Autumn 1
Knowledge Mats

Upper Key Stage 2 – Unit 2b.1 – God

What does it mean if God is holy and loving?

Outcomes

Identify some different types of biblical texts, using technical terms accurately.

Explain connections between biblical texts and Christian ideas of God, using theological terms.

Make clear connections between Bible texts studied and what Christians believe about God; for example, through how churches are designed.

Show how Christians put their beliefs into practice in worship.

Weigh up how biblical ideas and teachings about God as holy and loving might make a difference in the world today, developing insights of their own.

Christians believe God is omnipotent, omniscient and eternal, and that this means God is worth worshipping.

Christians believe God is both holy and loving, and Christians have to balance ideas of God being angered by sin and injustice (see Fall) but also loving, forgiving, and full of grace

Christians believe God loves people so much that Jesus was born, lived, was crucified and rose again to show God's love

Key Vocabulary

Omnipotent
God is all-powerful
Omniscient
God knows all things
Eternal
God created time and is not limited by it — God is outside time: God does not get old like human beings
Holy
God is morally pure and hates sin — God is separate from human beings, who are sinful
Loving
God wants the very best for human beings, and does a lot to care for them.
Spirit
God is not physical — God does not have a body
Sin
transgress those boundaries God has set for us

Holiness

The state of being holy

Confession
Being transparent and honest before God.
Reconciliation
Bridging of the gap between God and humans caused by original sin

Zones around the world KS2 Knowledge Mat

Subject Specific Vocabulary

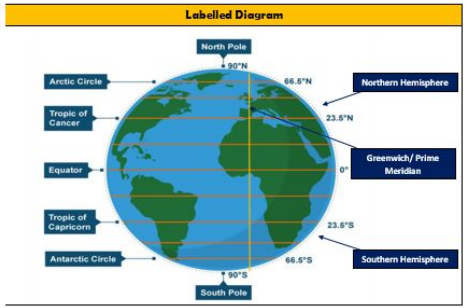
Latitude	-Lines of latitude circle the Earth parallel to the Equator. -Lines of latitude run in an east-west direction all of the way around the Earth. -Latitude is measured in degrees. The Equator is located at 0°.
Longitude	Lines of longitude run between the North and South Poles. These lines are called meridians. -Like latitude, longitude is measured in degrees.
Equator	The Equator is an imaginary line of latitude which circles the Earth. It lies halfway between the North/ South Poles. -It splits Earth into the Northern/ Southern Hemispheres
Tropics of Cancer	The Tropic of Cancer is an imaginary line of latitude which circles the Earth. It lies at 23 degrees north
Tropics of Capricorn	The Tropic of Capricorn is an imaginary line of latitude which circles the Earth. It lies at 23 degrees south
Northern Hemisphere	The Northern Hemisphere is the section of the Earth that is north of the Equator.
Southern Hemisphere	The Southern Hemisphere is the section of the Earth that is south of the Equator
Arctic Circle	The Arctic Circle is the area north of an imaginary line of latitude situated at around 66°N
Antarctic Circle	The Antarctic Circle is the area south of an imaginary line of latitude situated at around 66°S..

Sticky Facts

Time Zones

Greenwich/ Prime Meridian		-The Greenwich Meridian is an imaginary line of longitude that divides Earth into the Eastern/Western hemispheres. -It is the start point for measuring longitude & time zones. -Greenwich was chosen because its Royal Observatory was used as a major navigational base at the time.
Time Zones		-Time zones give the time at different places on Earth (it is day/night at different times in different places). -Time zones run longitudinally and are measured in relation to the time in Greenwich (Greenwich Mean Time). -There are 24 time zones across the world.

Labelled Diagram



UKS2 Properties and Changes of Materials Knowledge Mat

Subject Specific Vocabulary

solubility	Is a chemical property referring to the ability for a given substance, the solute, to dissolve in a solvent.
conductivity	Conductivity defines a material's ability to conduct electricity.
transparency	In general, transparency is the quality of being easily seen through.
thermal evaporation	Something that is thermal is hot, retains heat, or has a warming effect. Evaporation is the process of a substance in a liquid state changing to a gaseous state due to an increase in temperature and/or pressure.
dissolve	To dissolve is defined as to become broken up or absorbed by something or to disappear into something else.
bicarbonate of soda	A white water-soluble powder, used chiefly as an antacid, a fire extinguisher, and a leavening agent in baking.
thermal	Something that is thermal is hot, retains heat, or has a warming effect.
filtering	To filter a substance means to pass it through a device which is designed to remove certain particles contained within.
melting	Melting is a physical process that results in the transition of a substance from a solid to a liquid.
separate	Separate, part, and divide mean to break into parts or to keep apart.

Interesting Books

Important facts to know by the end of the reversible and irreversible changes topic:

- Know what a reversible change means.
- Know what an irreversible change means.
- Give examples of reversible and irreversible changes.
- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating

Sticky Knowledge about Reversible and Irreversible changes

- ❑ Irreversible changes, like burning, cannot be undone. Reversible changes, like melting and dissolving, can be changed back again.
- ❑ Mixtures can be separated out by methods like filtering and evaporating. A change is called irreversible if it cannot be changed back again.
- ❑ Examples of reversible changes: Melting is when a solid converts into a liquid after heating. An example of melting is turning ice into water. Freezing is when a liquid converts into a solid.
- ❑ A cooked egg cannot be changed back to a raw egg again. Mixing substances can cause an irreversible change. For example, when vinegar and bicarbonate of soda are mixed, the mixture changes and lots of bubbles of carbon dioxide are made. Burning is an example of an irreversible change.

Autumn 2

Knowledge Mats

Upper Key Stage 2 – Unit 2b.3 – People of God – How can following God bring freedom and justice?

Outcomes

Explain connections between the story of Moses and the concepts of freedom and salvation, using theological terms.

Make clear connections between Bible texts studied and what Christians believe about being the People of God and how they should behave.

Explain ways in which some Christians put their beliefs into practice by trying to bring freedom to others.

Identify ideas about freedom and justice arising from their study of Bible texts and comment on how far these are helpful or inspiring, justifying their responses.

The Old Testament pieces together the story of the People of God.

The story of Moses and the Exodus shows how God rescued his people from slavery in Egypt; Christians see this story as looking forward to how Jesus' death and resurrection also rescue people from slavery to sin

Christians apply this idea to living today by trying to serve God and to bring freedom to others; for example, loving others, caring for them, bringing health, food, justice, and telling the story of Jesus

Key Vocabulary

Covenant

Promises made by two people to each other

Command

Being told to do something

Promise

Saying you will do something.

Freedom
the state of not being imprisoned or enslaved
Justice
just behaviour or treatment
Old Testament

the first part of the Christian Bible

Exodus
the departure of the Israelites from Egypt

Plague
An incident of affliction or disease

Moses
One of God's prophets

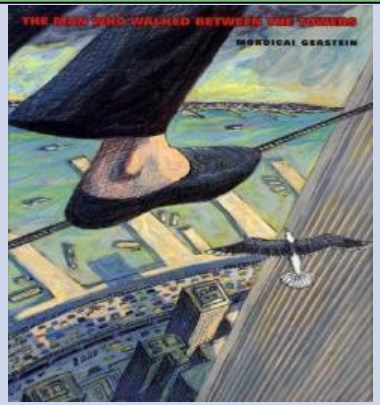
Promised Land
A land promised by God

UKS2 Forces Knowledge Mat

Subject Specific Vocabulary

friction	Friction is a force between two surfaces that are sliding, or trying to slide, across each other.
gravity	Gravity is a force which tries to pull two objects towards each other.
air resistance	Air resistance is a type of friction between air and another material. For example, when an aeroplane flies through the air.
water resistance	If you go swimming, there is friction between your skin and the water particles.
levers	A lever can be described as a long rigid body with a fulcrum along its length.
pulleys	Pulley is a simple machine and comprises of a wheel on a fixed axle, with a groove along the edges to guide a rope or cable.
gears	Gears are wheels with teeth that slot together. When one gear is turned the other one turns as well.
parachute	A parachute is a device used to slow down an object that is falling towards the ground. As the parachute opens, the air resistance increases.
Galileo	Galileo developed the telescope to enable close observation of the night sky.
Newton	During his lifetime, Newton developed the theory of gravity and made breakthroughs in the area of optics, such as the reflecting telescope.

Interesting Book



Important facts to know by the end of the forces topic:

- Know what gravity is and its impact on our lives.
- Identify and know the effect of air resistance.
- Identify and know the effect of water resistance.
- Identify and know the effect of friction.
- Explain how levers, pulleys and gears allow a smaller force to have a greater effect.
- Know who Isaac Newton and Galileo were.

Sticky Knowledge about Forces

- ❑ Frictional force is any force that is caused due to friction. An example of this might be when you put on the brakes on your bike.
- ❑ Gravity is the pulling force acting between the Earth and a falling object, for example when you drop something. Gravity pulls objects to the ground.
- ❑ Surface resistance is the force on objects moving across a surface, such as an ice-skater skating on ice.
- ❑ Any kind of force is really just a push or a pull.
- ❑ Air resistance is the force on an object moving through air, such as a plane moving through the sky. Air resistance affects how fast or slowly objects move through the air
- ❑ Water resistance is the force on objects floating on or moving in water.
- ❑ Magnetic force is an invisible force created by electrons. Magnetic force controls magnetism and electricity.

Spring 1

Knowledge Mats

Outcomes

Explain connections between biblical texts and the concept of the Kingdom of God.

Consider different possible meanings for the biblical texts studied, showing awareness of different interpretations.

Make clear connections between belief in the Kingdom of God and how Christians put their beliefs into practice in different ways, including in worship and in service to the community.

Relate Christian teachings or beliefs about God's Kingdom to the issues, problems and opportunities of their own lives and the life of their own community in the world today, offering insights about whether or not the world could or should learn from Christian ideas.

Jesus told many parables about the Kingdom of God. These suggest that God's rule has begun, through the life, teaching and example of Jesus, and subsequently through the lives of Christians who live in obedience to God.

The Kingdom is compared to a feast where all are invited to join in. Not everyone chooses to do so.

Many Christians try to extend the Kingdom of God by challenging unjust social structures in their locality and in the world.

Key Vocabulary

Pentecost
The day when the Holy Spirit was given to Christians.
Holy Spirit
One of the three persons of the Trinity of God.
Guide
Someone who shows the way.
Comforter
Looks after in times of need.
Resurrection
coming back alive
Kingdom of God

Fellowship
It is the sharing of knowledge and the trials and triumphs of life among those who are called and chosen of God
Fruits of the spirit
The Fruit of the Holy Spirit is a biblical term that sums up nine attributes of a person or community living in accord with the Holy Spirit
Disciples
A dedicated follower of Jesus
Ascension
The Ascension of Jesus is the physical departure of Christ from Earth into the presence of God in Heaven

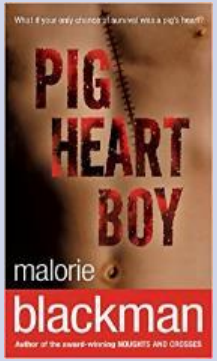
Upper Key Stage 2 – Unit 2b.8 – Kingdom of God What kind of King was Jesus?

Spring 1 2022: Circulatory System

Subject Specific Vocabulary

blood vessels	Blood vessels are a series of tubes inside your body. They move blood to and from your heart.
drugs	A drug is a chemical that is not food and that affects your body. Some drugs are given to people by doctors to make them healthy.
atriums	The atriums are the two uppermost chambers of the heart. Blood is pushed from the atriums to the ventricles.
William Harvey	He was the first person to accurately describe the function of the heart and the circulation of blood around the body.
cardiovascular	The blood circulatory system (cardiovascular system) delivers nutrients and oxygen to all cells in the body.
ultrasound	An ultrasound machine uses sound waves to take pictures of the inside of the body.
cardiologists	A cardiologist is a doctor with special training and skill in finding, treating and preventing diseases of the heart and blood vessels.
capillaries	Capillaries are very thin blood vessels. They bring nutrients and oxygen to tissues and remove waste products.
pulse	Your heart has to push so much blood through your body that you can feel a little thump in your arteries each time the heart beats.
ventricles	The ventricles are the two lower chambers in the heart.

Interesting Book



Important facts to know by the end of the circulatory system topic:

- Identify and name the main parts of the human circulatory system.
- Know the function of the heart, blood vessels and blood.
- Know the impact of diet, exercise, drugs and lifestyle on health.
- Know the ways in which nutrients and water are transported in animals, including humans.
- Know who William Harvey was.

Sticky Knowledge about the circulatory system

- ❑ Your heart will beat about 115,000 times each day. Your heart pumps about 2,000 gallons of blood every day.
- ❑ The entire trip around your body only takes blood about 20 seconds in total. Blood is what is used to transport oxygen, waste, nutrients, and more throughout the body.
- ❑ The circulatory system includes the heart, blood vessels and blood, and is vital for fighting diseases and maintaining proper temperature.
- ❑ Because your heart is crucial to your survival, it's important to keep it healthy with a well-balanced diet and exercise, and avoiding things that can damage it, like smoking.
- ❑ Your heart affects every part of your body. That also means that diet, lifestyle, and your emotional well-being can affect your heart.

Spring 1 2022: Natural Resources

Subject Specific Vocabulary	
Renewable fuels	**Renewable fuels** are **fuels** produced from **renewable** resources
Non-renewable fuels	**Non-renewable energy** comes from sources that will run out or will not be replenished in our lifetimes
Export	Send goods to another country.
Import	Bring goods into a country.
Developed Countries	A country which has a developed economy and advance technological infrastructure.
Minerals	A mineral is, broadly speaking, a solid chemical compound that occurs naturally in pure form
Human Geography	Distribution of people on the land.
Distribution	The way in whcih something is shared out.

Sticky Knowledge about Natural Resources

Natural resources are materials or substances that are produced by the environment.

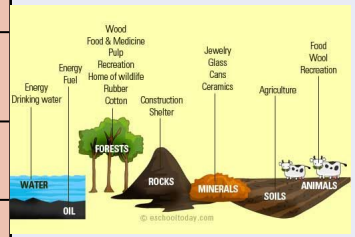
The UK has a lot of natural resources, including **fossil fuels** for energy, **crops** for food, and **livestock** for food as well as clothes.

Resources related to **farming** are called **agricultural resources**

Resources found **underground** are called **geological resources**

Exciting Books

Examples of Natural Resources



Spring 2

Knowledge Mats

Ancient Greeks KS2 Knowledge Mat

Subject Specific Vocabulary

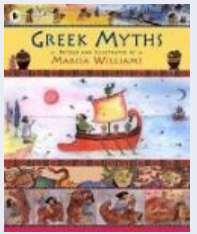
philosophy	Philosophy is a way of thinking about the world, the universe, and society.
Athenians	It is the birthplace of democracy and the heart of the Ancient Greek civilisation.
Spartans	The Spartans believed that strict discipline and a tough upbringing was the secret to making the best soldiers.
democracy	Democracy means allowing citizens to make their own decisions for their personal lives.
Olympics	The ancient Olympic Games were originally a festival, or celebration of Zeus.
plague	The plague of Athens was an epidemic illness that devastated the city.
truce	A truce is when two fighting sides declare peace or a break in the war.
Zeus	The supreme god of the Olympians, Zeus was the father of Perseus and Heracles.
Loin cloth	A single piece of cloth wrapped round the hips, typically worn by men in some hot countries as their only garment.
Apollo	Apollo was the god of music, truth and prophecy.
sacred truce	A special truce called whilst the Olympics were taking place.
temple	A building devoted to the worship of a god or gods.

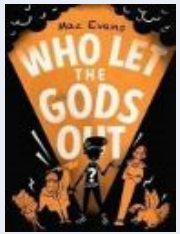
Sticky Knowledge about Ancient Greece

- ❑ The Ancient Greeks invented the theatre because they loved watching plays, and most cities had a theatre.
- ❑ Events at the Greek's Olympics included wrestling, boxing, long jump, javelin, discus and chariot racing.
- ❑ The Ancient Greeks held many festivals in honour of their gods.
- ❑ Most Ancient Greeks wore a chiton, which was a long T-shirt made from one large piece of cotton. The poor slaves, however, had to make do with a loincloth.

Where is Greece?

Exciting Books





Key Vocabulary

Incarnation
God in human form
God in the flesh

Salvation
Jesus rescuing people

Crucifixion
being killed by being nailed to a cross

Resurrection
coming back alive

Easter
Festival when Christians celebrate Jesus resurrection

Holy Week
The week leading up to Easter including Palm Sunday and Good Friday

Betrayal
Not being loyal/ betraying someone's trust

Sacrifice
to give up something that is valuable to you in order to help another person

Holy Communion
Holy Communion is the most important religious service in the Christian church, in which people share bread and wine as a symbol of the Last Supper and the death of Christ

Stations of the Cross
A series of pictures depicting Jesus Christ on the day of his crucifixtion

Pontious Pilate
the Roman procurator of Judea who ordered that Jesus be crucified

Sanhedrin
the supreme council of the Jewish people in the time of Christ and earlier.

Sin
transgress those boundaries God has set for us

Christians read the 'big story' of the Bible as pointing out the need for God to save people. This salvation includes the ongoing restoration of humans' relationship with God

The Gospels give accounts of Jesus' death and resurrection

Belief in Jesus' resurrection confirms to Christians that Jesus is the incarnate Son of God, but also that death is not the end.

This belief gives Christians hope for life with God, starting now and continuing in a new life (heaven).

Outcomes

Outline the timeline of the 'big story' of the Bible, explaining the place within it of the ideas of Incarnation and Salvation.

Suggest meanings for resurrection accounts, and compare their ideas with ways in which Christians interpret these texts, showing awareness of the centrality of the Christian belief in Resurrection.

Explain connections between Luke 24 and the Christian concepts of Sacrifice, Resurrection, Salvation, Incarnation and Hope, using theological terms.

Make clear connections between Christian belief in the Resurrection and how Christians worship on Good Friday and Easter Sunday.

Show how Christians put their beliefs into practice in different ways.

Explain why some people find belief in the Resurrection makes sense and inspires them.

Offer and justify their own responses as to what difference belief in Resurrection might make to how people respond to challenges and problems in the world today.

Upper Key Stage 2 – Unit 2b.7 – Salvation

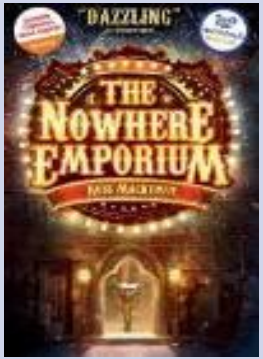
What difference does the resurrection make to Christians?

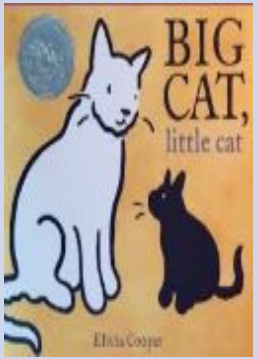
UKS2 Living Things - Life Cycles Knowledge Mat

Subject Specific Vocabulary

puberty	Puberty is the name for the time when your body begins to develop and change as you move from childhood to adulthood.
gestation	Gestation, in mammals, is the time between conception and birth, during which the embryo is developing in the uterus.
classification	This is the grouping together of similar species of plant, animal and other organisms.
precision	For scientists, precision describes a measurement system, that is, how reliable it is at giving the same result every time it measures the same thing.
reproduction	Reproduction is the way different plants and animals make new plants and animals. The reproductive system differs in plants and animals.
teenager	The age between thirteen and nineteen. The 'teen' element gives rise to the word teenager. It is a time that humans mature quite rapidly.
obese	Obesity is the condition of being much too heavy for one's height so that one's health is affected. In other words, it means to be too overweight.
toddler	Is the period that a young child starts to walk and become more independent.
embryo	Fertilisation happens when an egg cell meets with a sperm cell and joins with it. The fertilised egg divides to form a ball of cells called an embryo.

Interesting Books





Important facts to know by the end of the life cycles topic:

- Know the life cycle of different living things, e.g. mammal, amphibian, insect and bird.
- Know the differences between different life cycles.
- Know the process of reproduction in plants.
- Know the process of reproduction in animals.
- Create a timeline to indicate stages of growth in humans.

Sticky Knowledge about Life Cycles

- The years between 6 and 14 -middle childhood and early adolescence - are a time of important developmental advances that establish children's sense of identity.
- Many insects have four stages in their life cycle: egg or the unborn stage; larva – young stage; pupa – inactive (no feeding) stage; and adult stage.
- In general, the life cycles of plants and animals have three basic stages including a fertilised egg or seed, immature juvenile, and adult. However, some organisms may have more than three life cycle stages, and the exact names of each stage can slightly differ depending on the species.
- The early years, especially the first three years of life, are very important for building the baby's brain. A child's brain develops rapidly during the first five years of life, especially the first three years. It is a time of rapid cognitive, linguistic, social, emotional and motor development.

Summer 1

Knowledge Mats

Food and Farming KS2 Knowledge Mat

Subject Specific Vocabulary

Land Use	**Land use** is when an area is used for a specific purpose
Climate	**Climate** is the average measurements of temperature, wind, humidity, snow, and rain in a place over the course of years
Landscape	A natural **landscape** is made up of a collection of landforms, such as mountains, hills, plains, and plateaus.
Sustainable	**Sustainability means** using natural resources in a way that we could keep doing for a long time.
Drought	**Drought** is a continuous period of dry weather
Crops	a plant or plant product that is grown and harvested
Harvest	**Harvest** means to collect what has been planted and grown in the ground
Habitats	A **habitat** is a place that an animal lives.
Economy	the system of how money is made and used within a particular country or region

Sticky Knowledge about Farming

- Farming plays a vital part in all our lives; without it our ability to feed the world would be under threat.
- Farming today is a high-tech, science-led industry, that underpins a farming and food sector providing more than 3.5 million jobs.
- Explain that global climate change might make weather unpredictable (very wet stormy winters and really dry summers). This makes it more challenging for farmers to produce food, which will affect us all.
- 'Bio-based' fuels or 'bioenergy' refer to fuels made from crops, wood and other organic materials, rather than those derived from fossil reserves of oil, gas or coal.
- Many different types of produce are farmed or grown in Britain.

Exciting Books

Local Farming

Plymouth Science

Knowledge Organiser

Year 6
Light

VOCABULARY

Light- Light is a type of energy that makes it possible for us to see.

Source of light- The sun and other stars, fires, torches and lamps all make light are examples of light sources.

Reflection- Reflection occurs when a light ray hits a surface and bounces off.

Visible spectrum- The range of colours we can see with our eyes.

Prism- A prism is a 3d shape with identical ends, called bases and flat sides called faces. A prism allows us to see the visible spectrum.

Shadow- A dark area of shape produced by an object coming between rays of light and a surface.

Opaque- An opaque material does not let light through. It does not reflect light.

Translucent- A translucent material lets light pass through, but objects on the other side cant be seen clearly.

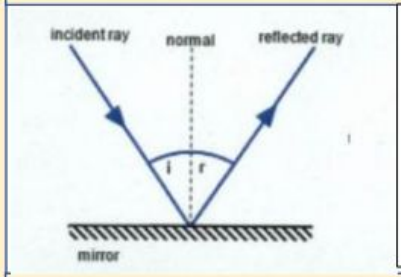
Transparent- Transparent materials allow you to see clearly through them.

Refraction- Light changes direction when passing through two different mediums.

Light

Light is a form of energy that enables us to see.

Reflection



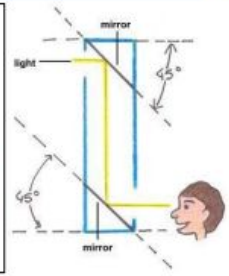
Light travels in straight lines. It reflects off mirrors according to the law of reflection which states that the angle of incidence (i) = angle of reflection (r).

Prism

Light appears colourless (or white), when produced by natural light sources such as the sun or artificial light sources such as light bulbs or torches. White light is made up of a spectrum of colours with different wavelengths: red, orange, yellow, green, blue, indigo and violet.

Periscopes

Light from an object strikes the top mirror at 45· and bounces off at the same angle. This sends light directly down the tube and onto the lower mirror. This mirror is also at 45 degrees which reflects light into your eye.



Mirrors in real life.





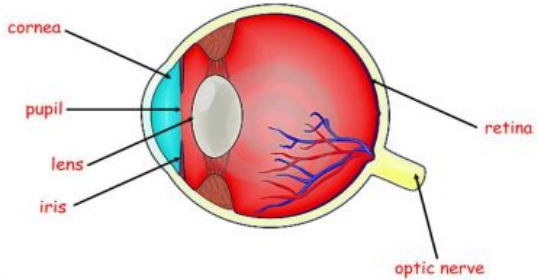

Plymouth Science

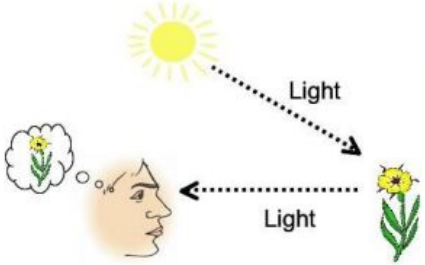
Year 6
Light

The Eye

The little dark circle in the centre of each eye lets light in. It is called the pupil.

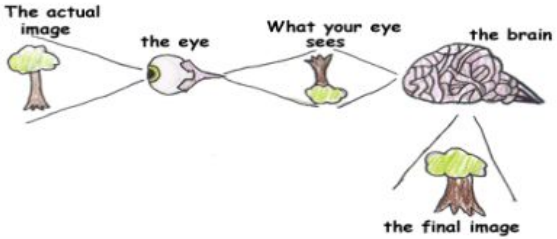
When you turn the light on from a dark room your pupil will dilate (get smaller)





How do we see?

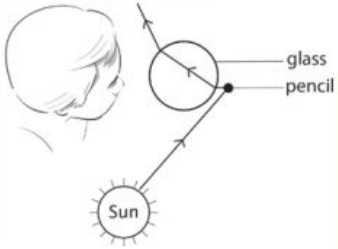
Light travels in straight lines. When light hits an object, it is reflected (bounces off) and enters our eye. This is how we see the object.



Refraction

Refraction is the change in the direction of a wave passing from one medium to another.

Refraction makes it possible for us to have optical instruments such as magnifying glasses, lenses and prisms.



Shadow

When an object passes in front of a beam of light, the light can be blocked making a shadow. Opaque objects let no light through. Translucent objects let some light through, and transparent objects let all the light through. The closer an object is to the light source the bigger the shadow.

Focus Education

LifeWise

The Digital World

The Digital World 2

Communicating effectively

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