material which can be hard, shiny and a conductor of electricity
motor	a device that uses electricity or fuel to produce movement
socket	the part of the electrical circuit where the plug fits to make a connection
switch	a device that opens and closes an electrical circuit
wires	a long thin piece of metal that is used to fasten things or carry electric current

What I will know by the end of the unit

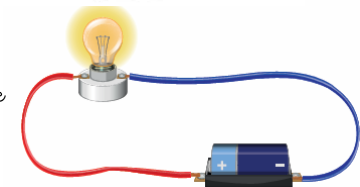
Common appliances that use electricity

- Many appliances use electricity and must be plugged into a socket for the electricity to pass through the circuit. Other appliances may need batteries to power the energy around a circuit.
- Some appliances use electricity to heat things up (cooker hobs) and cool things down (fridges and freezers).
- Electricity can be extremely harmful.
- Liquids and wet hands should be kept away from electrical appliances and circuits.



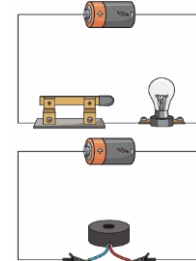
Build and draw circuits

- A circuit must have a closed path so that electrical energy can pass through.
- Circuits can include bulbs, wires, switches, buzzers and cells connected in one loop.
- If a circuit does not have a source of energy, such as a cell or battery, then electricity cannot flow around it.



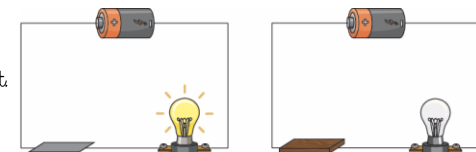
What has gone wrong?

- A bulb will not light in a circuit if it is not in a complete loop with the cell.
- A bulb will not light in a circuit if a switch is open.



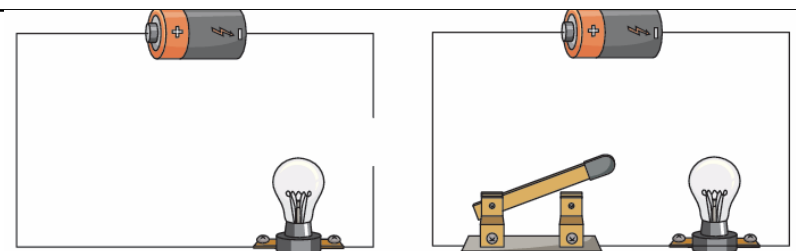
Conductors and insulators

- A conductor is a material which allows energy to flow through it.
- Metals are good conductors.
- An insulator does not allow energy to flow through it.
- Materials which are insulators are rubber, plastic and wood.



Conductivity within a circuit

- A conductor is a material which allows energy to pass through it.
- An insulator does not allow energy to pass through it.
- Some materials can be used to connect a gap in a circuit, others cannot.



switch



cell



battery



buzzer



Ridgeway Farm CE Academy - Knowledge Organiser

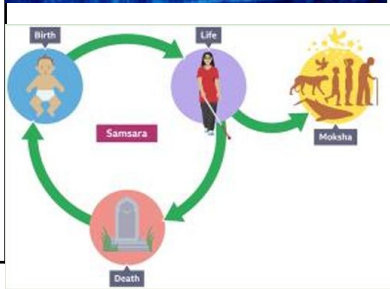
Topic	RE	Theme	Community	Year Group	4
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Key Question: Why do some people think that life is a journey and what significant experiences mark this?

What should I already know?	Key vocabulary	
<ul style="list-style-type: none"> Why festivals are important to religious communities. Main beliefs of different religions, e.g., Hinduism, Judaism, and Christianity. 	baptism	The Christian religious rite of sprinkling water on to a person's forehead or of immersing them in water, symbolizing purification or regeneration and admission to the Christian church.
	Bar Mitzvah	The initiation ceremony of a Jewish boy who has reached the age of 13 and is regarded as ready to observe religious precepts and eligible to take part in public worship.
What I will know by the end of the unit.		
<ul style="list-style-type: none"> What a journey means to me. The significance of baptism for Christians. How Jewish people mark becoming adults. The ceremonies Hindus mark in the journey of life. Understand why people choose to get married. Whether all journeys are similar. The comparison between the journeys of Christians, Jewish people and Hindus. 	ceremonies	A formal religious or public occasion, especially one celebrating a particular event, achievement, or anniversary.
	journey	An act of travelling from one place to another.
	commitment	To be dedicated to a cause, activity or person
	ritual	A religious or solemn ceremony consisting of a series of actions in a prescribed order.
	significance	Being worthy of attention or importance.

Key Knowledge

- We all go on different journeys in life. Some are short, long, exciting, or ordinary.
- Christians take part in special ceremonies like baptism and confirmation to show they belong to their faith. Water is used in some of these ceremonies to signify a fresh start and washing away sins.
- Jewish children can show their dedication to their religion by becoming Bar/Bat Mitzvah during a special ceremony. This means they are now responsible for their own choices in their religion.
- Hindus believe in Samsara - the cycle of life, death and rebirth. This means the next life is determined by how a person lives their current life.
- For some people, a marriage ceremony is part of their journey through life. Religious marriages are different from each other but often share the same core principles: a life-long commitment, faithfulness, and a promise to share a life with someone else.
- Christians, Jewish people, and Hindus all have special ceremonies that mark important moments in life, but their beliefs and traditions are different.
- Some people think life is a journey because we go through different stages, like being born, growing up, learning, and making important promises. In different religions, special ceremonies such as Christian baptism, Jewish Bar/Bat Mitzvah, and Hindu beliefs about rebirth help mark these important steps and show commitment to faith.





Topic

Computing - Effective search

Theme

Creation

Year Group

4

Key Learning

- To locate information on the search results page.
- To use search effectively to find out information.
- To assess whether an information source is true and reliable.

Key Questions

What is a search engine?

A search engine is a piece of software that allows the user to find and display pages from the World Wide Web.

Key Vocabulary

Balanced View

Presenting opposing points of view fairly and without bias.

Easter eggs

An unexpected or undocumented feature in a piece of computer software or on a DVD, included as a joke or a bonus.

Internet

A global computer network providing a variety of information and communication facilities.

Key words

A word or a group of words an Internet user uses to perform a search in a search engine.

Reliability

The degree to which the result of something can be depended on to be accurate.

Results page

Where the answers to a search are displayed.

Search engine

A program that searches for and identifies items in a database. Used especially for finding sites on the World Wide Web.

Unit 4.7 - Effective Searching: Prior and Future Learning Links

Unit 1.1 Online Safety and Exploring

Purple Mash

- Safe logins
- Using Purple Mash search functionality

Unit 1.6 Technology Outside School

- Developing ideas about the concept of technology that we are surrounded by and its purpose

Unit 2.2 Online Safety

- Sharing to a display board
- Sharing online
- Digital footprint

Unit 2.5 Effective Searching

- Exploration of what the Internet is
- Accessing the World Wide Web
- Digital Footprint
- Searching and sharing

Unit 3.2 Online Safety

- Reliability of information and spoof websites
- Appropriate ratings
- Reporting problems

Unit 4.2 Online Safety

- Phishing
- Digital footprint
- Malware and viruses
- Plagiarism

Unit 4.7 - Effective Searching

Unit 5.2 Online Safety

- Responsibility to others when sharing
- Sources of support
- SMART rules

Unit 5.8 Word Processing

- Plagiarism
- Citing sources

All units

- Use of 2Dos
- Saving, opening and editing work
- Sharing work
- Copying and pasting
- Mouse, keyboard and device skills

The Internet
A global network of connected devices

The World Wide Web
The webpages and websites that you see when browsing the Internet

Search Engines
A program that searches the World Wide Web to locate information. Browsers typically allow access to a search engine.

- use keywords
- punctuation doesn't matter
- capitalization doesn't matter
- you can search for events, score, mathematical calculations, translations, conversions, locations, weather and much more ...

Search Algorithms

- How a search engine finds what you are looking for.
- Help you find things that you might be most interested in.
- Makes suggestions to you such as videos and social media sources.
- Might not give you a balanced view.

Search results - Reliability

Can you explain how these terms relate to reliability?

- reputable source
- date
- quality of site
- multiple sources of confirmation
- search history - algorithms

Key Resources





Topic

Computing - Hardware Investigators

Theme

Community

Year Group

4

Prior Knowledge

- I understand 2-way communication technologies using algorithms that run off the hardware
- I have started to understand what technology is and why we use it.
- I know that many devices use computational technology.
- I have explored what the Internet is and how devices connect to it.

Key Learning

- To understand the different parts that make up a computer.
- To recall the different parts that make up a computer.

Key Vocabulary

Components

Parts inside the computer casing.

CPU

The 'brains' of the computer, where all the calculations take place.

Graphics Card

Also known as a video card and used for displaying images.

Hard Drive

Where the computer stores all your documents, pictures, games and videos.

Input

How information enters the computer.

Motherboard

Main printed circuit board of the computer.

Network Card

Used to connect the computer to a network such as the Internet.

Output

Where information leaves the system.

Peripherals

Parts that are attached to the computer case.

RAM

Allows programs to store information to help the computer run quickly.

Software

The programs that run on the computer.

Key Images



Motherboard



CPU



RAM



Graphics card



Network card



Monitor



Speakers



Keyboard



Mouse

Hardware



Motherboard

Main circuitboard for the computer. Every component is linked to it.

RAM

Random Access Memory

CPU

Central Processing Unit; the 'brains'.

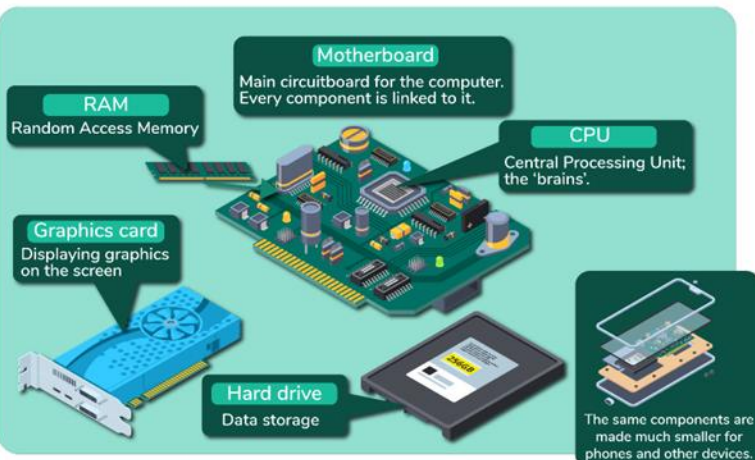
Graphics card

Displaying graphics on the screen

Hard drive

Data storage

The same components are made much smaller for phones and other devices.





Topic

Computing - Artificial Intelligence

Theme

Community

Year Group

4

Prior Knowledge

- To look for places where technology is used in and out of school.
- To write about and understand the different parts of a computer.

Key Learning

- To learn what is meant by the term artificial intelligence.
- To be clear about ways artificial intelligence is used in our everyday lives.
- To consider the future of artificial intelligence
- To look at how artificial intelligence is used in music and the arts to create things.

Key Questions

What is artificial intelligence?

Artificial intelligence (AI) is when computers and machines can do things that usually need human intelligence, like learning, solving problems, and making decisions.

How is artificial intelligence used in our lives?

Artificial intelligence is used in many ways in our lives. It helps us find information online, play games, use voice assistants, and even control some devices at home.

Key Vocabulary

Algorithm

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

Artificial Intelligence:

Computer systems able to perform tasks normally requiring human intelligence, such as seeing things, speech recognition, decision-making, and translation between languages.

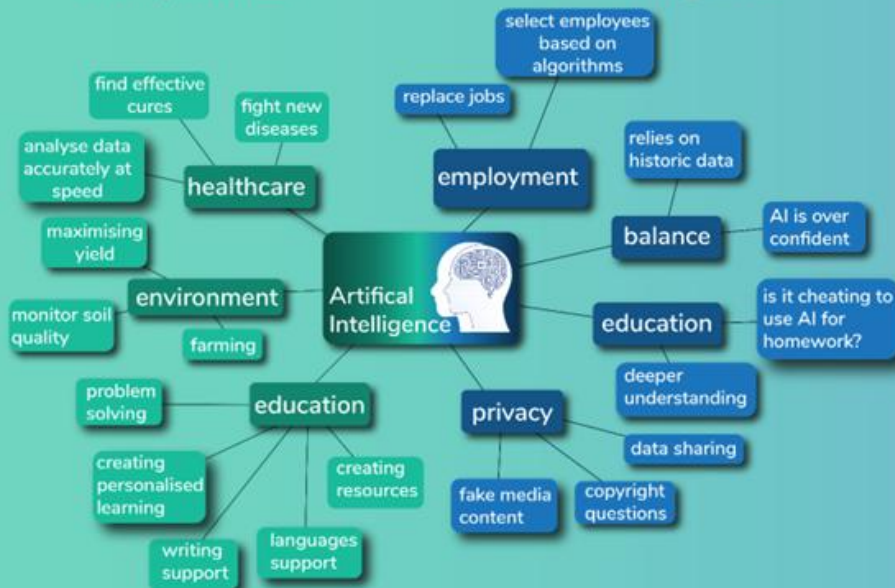
Data

A collection of information, especially facts or numbers, obtained by observation, questions or measurement to be analysed and used to help decision-making.

Can you explain these positives and negatives?

some positives

some negatives



Key Resources



Bard



Music LM



Chat GPT



Quick, Draw



Topic	Computing - Making Music	Theme	Community	Year Group	4
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Prior Knowledge

- I know that simple sound effects can be added to stories in 2Create a Story.
- I can digitally create music and sound effects on 2Sequence.
- I can use music and sounds in stop animation creation.

Key Learning

- To identify and discuss the main elements of music.
- To understand and experiment with rhythm and tempo.
- To create a melodic phrase.
- To electronically compose a piece of music.

Key Images

Open, save and share work.	Play and add different notes or synths.	Play and add different sample sounds.	Clicking on the rippler triggers the sounds.
Stop the music by pressing this button.	This changes the speed - beats per minute.	Record, stop recording and replay your work.	

Key Vocabulary

BPM
Beats per Minute. Changing the BPM changes the speed of the music.

Dynamics
How loud or quiet a sound is.

Harmonious
Notes which sound tuneful and pleasant together.

Melody
A sequence of notes which make up a tune.

Pitch
How high or low a sound is.

Pulse
The steady beat of a piece of music.

Rhythm
A pattern of long and short sounds and silences.

Tempo
How slow or fast a piece of music is.

Texture
The different sounds you can hear in a piece of music.

Synths
Short for synthesizer. Electronic musical instrument sounds.

Rippler and Ripples

- speed - how often a ripple is sent out.
- decay - the higher the decay, the sooner a ripple fades away.
- door rippler - alter the pulse for notes behind the door.

Samples

Maracas

Controls

- sample volume
- sample pitch
- reverse sample

tempo

84 bpm

Synth board - notes

C2 D2 E2 G2 A2 C3 D3 E3 G3 A3

note E octave 3 (pitch)

semi-quaver quarter beat quaver half beat crotchet 1 beat minim 2 beats semi-breve 4 beats

Synth

Gain

Octave

note

Control:

- length of the note
- sound wave of the note - change texture
- pitch - octave
- volume of the note - gain
- record a melody in place of the note

Terms and meanings

- dynamics How loud or quiet a sound is.
- pitch How high or low a note is.
- tempo How slow or fast a piece of music is.
- rhythm A pattern of long and short sounds and silences.
- melody A sequence of notes which make up a tune.
- texture The way that different sounds and music elements are layered together to create a piece of music.
- pulse The steady beat of a piece of music.



Topic	Tudors - La casa Tudor	Theme	Community	Year Group	4
Prior Knowledge		Key Objectives			
<ol style="list-style-type: none"> The letter sounds (phonics & phonemes) from 'Phonics & Pronunciation' lessons 1 and 2. Basic decoding skills looking for cognates and gist listening and reading for meaning. What a verb, noun and adjective is in English. That adjectives can change spelling in Spanish due to gender. 		<ol style="list-style-type: none"> I will use basic greetings in Spanish, ask somebody how they are feeling and reply when asked to me. I will ask somebody their name in Spanish and reply when asked to me. I will recall numbers 1-10 and count from 11-20 in Spanish. I will learn how to ask somebody how old they are in Spanish and reply when asked to me. I will learn how to ask somebody where they live in Spanish and reply when asked to me. I am I have I live I will learn how to express my nationality in Spanish and understand basic gender agreement rules 			

phonics

ca sound in:
• catorce 14

ce sound in:
• once 11 • oce 12

ci sound in:
• cinco 5 • cincuenta 50

co sound in:
• escocés

cu sound in:
• cuatro 4

ñ tilde This changes the 'n' to a 'ny' sound like in the English word 'onion'. As in the Spanish word español and española.

vocabulary

Numbers 1-20 in Spanish.
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20

How to present myself:



¡Hola! Me llamo Claudia. Tengo diez años. Vivo en Salamanca.

Hi! My name is Claudia and I am ten years old. I live in Salamanca.

Key questions:

¿Cómo estás? How are you?

¿Cómo te llamas? What is your name?

¿Cuántos años tienes? How old are you?

¿Dónde vives? Where do you live?

grammar

To start to understand adjectives better in Spanish and how they may change spelling depending on what they are describing. This is called adjectival agreement.



Soy española
I am Spanish



Soy español
I am Spanish

1st person high frequency verbs:

soy I am **tengo** I have **vivo** I live



Topic	Design Technology - Electrical systems: Torches	Theme	Community	Year Group	4
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Prior Knowledge	Intended Outcomes
<ul style="list-style-type: none"> I understand that an electrical system is a group of parts (components) that work together to transport electricity around a circuit. I know the name and appearance of a bulb, battery, battery holder and crocodile wire to build simple circuits. I can complete design criteria based on a client's request. I can review initial ideas against the design criteria and peer feedback, developing a final design. I can test that the simple circuit works by adding a battery. 	<ul style="list-style-type: none"> To identify the features of a torch and how it works. To describe what makes a torch successful. To create suitable designs that fit the success criteria and their own design criteria. To create a functioning torch with a switch according to their design criteria.

Battery	Two or more cells put together to provide electrical energy to power a circuit.
Bulb	A circuit part, made from glass or plastic, which gives out light when electricity passes through it.
Buzzer	A circuit part which will make a buzzing noise when electricity is passed through it.
Cell	A single unit that provides electrical energy to power a circuit.
Conductor	A material that allows electricity to flow through it. e.g. metal.
Copper	A reddish metal material that is good at letting heat and electricity flow through it. It is often used to make wires and pipes.
Design criteria	A set of rules to help designers focus their ideas and test the success of them.
Electrical item	Objects that need electricity to work such as hair dryers, toasters and kettles.
Electricity	A type of energy, that is usually invisible, that can be made or stored and used to make objects work (for example to move things or to heat them up).
Electronic item	Electrical items that have an element of computer processing in them such as mobile phones and laptops.
Insulator	A material that does not allow electricity to flow through it. e.g. plastic.
Series circuit	A closed circuit where the current follows one path.
Switch	A circuit part that you can open or close to allow electricity to flow through or to stop it flowing through. (For example, in a house, an electric light switch lets you turn the lights on or turn the lights off.)
Test	To find out whether something works as it should.
Torch	A battery-powered electric lamp.
Wire	A thin piece of copper thread which conducts electricity to connect circuit components together.



Did you know?



Once upon a time, there were no **electrical items** to use!
They had not been invented.
How would life be different for you without **electrical items**?



Topic	Art and Design - Sculpture and 3D: Mega Materials	Theme	Community	Year Group	4
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Ceramics	Things made from clay which are hardened using heat
Form	Three dimensional shapes in art
Found objects	Objects not considered art materials being used to make art
Organic shape	Irregular natural shapes
Scale	The size of an artwork
Sculpture	Three dimensional art made by carving, modelling, casting or constructing
Typography	The art of designing and arranging letters to make them look appealing

Constructing

Using techniques like folding, stitching, tying, weaving and balancing to join materials together and make art.

Prior Knowledge

Formal Elements

- I know that using light and dark colours next to each other creates contrast.
- I know that forms can be organic (natural) or geometric (like cubes).
- I know that artists can use shapes to make abstract art.

Making Skills


- I know how to join 2D shapes to make a 3D form.
- I know how to join larger materials to make a stable sculpture.
- I know how to shape card by rolling or folding to match my idea.
- I know how to plan a sculpture by drawing first.
- I know how to choose materials to make a bigger version of an idea.
- I know how to join card using slots, tabs or wrapping.
- I know how to add colour or texture to a sculpture.

Carving




Hard materials such as wood or stone can be carved to change their shape. Cut or scrape away pieces of the material to make a sculpture.

Modelling



Soft materials such as clay or wire can be shaped by hand to make sculptures.

Found objects



Materials not usually thought of as art materials can be used to make sculptures, e.g. scrap metal, old toys, pieces of furniture.

Artists

Magdelene Odundo

Barbara Hepworth

Jaume Plensa

Sokari Douglas Camp

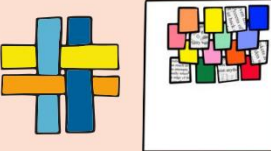
El Anatsui

Carving soap




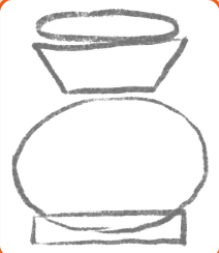
- Draw the outline
- Remove large unwanted areas of soap
- Use a smaller tool to get close to the outline
- Add detail like surface texture

Constructing




- Layering recycled materials to look like a weaving
- Cutting, tearing and overlapping shapes
- Creating pattern and contrast

Planning sculpture

- Sculptors sometimes draw to help them visualise the finished sculpture.
- Use your whole arm to draw on a big scale.

Modelling with wire



- Bend to form shapes
- Twist or fold over to join
- Make loops to add details



Topic	Music - Adapting and transposing motifs (Theme: Romans)	Theme	Community	Year Group	4
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Prior Knowledge

- I can sing in tune and in harmony with others, using good breath control
- I can perform a vocal ostinato in time.
- I can listen carefully to others in my group while we perform.
- I can create an ostinato and write it down to help me remember it.
- I can create and perform a piece using different ostinatos.

Using Roman mosaics to explore musical motifs.



Vocabulary

Motif	A short repeated pattern of notes.
Ostinato	A repeating musical pattern.
Riff	A short repeated phrase in pop music and jazz.
Rhythm	A pattern of long and short sounds (and silences) within a piece of music.
Backing track	A recorded musical accompaniment.
Transpose	Move a whole tune or piece of music up or down in key by starting it on a different note.

Sharp notes



Notes that sound a semitone higher than notes that appear on the lines and spaces of a musical staff.

Flat notes



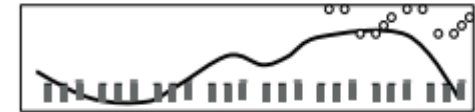
Notes that sound a semitone lower than notes that appear on the lines and spaces of a musical staff.

Notation

The way that music is written so that others can play it.

Graphic score

A way of writing music down using pictures or symbols, rather than standard music notation.



Letter notation

Writing the notes in a melody using letters.



Rhythmic notation

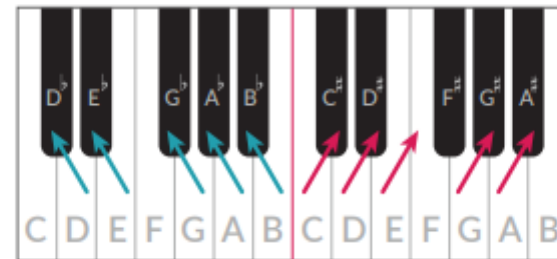
A way of writing musical notes so that the duration of each note is clear.



Did you know? The sharp and flat keys are the black keys on a piano and the top row of keys on a glockenspiel.

Sharp keys

A sharp indicates a higher pitch in the music.



b Flat keys

A flat indicates a lower pitch in the music.