Year 5 Knowledge Organisers



Knowledge organiser for Science: changes in sta



Key Knowledge:

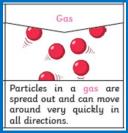


If a solid is heated to its melting point, it melts and changes to a liquid. This is because the particles start to move faster and faster until they are able to move over and around each other.

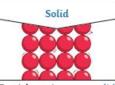


When freezing occurs, the particles in the liquid begin to slow down as they get colder and colder. They can then only move gently on the spot, giving them a solid structure.

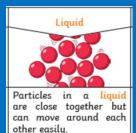
Key concepts covered:



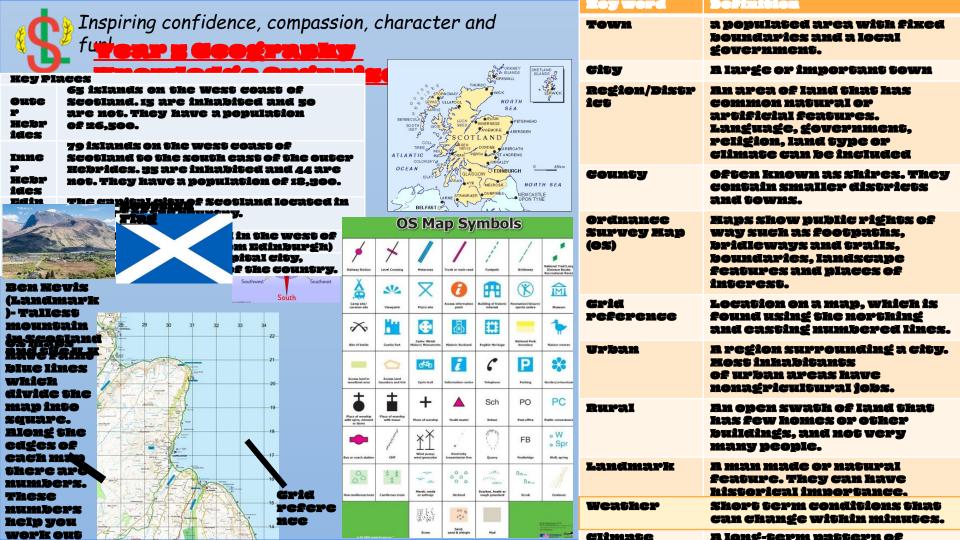




Particles in a solid are close together and cannot move. They can only vibrate.



Key Wocabu Iary	
Haterial	The matter from which a thing is or can be made from.
Solia	Firm and stable in shape, not a liquid or fluid.
Liquid	A substance that flows freely but can be measured by volume c.g. water or oil.
Cas	An air-like fluid substance which expands freely to fill any space available.
Evapora tion	The process of turning from liquid to vapour
Reversi ble	Able to be reversed back to its original state.
Irrever Sible	Cannot be reversed back to its original state.
Dissolve	when something solid mixes with a liquid and becomes part of the liquid.
Solubic	Able to be dissolved, especially in water.





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Hey Knowledge:

The Victorian period is named after Queen Victoria. She reigned over Britain and a world Empire.

Life in Victorian England was very different to today. It was a time of great wealth and poverty, as well as invention and scientific discovery.

The Industrial **Revolution** meant that steam was used to power factorles and cotton mills. People migrated to the towns as they were attracted to reliable pay and work. Better transport links and trains were built

Key concepts covered: **Exploration** and invention Hierarchy and bower



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Dr Barnado

lucen prowned aged 12.

1240: Queen marries Prince Ribert.

1246: NVCPY County has fee own pollee forme.

1840: Prince Albert dies of typhoid.

Dueen Victoria

1 880: Th e
Iducation Lot
ls formed.

boabulary	Renning
dustrial evolution	A time for major change in the way products were made.
dustry	A group of companics that all produce the same thing.
vention	A new thing that xomeone hax made.
rign	To control a country.
evolution	A big change in something.
orkhouse	A place to provide shelter and work for poor people.
The Det	1901: Queen Victoria dies

Doctomog King.



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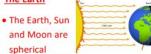


Planets

- The Sun is a hot ball of gas which
- classified as a star. The Sun is placed at the centre of our solar system and makes life possible on Earth.
- Planets are celestial objects that orbit a star like our solar system's Sun.
- Our solar system is currently believed to include eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. In 2006 Pluto was reclassified as a 'dwarf planet'.

The Earth

spherical



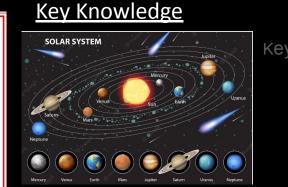
(approximately).

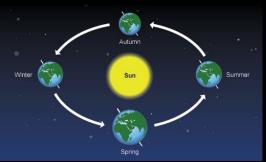
- The Earth rotates on its axis, which stands on a 23.5° angle.
- The sun's rays hit the side of the Earth which faces the sun. This causes day and night. It takes the Earth 24 hours to make one complete spin on it's axis.
- The Earth orbits the Sun. One orbit takes 365 days (a year).



- orbits the Earth.
- One orbit takes approximately a month (almost 28 days).
- · We only see the part of the Moon that is lit by the sun which is why it appears to be different shapes at different times of the month.
- The moon is described as waxing as it gets larger from new moon to full moon. As the moon gets smaller from full moon to new moon it is described as waning.
- There is no life on the Moon because it has no atmosphere (no air or weather).







It appears that the Sun moves across the sky during the day but the Sun does not move at all. It is the movements of the Earth. It is essential that we do not look at the sun including with dark alasses.

rotate	to turn around on one point, also known as an axis .
celestial body	any naturally occurring object in space.
planets	a celestial body which orbits a star.
solar system	planets and their moons which orbit the Sun.
orbit	a repeating path which one object takes around another.
moon	a natural object which orbits a planet and reflects light.
star	a large glowing ball of gas.
space	an unlimited area where everything can be found. Example: planets and stars.
universe	everything we can touch, sense and feel. It includes all planets, stars and moons.
waxing	description of the moon as it grows from new moon to full moon.
waning	description of the moon as it gets smaller from full moon to new moon.







<u>Key</u> Knowled<u>fe:</u>

Easter is the name for the annual celebration of Jesus' resurrection and is a very special time of year for many Christians. The story of the birth of Jesus is called 'the Nativity' and is celebrated by many Christians



crucifix.

<u>Key concepts</u> <u>Covered:</u> <u>Easter</u> – How significant is it for Christians to believe God intended Jesus to die?

<u>Expressing:</u> If Cod is everywhere, why go to a place of worship.

Belleving: Why



BIDIC	The Christian holy book.
Pplest	The leader of a Catholic church is
	often called a priest.
Wigar	A vicar is a leader of a church.
	They lead church services and
	perform ceremonies, such as
	weddings and baptisms.
Paster	Sometimes, a leader of a church is
	called a pastor. They lead church
	services and talk to people about
	Christianity.
CLPCLED	This is an important symbol of
	Christianity, as it reminds
	Christians of the sacrifice they
	believe Jesus made for them when
	he died on the cross.
Gruat	This is a cross with Jesus on. It
	reminds Christians of Jesus'
	sacrifice.
Discipi	These were twelve people whom
	Jesus chose to follow him and help
	him talk to people about God.
Commu	A special church service where
MAGIN	Christians share bread and wine
	to remember the sacrifice they
	believe Jesus made on the cross.
Trinit	Christians believe in one God in
T	three parts, God the Father, God



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The Viking ware a collection of people incide ailed from Scandinavia: Denmark, Norway and Sweden.

- Some Vikings were traders and farmers.
 - Other Vikings were fierce warriors.
- The Vikings invaded and settled for fertile land to arow food.
 - The 'Danelaw' was a place that Vikings ruled.
- The Vikings raided Lindisfarne in AD 793, an event that caused shook England. This is often seen as the beginning of Viking presence in England.









Key Vocabulary Longship - a Viking ship with a sail and oars, also called a dragon-ship Monastery - the building where monks live Pagan -a person holding religious beliefs other than those of the main or recognised religions Plunder - steal goods from a place or person, typically using force Trader - a person who sells goods Raids - a rapid, surprise attack from enemies Settlement - places where people live and sometimes work. Monks - a member of a religious community of men Pillage -to steal something from a place or a person by using violence Lindisfarne -Vikings attacked this place, killing and enslaving many monks. Danelaw-Danelaw was the name of the area of England that officially belonged to the Vikings after 886. Danegeld - The Danegeld was a tax paid to Viking raiders to stop them from attacking the coast and invading.

TIMELINE OF KEY EVENTS

410AD	450 AD	556AD	597AD	793AD	866AD	886AD	927AD	1016AD	1042AD	1066AD	IIOOAD
Romans	The Saxons	Seven kiradoms	Augustine	The Vikings raid the	Danes captured York	Alfred the Great was	King Athelstan	King Cnut became King	Edward the Confessor	Battle of Hastings	End of the Viking age.
Britain.	the seas to	created in	converting	manastery on	(Jorvik) and	King of	became first	of England.	became King	William the	vicinity rage.
	irvade Britair.	England.	Anglo- Saxons to	Lindisfarre and kill	rule there.	Wessex.	King of united		of England.	Conqueror is. crowned king	
			Christians.	monks.			England.				



Key

H<u>newl</u>edde

the life cycles of

insect and a bird.

- Describe the life

reproduction in

some plants and

- Observe the

differences in

a mammal. an

amphibian, an

process of

animals.

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Stamen

Petal

Sexual reproduction of a plant

- The stamen is the male part of the flower which holds pollen
- The carpel is the female part of the flower which contains eggs. Pollen travels from the anthers of one flower to the stigma of
- another plant. This is called pollination. Plants rely on bees or other insects to carry their pollen while some pollen floats in the wind

After pollination, the pollen grain and the egg join together, fertilisation.

The fertilised egg will develop into a seed.

Asexual reproduction of a plant

Plant cuttings: Some plants stems can grow roots if they are planted in the correct conditions, such as geraniums. This allows for people to make lots of copies of the same plant.

Runners: Some plants, like strawberry plants, grow runners which have new plants on the end. These plants are an exact copy of the parent plant from which they have grown.

if they are planted. The bulbs form under the soil. This helps the plant to survive during the winter months.

Bulbs: Other plants (onions, daffodils, garlic and tulips) produce bulbs which will grow

frowth of new plants from parts of a parent plant (root



<u>Reproduction</u> in an free a la

For most animals. which live on the land. offspring are fertilized inside the mother's body. This happens in 1 of 3 ways:

1) The young develop Inside the female and are born alive (most mammals).

n) Fertilised eggs are

Key Concepts

TACTIC MOD that not all animal life cycles are the same.

Develop an understanding

of th Chickens, like all prog birds, lay eggs. Inside an egg that has been 3 months repr fertilised, a chick will plant grow and eventually hatch.

> A similarity of female birds, mammals most reptiles and some species of fish is that their eggs are fertilised inside the female.

Mammal life cycle



Life eyele _ the stages a living thing goes through in its life.

Reproduction – the process by which a living organism creates a likeness to itself.

Asexual reproduction offspring gets genes from one parent so they are clones of their narents.

Sexual reproduction offspring get genes from both parents so they inherit a mix of features from both.

Real and the second sec cold-blooded vertebrate animal c.g. frogs. toads. newfs.

Bird – a warm-blooded egg-laying vertebrate animal with wings. feathers and a beak. **Insequ** – a small animal that has 6 legs. **Example – a warm-blooded** vertebrate animal, has hair or fur and give birth

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Stigma



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<u>Year 5- Anclent Greece</u>



<u>Xcy</u> Thomadia

The Ancient Creeks can be credited with many inventions and discoveries. They invented government, democracy, the olympics and practized early medicine.

Ancient Greece is often referred to as 'the birthplace of western civilisation'. It is made up of three periods which produced many political ideas, art, architecture, sculpture, science, philosophy and literature, that influence our third birty states', like Athens, Sparta, Corinth and Olympia. Each city-state ruled itself. They had their own governments, laws and army.

<u>Xey concepts covered:</u>

Diagram - Map of Ancient Greece





Key Vocabulary

<u>Demogracy-</u> a form of government where citizens have a say in how they are ruled.

<u>**Gity-State</u>**-City states, also known as Polis, were the separate communities of Ancient Greece. Each had their own governing laws, customs and interests.</u>

<u>**Athens**</u> - the largest and most powerful city state.

<u>Sparen-</u> a military city state surrounded by mountains to protect against invaders.

<u>Givilization-</u> a group of people with their own languages and way of life

					T Informite					
ommunity and	3000 B.C.	1200 B.C.	776 B.C.	770 B.C.	750 B.C.	600 B.C.	500 B.C.	431 B.C.	334 B.C.	146 B.C.
julture	Minoan	The Trojan	First Olympic	First Greek	Greeks set	First Greek	Democracy	The	Alexander	Greece
lerarchy and	Civilization	Wars	Games	alphabet	sail to set	coins are	used in	Peloponnesian	the Great	becomes part
xploration and	begins on			created	up colonies	used	Athens	Wars begin	conquests	of the Roman
ventions	Crete									Empire

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Key

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Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.

Using gears and pulleys allow a smaller force to



Key concepts

NATATA

Understanding that pulleys rotate in the same direction.

Small gears turn quickly but with a smaller force, whereas large gears turn slowly with a greater force.

Develop and design a simple pulley mechanism.



Key Vocabulary:

Pulley	A wheel on a fixed axle with a groove in it to guide a rope or cable.
Ccar	Gears are wheels with teeth that slot together. When one turns, the other turns too.
Drive Belt	The belt which connects and transfers movement between pulleys.
Drive r	The gear or pulley that provides the input movement to the system.
foiio WCP	The gear or pulley that provides the output movement to the system.
Force	The push or pull on an object.
Rotat C	The circular movement of an object around an axis.





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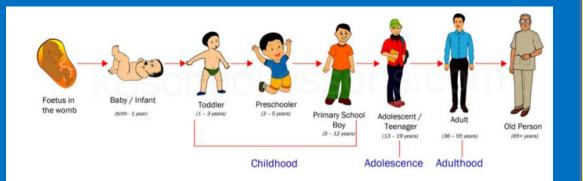


Key Knowledge:

To understand how humans and animals develop over time.

To know what happens to our bodies and the changes we experience as we grow older.

Understanding body parts and their correct names.



Key Vecabulary:

Puberty:

The physical stage of development between childhood

and adulthood.

Memstruntion:

- When the female body discharges the lining of the
- uterus. This happens approximately once a month.

Life expectancy:

- The length of time, on average, that a particular
- animal is expected to live.

destation :

- The process or period of developing inside the womb
- between conception and birth.

wivipurous:

To give birth to live young rather than laying eggs.

Womb:

A woman's womb is the part inside her body where a

baby grows before it is born.







- Greece is one of the most mountainous countries in Europe. ٠ The northern mainland region is the most mountainous. The highest peak is Mt Olympus, which is 2,917m high.
- Greece also contains thousands of islands in the Aegan, Ionian and Mediterranean Seas. The largest island is Crete.
- Greece has a warm and sunny climate. The temperature . averages around 33°C in summer and 14°C in winter.
- Rainfall is heaviest in the northern mountains. Some . islands receive very little yearly rain.
- The longest river entirely in Greece is Haliakmon, which is about 185 miles long.
- There are many volcanoes. The most famous are those of . Santorini, Kos. Milos and Nisyros.
- Lakes of a large size include Trichonis. Vegoritis and Volvi.



Consinent: a large land mass on the Earth's surface e.g. Europe

Physical features: like seas. mountains and rivers are **matural** . They would be here even if there were no people around

Ruman Persures: are things like houses, roads and bridges. They have been **builts**

Greece has a long and rich history, and a culture which has developed over thousands of years from the time of the Ancient Greeks. Its warm climate also makes it a popular holiday destination for people from across the world.

Population	-The population of Greece is around 10.8 million people. This makes it the fourteenth most populous country in Europe. The population density is 82 people per square kilometre. This is the 30 th highest population density in Europe.
Settlements	-The most populous and capital city of Greece is Athens. It has a population of over 3 million people. Other large settlements include Thessalonik, Patra. Piraeus and Larisa. Most settlements were founded around the coast, as Greeks historically were seafaring people.
Economic Activity	-Greece is a part of the European Union and its currency is the Euro. Greece has suffered many financial problems in recent years, and have had to be helped by other countries. Tourism is a large source of income for Greece.
Resources/ Trade	-Greece have many natural resources, and are a large trader of petroleum products. In terms of food, Greece exports high quantities of fresh fish, olive oil, tomato-based products and wine.