St Anne's C of E Primary School Curriculum Plan

Subject: Science | Year: 3 | Term: Autumn 1

Unit: Scientific Enquiry

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
scientific investigation - finding answers to questions using research methods. **scientific knowledge** - knowledge that is based on facts. **prediction** - explaining what you think might happen. **plausible** - having a reason. **measurement** - the exact quality of something. **record** - writing the measurement of something. **data** - a set of facts or numbers used to learn about something.	(what) a control test is.	what a control test is and suggest variables to compare.	**Question** ask relevant questions and use different types of scientific enquiries to answer them. **Plan** give a prediction to a scientific question. pose a scientific question and give a prediction. write a method for a scientific investigation. **Set-up** write a comprehensive method for a scientific investigation and use it to carry out practical work. set up simple practical

results - what happened in the end. **collated** - put together to show a result. **conclusive** - a final answer. **graph** - a diagram that compares how two or more things change. **table** - a display of information laid out in columns and rows. **diagram** - scientific drawing. **method** - instructions for carrying out an experiment. **variable** - something that is changed. **control experiment** - an experiment that is used to compare other experiments where there are variables. **equipment** - tools or items that are needed. **enquiry** - a question to find something out. **practical** the performing of a scientific experiment. **conclusion** - the end result or outcome.			enquiries, comparative and fair tests. design a scientific investigation with more than one variable and give a plausible prediction. **Observe** identify differences, similarities or changes related to simple scientific ideas and processes. carry out a fair test, varying only one aspect at a time. make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. **Record** explain what happened during an investigation. take careful, systematic measurements and record results in a table and, with support, use data to draw a graph. use data collected from an investigation to produce a graph to show results. take careful measurements and record results in a table. gather, record, classify and present data in a variety of

fair test - where one variable is changed and all other elements are kept the same. **solar** - coming from the sun. **renewable energy** - energy that comes from nature, such as sunshine, wind or water. **baking** - the process of cooking bread, cakes or pastry.			ways to help in answering questions. record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Conclude** explain what happened during an investigation and give scientific evidence to support the findings. write a conclusion for an investigation and use a scientific explanation to support the evidence. use straightforward scientific evidence to answer questions or to support their findings. report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Evaluate** evaluate the effectiveness of the method after the practical investigation has been carried out. use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

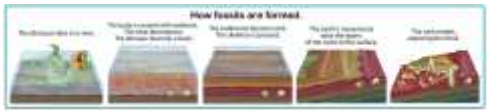
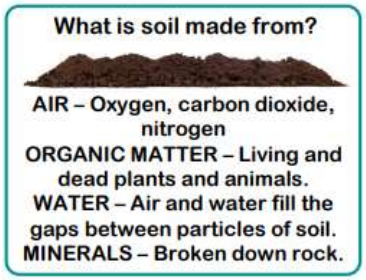
			explain scientifically the results of an investigation and suggest further lines of enquiry that could be tested. use results and the evidence gathered from an enquiry, pose a new question that further extends the investigation.

St Anne's C of E Primary School Curriculum Plan

Subject: Science | Year: 3 | Term: Autumn 2

Unit: Rocks

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
extrusive igneous rock - rock that has been formed from molten lava and either cooled quickly or slowly **igneous rocks** - rocks created from solidified lava. **intrusive igneous rock** - rock that has been formed under the Earth's surface over a long period of time. **magma** - hot liquid rock below the surface of the Earth; when a volcano erupts it can be seen and is called lava.	the three types of rock that are formed on Earth.  (how) igneous rocks are formed on Earth's surface. the difference between intrusive and extrusive igneous rock.	the three types of rock have different features. igneous rocks come from beneath the Earth's surface. 	**Question** **Plan** **Set-up** research which type of soil certain flowers and vegetables grow better in. **Observe** identify the properties of rocks by carrying out tests. make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. identify differences, similarities or changes related to simple scientific ideas and processes.

crystals - a solid, clear mineral formed when liquid is cooled into a solid. **sandstone** - a type of sedimentary rock made from layers of sand that has built up over millions of years. **marble** - a type of metamorphic rock. **metamorphic rock** - rocks that have changed from igneous or sedimentary through heat and pressure. **limestone** - a type of sedimentary rock. **sediment** - a mixture of sand and mud. **sedimentary rock** - rocks that are made from layers of sediment that have been subjected to heat and pressure. **weathering** - the wearing away of rocks which are broken down into smaller pieces. **chemical weathering** - the wearing away of rocks by chemicals, such as acid. **physical weathering** - the wearing away of rocks by sunlight, water or wind.	the different types of weathering. water can cause rocks to erode. what a fossil is. some different types of soil.	the different types of weathering and know the effects they have on rocks. (how) water causes rocks to erode and why it is important to understand this. how a fossil is created.  the properties of different soils. 	**Record** **Conclude** explain the difference between igneous, sedimentary and metamorphic rocks following an investigation. explain the effects weathering has on rocks. report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Evaluate** evaluate the best type of rocks to use for certain tasks. use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

biological weathering - the wearing away of rocks by plants or animals. **acid rain** - rain which has been made too acidic by air pollution. **texture** - how something feels. **erosion** - the wearing away of rocks by wind or water. **receding** - to move backwards. **appearance** - how something looks. **submerged** - put underwater or under another type of liquid. **amber** - a hard, translucent, usually brownish-yellow fossil resin, used for making jewellery. **embedded** - set firmly or imprinted within surrounding material. **fossil** - the imprint of a prehistoric plant or animal embedded in rock. **extinct** - a species, family, or other larger group that no longer has any living members. **fragments** - small pieces. **decompose** - the process where dead animals and plants break down into smaller parts.			

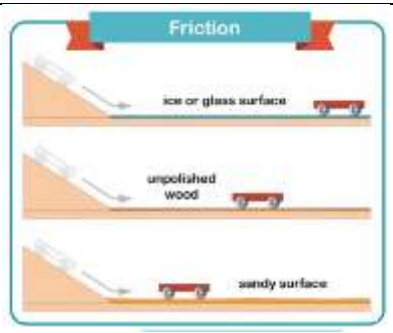
clay soil - a slightly orange soil which holds its shape when squeezed; water does not easily drain through clay soil. **sandy soil** - a slightly yellow soil which is dry, fine and does not hold water well. **chalky soil** - a rock soil which is light-coloured, dry and does not hold water well.			

St Anne's C of E Primary School Curriculum Plan

Subject: Science | Year: 3 | Term: Spring 1

Unit: Forces and Magnets

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
force - a power or strength that can cause an object to move. **friction** - the force that pulls backwards when objects rub against each other. **air resistance** - the force of the air particles which slows an object down when it is travelling through air. **contact force** - a force that occurs when objects touch each other. **non-contact forces** - a force that occurs without objects touching each other.	different types of forces. some forces need contact between 2 objects, but magnetic forces can act at a distance.  the movement of an object depends on the surface it is on.	the different effects forces can have on an object. (how) magnetic forces can act at a distance. why some surfaces slow objects down.	**Question** **Plan** predict whether 2 magnets will attract or repel each other, depending on which poles are facing. **Set-up** set up simple practical enquiries, comparative and fair tests. **Observe** compare how things move on different surfaces. observe how magnetic forces act at a distance.

motion - the process of movement. **texture** - the feel or look of a surface. **surface** - the uppermost layer of something. **resistance** - stop or slow down. **tilt** - move into a sloping position. **iron** - a commonly used metal. **steel** - a commonly used metal that contains iron. **magnetism** - the force of a magnet. **attract** - to pull towards. **repel** - to force back or push away. **magnetic field** - the force that surrounds a magnet and attracts magnetic objects. **magnetic** - describes objects that are attracted to a magnet. **non-magnetic materials** - objects made from materials that are not magnetic. **recycle** - the process where materials are reused to make new objects.	 friction affects the motion of a moving object. magnets have 2 poles. a range of materials which are magnetic.  (what) a compass is and the four main points.	(how) friction can be increased or decreased. (how) magnets work. (how) magnetic materials behave. (how) a compass works.	compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. explain how different forces can impact on the movement of an object. make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers **Record** compare and group materials based on their magnetic properties describe the effect different forces can have on an object. make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Conclude** report on findings from enquiries, including oral and

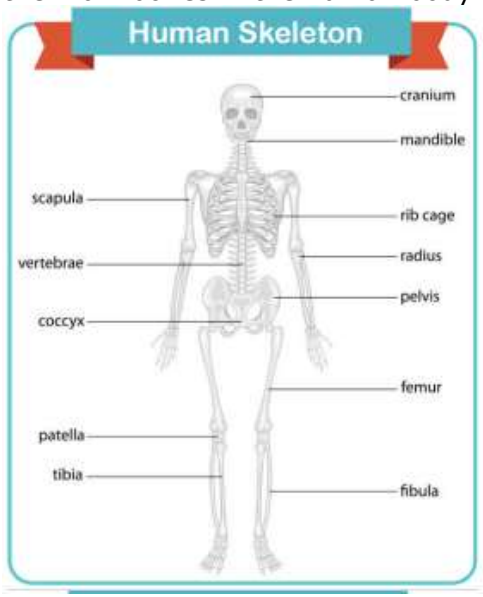
magnetic north - the point on the Earth that compass needles are attracted to. **magnetic needle** - a piece of magnetised steel used as an indicator on the dial of a compass. **compass** - an instrument which shows direction. **direction** - a course along which someone or something travels. **orienteering** - a sport where you have to find your way across a route with the aid of a map and compass.			written explanations, displays or presentations of results and conclusions. **Evaluate**

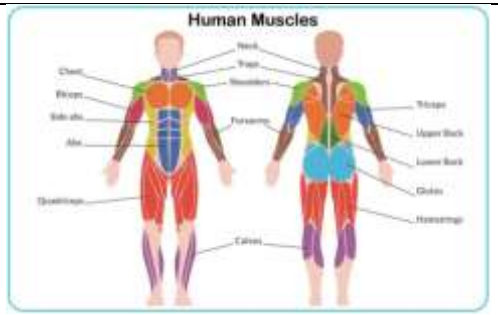
St Anne's C of E Primary School Curriculum Plan

Subject: Science	Year: 3	Term: Spring 2

Unit: Animals including Humans

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
carbohydrate - foods, such as breads, potatoes and grains, that give the body energy. **vitamin** - found in foods and are essential for the body's growth and repair as well as building immunity. **mineral** - found in foods and help build strong bones and teeth. **nutrition** - eating food for living and growing. **protein** - foods, such as eggs, meat, fish and beans, that help the body grow and repair. **diet** - the food and drink usually eaten by a person or animal. **balanced** - in good proportion.	examples of the 5 main food groups. (how) many portions of food from different food groups we should eat in a day.  food labels give information on the ingredients in food.	how food from each food group is essential for human growth and health. food labels give in depth information about the different food groups within a product. food labels help us make healthy choices.	**Question** **Plan** **Set-up** **Observe** match animals to their skeletons. **Record** **Conclude** **Evaluate**

energy - the power needed to do something. **nutrition label** - gives information about what the food contains. **portion** - amount of food eaten. **vertebrate** - animals with a backbone, or spine. **hydrostatic skeleton** - soft bodied animals with no bones. **exoskeleton** - animals with skeletons outside their body. **endoskeleton** - animals with skeletons inside their body. **invertebrate** - animals without a backbone, or spine. **ulna** - one of the bones found in the lower arm. **tibia** - one of the bones in the lower leg. **fibular** - one of the bones in the lower leg. **radius** - one of the bones found in the lower arm. **humerus** - upper arm bone.	which animals have an endoskeleton, exoskeleton and a hydrostatic skeleton.  the main bones in the human body.  some names of the muscles within the human body. humans have voluntary and involuntary muscles.	animals have different types of skeletons. (how) animals' skeletons help them to move and survive. the functions of the human skeleton. the functions of the main parts of the human body (arms, legs, head and torso). how muscles work.	

spine - the structure of bones which run up the centre of the back. **rib cage** - the structure of bones protecting the lungs and heart. **vertebrate** - animals with a backbone, or spine. **skull** - the structure of bones protecting the brain. **muscle** - tissue that moves parts of the body. **diaphragm** - muscle used for breathing. **biceps** - muscles found in the upper arm. **contract** - tighten to become smaller. **hamstrings** - muscles that run down the back of the leg.	 (how) animals' skeletons have adapted to help them move in their environment.	the functions of the bones within animal skeletons.	

St Anne's C of E Primary School Curriculum Plan

Subject: Science | Year: 3 | Term: Summer 1

Unit: Plants

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
potassium - a metal that is used in fertilising crops. **chlorophyll** - captures the sun's rays and creates sugary carbohydrates or energy, which allows the plant to grow. **photosynthesis** - the process in which green plants use sunlight to make their own food. **xylem** - carries water from the roots to all parts of the tree or plant. **phloem** - a tissue where substances can flow up and down	the parts of a plant. water transports through a plant. the reproductive parts in a flower.	the functions of different parts of a flowering plant. (how) water is transported within plants. the functions of the reproductive parts in a flower. how flowering plants reproduce. seed dispersal is a way in which some plants reproduce.	**Question** ask relevant questions and using different types of scientific enquiries to answer them. **Plan** **Set-up** set up simple practical enquiries, comparative and fair tests. **Observe** draw and label a diagram to show the parts of a plant. create an observational drawing to show how water is transported through a plant. make systematic and careful observations and, where appropriate, taking accurate

to carry the food throughout the plant. **anther** - the part of a stamen that produces and contains pollen and is usually borne on a stalk. **filament** - the stalk of a plant stamen that bears the anther. **stomata** - tiny openings or pores, found mostly on the undersurface of a plant leaf and used for gas exchange. **transpiration** - the process of water movement in a plant. **absorb** - to soak up. **pollen** - a fine powder produced by certain plants. **pollination** - the process that allows plants to reproduce. **pollinator** - living things which help the pollination process by moving pollen from one plant to the next. **nectar** - a liquid produced by the flower of plants. **seed dispersal** - the scattering or spreading of seeds. **fertiliser** - substances added to the soil or sprayed on the leaves of plants to keep them well.			measurements using standard units, using a range of equipment, including thermometers and data loggers. **Record** describe how water is transported through a plant. provide an explanation, both written and verbal, to show how plants reproduce. use scientific language to describe how plants reproduce. write up the results of an experiment. gather, record, classify and present data in a variety of ways to help in answering questions. record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. **Conclude** provide a conclusion using scientific language and diagrams. explain the results of an experiment. report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Evaluate** use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

UV light - a light which is invisible to the human eye and removes unwanted microorganisms. **nutrients** - a substance that is needed for healthy growth, development and functioning. **nursery** - a place where plants (as trees or shrubs) are grown and usually sold. **stunted** - impaired growth. **vulnerable** - able to be hurt or injured. **anchor** - the roots act as means of keeping a plant upright. **germination** - the process by which a plant grows from a seed; to germinate. **sapling** - a young tree. **formation** - a creation or development of something.			

St Anne's C of E Primary School Curriculum Plan

Subject: Science | Year: 3 | Term: Summer 2

Unit: Light

Vocabulary	Knowledge	Understanding	Skills
	Children will know (that)	Children will understand (that)	Children will be able to
light - a form of energy that allows our eyes to see. **natural** - made from nature, not man-made. **artificial** - not natural, created by human beings. **source** - where something comes from. **reflect** - the process that describes light bouncing off a surface. **reflective** - describes an object that bounces light easily from its surface.	(identify) light sources. they need light in order to see things and that dark is the absence of light. sunlight can damage our skin and our eyes. materials that are good reflectors. light is reflected from surfaces. that shadows are formed when the light from a light source is blocked by an opaque object.	the difference between natural and artificial sources of light. how light and dark can be created in different ways. light from the sun can be dangerous and ways to protect their eyes. some objects are a light source and some are reflectors. why some materials are better reflectors than others. the size of a shadow changes when it is moved further from the light.	**Question** **Plan** **Set-up** show how a shadow is formed when an opaque object blocks the light. show how the size of a shadow changes depending on the distance from the light source. **Observe** explain why certain objects are sources of light and why others are not. find patterns in the way that the size of shadows change. observe the effectiveness of sun-cream as protection against the sunlight.

surface - the top layer of something. **materials** - anything that is used to build or make something else. **fluorescent** - gives a highly visible reflection of light. **high visibility** - can be seen easily. **block** - does not allow to pass through. **opaque** - does not let the light pass through. **vitamin D** - a vitamin that comes from sunlight or food and is important for bone strength. **ultraviolet rays** - type of light that can be harmful. **sunburn** - a painful redness of the skin caused by staying in the sun too long. **protection** - keep safe. **exposure** - contact with something harmful. **ray** - a thin beam of light. **shadow** - a dark image that is formed when an object blocks the light.	(how) to change the size and shape of a shadow shadows change throughout the day.	why the size and shape of a shadow can change. how and why shadows change throughout the day.	identify differences, similarities or changes related to simple scientific ideas and processes. **Record** gather, record, classify and present data in a variety of ways to help in answering questions. record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. **Conclude** use scientific evidence, explain the effectiveness of sun-cream as protection against the sunlight. **Evaluate**

cast - to throw or project. **position** - where something is placed. **shape** - the outline of something puppet a doll that looks like a person or an animal. **sundial** - an object that tells the time using sunlight. **opposite** - on sides across from each other. **direction** - the way one faces or travels. **length** - distance from one end to another.			