



# Ridgeway Farm CE Academy - Knowledge Organiser

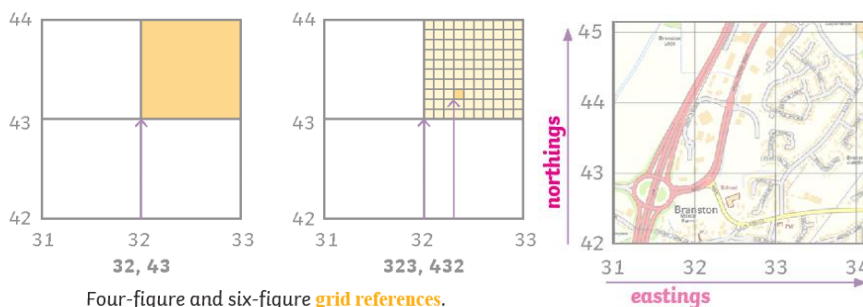
Topic	Mountains	Theme	Creation	Year Group	5
Key Question	Why are mountains so important?				
Subject	Geography 1				

## Key vocabulary

Atlas	A collection of maps often of each country in the world.
Compass	A tool used for showing direction.
Digital map	A map that uses technology such as a satnav.
Easting	The numbers used in a <b>grid reference</b> that run west to east.
Grid references	The numbered squares on a map used to locate a place.
Northing	The numbers used in a <b>grid reference</b> that run south to north.
Ordnance survey maps	Detailed maps of Great Britain where each square represents 1km squared (1km <sup>2</sup> ).
symbols	Small pictures, letters or lines that represent a feature.

## Grid References

- A map is crisscrossed with horizontal and vertical lines that create a grid.
- The grid and squares help to narrow a search area so you can locate features on a map.
- Usually, the lines are numbered with two digits.
- Eastings** are the numbers that run from west to east.
- Northings** are the numbers that run from south to north.
- The **easting** and **northing** numbers are put together to create a four- digit **grid reference**, e.g. (32,43), which refers to the bottom left corner of a square on the map.
- Grid references** can be even more specific by adding an extra digit to both the **easting** and **northing** numbers.
- These six- digit **grid references**, e.g. (323,432), tell us more precisely whereabouts in the square something is.



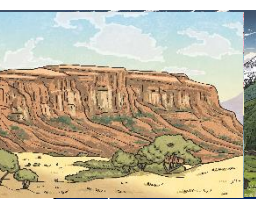
## Compass Points

Four-Point Compass		Eight-Point Compass	
N - north		north (N)	
E - east		north-east (NE)	
S - south		east (E)	
W - west		south-east (SE)	
		south (S)	
		south-west (SW)	
		west (W)	
		north-west (NW)	

## Symbols

- Maps use **symbols** instead of words to label real-life features.
- A key on the map tells you what the **symbol** means.

	Nature Reserve		Cycle Trail		Footpath
	Motorway		Train Station		Place of Worship



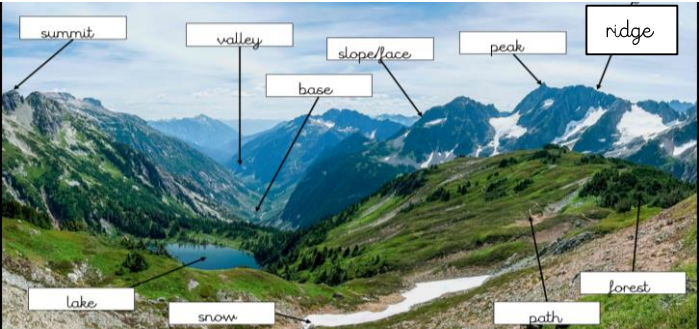
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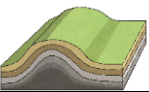


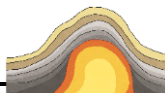
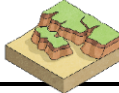
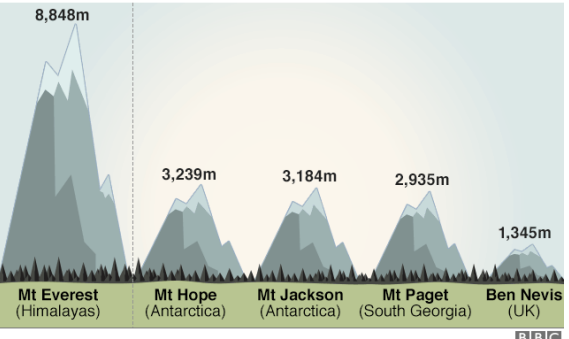




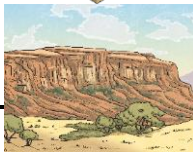
	Mountains	Theme	Creation	Year Group	5
Key Question	Why are mountains so important?				
Subject	Geography 2				

Key Vocabulary	
altitude	The height of an object or point in relation to sea level or ground level.
avalanche	A large amount of snow that quickly moves down a mountain or slope.
Condensation	The transformation of water from a gas into a liquid.
crust	The outermost layer of the earth.
Evaporation:	The transformation of water from a liquid into a gas, a process which humidifies the atmosphere.
face	the "side" of a mountain
foot	the bottom of the mountain
gorges	A narrow valley, with steep walls, found between hills or mountains.
Groundwater:	Water located below ground.
hypothermia	A serious condition when the body gets too cold and can't warm itself up.
lava	Hot, liquid rock that flows from a volcano.
magma	Hot, liquid rock located deep below the earth's surface.
outcrop	a rock formation visible from the surface
plateau	an area of flat, high-ground
Precipitation:	The transfer of water from the atmosphere to land. Rain, snow, hail and sleet.
ridge	a long, narrow, high section of land
Runoff:	Rivers, lakes, and streams transport water from land to the oceans. Too much rainfall can cause excess runoff, or flooding.
slope	an area of ground increasing in height
Snowline	above here snow and ice cover the mountain all year.
summit	The highest point of a mountain.
Tectonic plate	Pieces of the earth's crust connected together.
The Earth's Water Budget:	The distribution of water among the oceans, land and atmosphere.
Transpiration:	Transfer of water to the atmosphere by plants and vegetation.
Transport:	The movement of water through the atmosphere.
treeline	the highest point at which forests are found
Valley	the area of low land between mountains

Mountains

- Mountains are a natural part of the landscape with steep slopes.
- They rise above 300m.
- They have a summit of at least 600m.
- Some mountains are found in groups called a mountain range but some mountains can be on their own.
- Mount Everest is the highest mountain in the world- 8848m.



How Are Mountains Made?					Why Do People Visit Mountains?
Fold mountains	Fault-block mountains	Volcanic Mountains	Dome mountains	Plateau Mountains	<ul style="list-style-type: none"><li>• The view</li><li>• Keeping fit</li><li>• The challenge</li><li>• Skiing</li><li>• Climbing</li><li>• Photography</li></ul> 
Tectonic plates collide and rock is pushed up.	Cracks in the earth's surface open up, some chunks of rock are pushed up, some down.	Formed around volcanoes and made of layers of ash and cooled lava.	Formed when magma is forced upwards but doesn't ever flow out of the crust.	Materials taken away through erosion leave deep valleys or gorges next to high cliffs.	
					
					



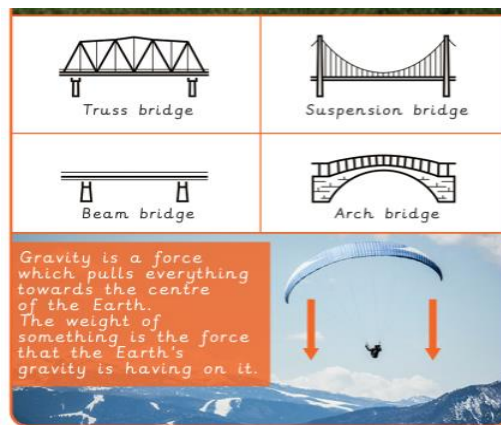
Topic	Design Technology	Theme	Creation	Year Group	5
Subject	Structure - bridges				

## Key facts

Forces can change the shape of objects, they can also make objects begin to move, speed up or slow down.



Kapow Primary



Gravity is a force which pulls everything towards the centre of the Earth. The weight of something is the force that the Earth's gravity is having on it.

## Key knowledge

- To understand some different ways to reinforce structures.
- To understand how triangles can be used to reinforce bridges.
- To know that properties are words that describe the form and function of materials.
- To understand why material selection is important based on their properties.
- To understand the material (functional and aesthetic) properties of wood.

## Key skills

- Designing a stable structure that is able to support weight.
- Creating a frame structure with focus on triangulation.
- Making a range of different shaped beam bridges.
- Using triangles to create truss bridges that span a given distance and support a load.
- Building a wooden bridge structure.
- Independently measuring and marking wood accurately.
- Selecting appropriate tools and equipment for particular tasks.
- Using the correct techniques to saw safely.

- Identifying where a structure needs reinforcement and using card corners for support.
- Explaining why selecting appropriate materials is an important part of the design process.
- Understanding basic wood functional properties.
- Adapting and improving own bridge structure by identifying points of weakness and reinforcing them as necessary.
- Suggesting points for improvements for own bridges and those designed by others.

## Structures - Bridges

Accurate	Neat, correct shape, size and pattern with no mistakes.
Arch bridge	A bridge which is built with a curved arch.
Beam bridge	A bridge which is built with horizontal beams and vertical pillars.
Bench hook	A tool which hooks onto the edge of the workbench. It's used to hold woodwork still when sawing.
Compression	A squashing force caused when parts of a structure are pushed together.
Coping saw	A saw with a narrow D-shaped metal blade, used for cutting curves in wood.
File	A tool used to smooth down rough edges on wood or metal materials.
Mark out	To measure and mark where a piece of material needs to be cut or shaped.
Reinforce	To make a structure or material stronger, especially by adding another material or element to it.
Sand paper	Strong paper with sand on one side to smooth or polish woodwork.
Set square or Try square	A right-angle triangular plate, wood or metal tool used for drawing lines at 90°, 45°, 60°, or 30°.
Shape	The form of an object.
Structure	Something which stands, usually on its own.
Suspension bridge	A bridge which is supported by vertical cables and suspended by cables which run between pillars that are connected onto either end of the bridge.
Tenon saw	A saw with a flat blade, used for cutting wood in straight lines or angles.
Tension	A stretching force caused by two parts of a structure being pulled apart.
Truss bridge	A bridge which is built from a series of triangular beams.





Topic	Mountains	Theme	Creation	Year Group	5
Subject	Computing: Spreadsheets				

## Key Learning

- To use formulae within a spreadsheet to convert measurements of length and distance.
- To use the count tool to answer hypotheses about common letters in use.
- To use a spreadsheet to model a real-life problem.
- To use formulae to calculate area and perimeter of shapes.
- To create formulae that use text variables.
- To use a spreadsheet to help plan a school cake sale.

## Key Vocabulary

### Rows

Boxes running horizontally in a spreadsheet.

### Data

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

### Advance mode

A mode of 2Calculate in which the cells have references and can include formulae.

### Formula Wizard

The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

### Spreadsheet

A computer program that represents data in **cells** in a grid of **rows** and **columns**. Any cell in the grid may contain either **data** or a **formula** that describes the value to be inserted based on the values in other cells.

### Format

The way that text looks. Formatting cells is helpful for interpreting a cell's contents for example you might want to format a cell to show a fraction e.g.  $4\frac{1}{2}$  or include units such as £ or \$.

### 'How Many?' Tool

Counts how many of a variable there are in a spreadsheet.

### Variable

Used in computing to keep track of things that can change while a program is running.

### Columns

Boxes running vertically in a spreadsheet.

### Formula

A group of letters, numbers, or other symbols which represents a scientific or mathematical rule. The plural of formula is formulae.

### Formula Bar

An area of the spreadsheet into which formulae can be entered using the '=' sign to open the formula.

### Totalling tool

Adds up the value of every cell above it, next to it or diagonal to it according to which total tool is selected.

## Key Images



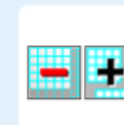
Open, close or share a file



Save your work



Open a previously saved file



Increase or decrease spreadsheet size



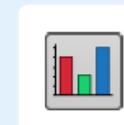
Advanced mode



Formula Wizard



Format Cell Toolbox



Charts



Totals toolbox



Image Tools



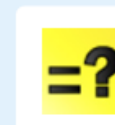
Controls Toolbox



Random Number



Spin



Equals



Timer



To Copy



To Cut



To Paste



# Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Mountains	Theme	Creation	Year Group	5
Subject	Computing: Databases				

## Key Learning

- To learn how to search for information in a database.
- To contribute to a class database.
- To create a database around a chosen topic.

## Key Images



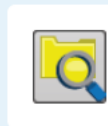
Open, close or share a file



Design a new database



Add a record to the database



Find information in the database



Sort, group and arrange information



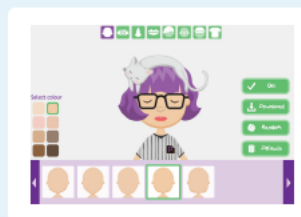
Statistics and reports



Represent the information as a chart



Table view of records



Avatar creator

## Key Vocabulary

### Arrange

Sorting information in order against a search request.

### Avatar

An icon or figure representing a person in a video game, Internet forum, etc.

### Chart

A diagram that represents data. Charts include graphs and other diagrams such as pie charts or flowcharts.

### Collaborative

Produced by, or involving, two or more parties working together.

### Data

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

### Database

A set of data that can be held in a computer in a format that can be searched and sorted for information.

### Field

A heading in a database record against which information is entered.

### Database Report

A way of producing a written paragraph that incorporates the data from the fields and records of the database.

### Group

Putting similar pieces of information together in a database so it is easy to read, understand and interpret.

### Record

A collection of data about one item entered into a database.

### Search

A way of finding information.

### Sort

Organising data by a rule such as alphabetical or numerical.

### Statistics

The study and manipulation of data, including ways to gather, review, analyse, and draw conclusions from data.















# Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Mountains	Theme	Creation	Year Group	5
Subject	Science: Properties and changes of materials - continued from term 2				

Vocabulary	
circuit	a complete route which an electric current can flow around
condensation	small drops of water which form when water vapour or steam touches a cold surface, such as a window
conductor	a substance that heat or electricity can pass through or along
dissolves	when a substance is mixed with a liquid and the substance disappears
electricity	a form of energy that can be carried by wires and is used for heating and lighting, and to provide power for devices
evaporation	to turn from liquid into gas; pass away in the form of vapour
filtering	a device used to remove dirt or other <b>solids</b> from <b>liquids</b> or <b>gases</b> . A filter can be made of paper, charcoal, or other material with tiny holes in it
flexible	an object or material can be bent easily without breaking
gas	a form of matter that is neither <b>liquid</b> nor <b>solid</b> . A <b>gas</b> rapidly spreads out when it is warmed and contracts when it is cooled
insoluble	impossible to <b>dissolve</b> , esp. in a given <b>liquid</b>
insulator	a non-conductor of electricity or heat
irreversible	impossible to reverse, turn back, or change
liquid	in a form that flows easily and is neither a <b>solid</b> nor a <b>gas</b>
magnetic	having to do with magnets and the way they work
melting	to change from a <b>solid</b> to a <b>liquid</b> state through heat or pressure
particles	a tiny amount or small piece
permeable	of a substance, being such that <b>gas</b> or <b>liquid</b> can pass through it
process	a series of actions used to produce something or reach a goal
properties	the ways in which an object behaves
rate	the speed with which something happens
resistance	the opposing power of one force against another
reversible	able to turn or change back
solid	having a firm shape or form that can be measured in length, width, and height; not like a <b>liquid</b> or a <b>gas</b>
soluble	able to be <b>dissolved</b>

Vocabulary	
solution	a mixture that contains two or more substances combined evenly
state	the structure or condition of something
temperature	a measure of how hot or cold something is
thermal	relating to or caused by heat or by changes in <b>temperature</b>
transparent	If an object is <b>transparent</b> , you can see through it
variable	something that can change or that has no fixed value
water cycle	the process by which water on the earth evaporates, then condenses in the atmosphere, and then returns to earth in the form of precipitation

What will I know by the end of the unit?	
How to group materials based on their properties using more complex vocabulary.	 magnetic  transparent  flexible
What are thermal insulators and conductors?	 permeable  soluble  insoluble
	<ul style="list-style-type: none"> <li>Materials which are good <b>thermal conductors</b> allow heat to move through them easily.</li> <li><b>Thermal conductors</b> are used to make items that require heat to travel through them easily, such as a saucepan which requires heat to travel through to cook food.</li> <li><b>Thermal insulators</b> do not let heat travel through them easily.</li> <li>Examples of <b>thermal insulators</b> include woollen clothes and flasks for hot drinks.</li> </ul>
	 thermal insulator  thermal conductor

What are electrical insulators and conductors?	<ul style="list-style-type: none"> <li><b>Electrical conductors</b> allow electricity to pass through them easily while <b>electrical insulators</b> do not.</li> <li><b>Electrical insulators</b> have a high <b>resistance</b> which means that it is hard for electricity to pass through these objects.</li> </ul>
What is dissolving?	<ul style="list-style-type: none"> <li>When the <b>particles</b> of a <b>solid</b> mix with the <b>particles</b> of a <b>liquid</b>, this is called <b>dissolving</b>.</li> <li>The result is a <b>solution</b>.</li> <li><b>Materials that dissolve</b> are <b>soluble</b>.</li> <li><b>Materials that do not dissolve</b> are <b>insoluble</b>.</li> </ul>  dissolving  solution  soluble  insoluble
Can materials be separated after they have been mixed?	<ul style="list-style-type: none"> <li>Some <b>materials</b> can be separated after they have been mixed based on their <b>properties</b> - this is called a <b>reversible</b> change.</li> <li>Some methods of separation include the use of a magnet, a <b>filter</b> (for insoluble materials), a sieve (based on the size of the solids) and <b>evaporation</b>.</li> <li>When a mixture cannot be separated back into the original components, this is called an <b>irreversible</b> change. Examples of this include when materials burn or mixing bicarbonate of soda with vinegar.</li> </ul>



Topic	Mountains	Theme	Creation	Year Group	5
Subject	Science: Properties and changes of materials continued				

**Conductivity** is a measure of how quickly and easily a material will let heat or electrical charge pass through.

- Good **conductors**, like metal, will let heat and electricity pass through quickly.
- Good **insulators**, like plastic and rubber, will not let heat and electricity pass through easily.

**Hardness** is a measure of how easily a material can be scratched or dented.

- **Hard** materials, like most metals, cannot be scratched or dented easily.
- **Soft** materials, like clay or wax, can be scratched and dented easily.

Materials are chosen for specific uses according to their **properties**. For example, buildings are made from strong, durable materials like wood, stone, brick, concrete and metal.



**Transparency** is a measure of how much light a material lets pass through.

- Opaque materials, like metal and wood, do not let any light pass through so objects on the other side cannot be seen.



- Translucent materials, like some plastics, let some light pass through. The light is scattered as it passes through so objects on the other side (if visible) appear fuzzy, coloured or distorted.



- Transparent materials, like glass, let most light pass through with minimal scattering so objects on the other side are clearly visible.



A **reversible change** is when a material is changed but can be easily reverted to its original state.

**Dissolving** is a reversible change because the dissolved substance can be reclaimed by evaporating the liquid.

**Mixing** vinegar and bicarbonate of soda is an irreversible change. A new product (a gas) is formed which causes fizzing.



An **irreversible change** occurs when a material is changed but cannot be easily reverted to its original state. New materials are produced in the process.



**Burning** is an irreversible change in which a material is burned and makes new products.

**Rusting** is an irreversible change in which **iron** makes **rust** when exposed to **water** and **air** (oxygen).



**Changes of state** are all examples of reversible changes because heating or cooling the substance will change it back to its original state.



solid

melting



freezing



liquid

evaporating



condensing



gas







Topic	Music	Theme	Creation	Year Group	5
Subject	South and West Africa				

## Vocabulary

### Chord

Two or more notes that are played at the same time and work in harmony.

### Chord progression

A group of chords played in a particular order.

### Major chords

A chord made up of three notes. Major chords are often described as happy chords.

### Minor chords

A chord made up of three notes. Minor chords are often described as sad chords.

### Break

When some instruments stop playing and others change the rhythm.

### Call and response

A musical technique that is similar to a conversation. One phrase of music acts as the 'call' and is 'answered' by a different phrase.

### A capella

Singing without any musical accompaniment.

### Soloist

A musician or singer who performs on their own, known as performing a solo.

### Duo

Two musicians or singers who perform together, known as performing a duet.

### Ostinato

A repeated pattern or phrase.

### Polyrhythms

Many rhythms played at once.

### Syncopation

Playing on the off-beat.

### Rest

The silences in music.

### Metronome

A device that can be set to create a steady sound (beat) to help musicians play rhythms accurately.



## Tips for improving your performance - FACE

**Fluency** - Being able to play without hesitancy.

**Accuracy** - Getting the melody and the words correct.

**Control** - Controlling the sound and music being created or sung.

**Expression** - Giving a personal response to the music.

## Instruments

### Percussion instruments

Instruments which are played by shaking, tapping or scraping with your hand or a beater.

Kalimba

Guiro

Djembe drums



Shekere



Bongos



Balafon



## Key knowledge

- To know that songs sung in other languages can contain sounds that are unfamiliar to us, like the clicks of the Xhosa language.
- To know that 'The Click Song' is a traditional song sung in the Xhosa language and is believed to bring good luck at weddings.
- To understand that major chords create a bright, happy sound.
- To know that poly-rhythms means many rhythms played at once.





Topic	Mountains	Theme	Creation	Year Group	5
Subject	Spanish: My Home - Mi Casa				

**vocabulary**

The nouns and determiners for 'house' and 'apartment'.



The nouns and determiners for rooms of the house.



Key linguistic structures:

En mi casa hay...

In my house there is...

En mi casa no hay...

In my house there is not...

**grammar**

To fully understand the role of gender in the choice of determiners.

un salón

Singular determiner 'a' for masculine nouns

una cocina

Singular determiner 'a' for feminine nouns

To understand better how to use the negative in Spanish.

En mi casa hay un salón.

En mi casa no hay salón.


1<sup>st</sup> person conjugation of high frequency verbs.

vivo

I live

**phonics**

sound in: ga • garaje



**accents** Accents indicate the vowel is stressed. As seen in the word salón.

**stress placement** Words that end in a vowel, 'n' or 's' are normally stressed on the second to last syllable. Like ga-ra-je.

**ñ tilde** This changes the 'n' to a 'ny' sound like in the English word 'onion'. As in the Spanish words baño and montaña.

## 1 Introduce yourself.

¡Hola!

Me llamo...

Tengo \_\_ años

## 2 Where do you live?

Vivo en...



una casa



un piso

## 3 Can you give some more detail?

en...



el campo



un pueblo



la ciudad



la costa



la montaña

## 4 Can you describe your house?

En mi casa hay...



un salón



un despacho



un sótano



un jardín



un garaje



un cuarto de baño



un dormitorio



un comedor



un lavadero



una cocina

Don't forget to use this conjunction before the last room!

y ➡ and

## 5 Which rooms cannot be found in your house?

Pero, en mi casa no hay...



salón



despacho



sótano



jardín



garaje



cuarto de baño



dormitorio



comedor



lavadero

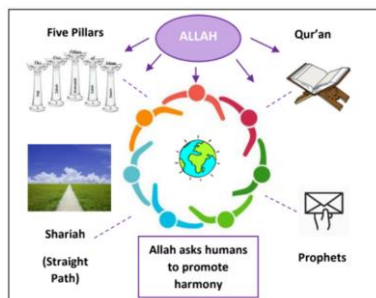


cocina



Topic	Mountains	Theme	Creation	Year Group	5
Key Question	What does it mean to be a Muslim in Britain today?				
Subject	Religious Education				

- Describe and explain what it means to be a Muslim
- Make connections between the Muslim practice of the Five Pillars and their beliefs about God and the Prophet Muhammad
- Describe the five pillars of Islam and explain how these affect the daily life of Muslims
- Describe and reflect on the significance of the Holy Qur'an to Muslims.
- Describe the forms of guidance a Muslim uses and compare them to forms of guidance experienced by the pupils.
- Make connections between the key functions of the mosque and the beliefs of Muslims.
- Look for similarities and differences between the life of a Muslim and their own lives focussing on their own beliefs and values



## Key Vocabulary:

**Allah** Arabic word for God. In Islam, Allah is the absolute one; unique, all powerful, all knowing.

**Muslim** Someone who follows the teachings of Islam.

**Five Pillars** Basic acts of Islam, considered mandatory (essential) by believers.

**Prophet Muhammad** Allah's final messenger/prophet. Proclaimer of the will of Allah.

**Hadith** Record of the words, actions and sayings of the Prophet Muhammad (pbuh).

**Qur'an** Islamic sacred book. Believed to be the word of Allah as dictated to Muhammad.

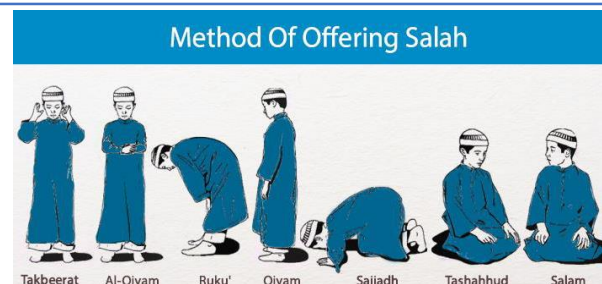
**Ibadah** Arabic word meaning service.

**Sunni/Shia/Sufi** Different denominations (groups) of Muslims.

**Islam** Second largest religion in the world, founded by the Prophet Muhammad (pbuh).

**Surah** A chapter of the Qur'an. There are 114 Surahs in the Qur'an altogether.

**Mosque** Muslim place of worship. Tawhid Belief that God is One and Single



## What should I already know?

- Muslims believe in Allah as the one true God. They use 99 names for Allah to understand him better.
- They believe that Muhammad is God's messenger.
- There are five pillars in Islam (profession of faith, prayer, charity, fasting, pilgrimage).

## The Five Pillars of Islam

These are the five most important duties for Muslims.

## أركان الإسلام الخمسة

هذه هي الأركان الخمسة المهمة للمسلمين.

الشهادتان  
The  
Shahadah

شهادة أن لا إله إلا الله  
وأن محمداً رسول الله.

The belief  
that there is  
no God but  
Allah and that  
Muhammad is  
his messenger.

الصلاة  
Salah

خمسة صلوات  
في اليوم.

Praying five  
times a day.

الزكاة  
Zakat

إخراج جزء من المال  
للغراء والمساكين.

Making an  
annual charitable  
donation to help  
the poor.

الصوم  
Sawm

صوم رمضان.

Fasting during  
the month  
of Ramadan.

الحج  
Hajj

حج البيت في مكة لمن  
استطاع إليه سبيلاً.

Attending the  
pilgrimage to  
Makkah once in  
your lifetime.





# Ridgeway Farm CE Academy - Knowledge Organiser

Topic	Mountains	Theme	Creation	Year Group	5
Subject	Art				

## Key vocabulary

art medium  
atmosphere  
background  
carbon paper  
collage  
composition  
continuous line drawing  
evaluate  
justify  
mixed media  
monoprint  
multi media  
paint wash  
portrait  
printmaking  
represent  
research  
self-portrait  
texture  
transfer

Artists: Fida Kahlo, Chila Kumari Singh Burman, Vincent van Gough, Sonia Boyce, Njideka Akunyili Crosby

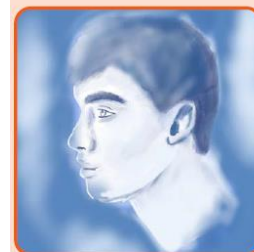


Mixed media artwork uses a combination of different materials.



Self-portraits can communicate things about the artist depending on:  
The composition  
The materials used  
What is included in the background  
The artist's clothes  
Their facial expression

Match the materials you choose to the effect you want to create



Dreamy



Relaxed and happy



Bold

Add contrast with a background



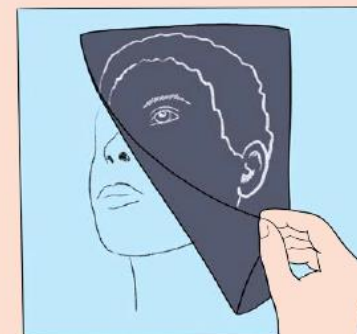
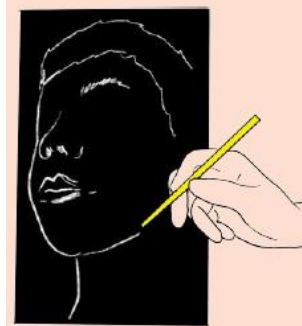
Collage



## Formal elements:

- **Colour:** Artists use colour to create an atmosphere or to represent feelings in an artwork, for example by using warm or cool colours.
- **Pattern:** Artists create pattern to add expressive detail to art works, for example Chila Kumari Singh Burman using small everyday objects to add detail to sculptures.
- **Tone:** Tone can help show the foreground and background in an artwork

## Creating a monoprint



Collage	Cutting, arranging and sticking materials like paper, fabric etc to a background
Identity	Your qualities or beliefs that make you unique
Mixed media	Art made from a combination of different materials
Monoprint	A print that can only be made exactly the same way once
Multi-media	Artwork that includes audio or video elements
Photomontage	Collage made from photographs
Self-portrait	A portrait of the artist, by the artist