Cycle A

Science Year 3/4

R.c. Himary School ba	Торіс	Curriculum Links	Aims/Activity	National Curriculum Skills	Pupil Knowledge	Vocab
Autumn 2	Healthy Humans	Music Art DT	 Pupils will answer the following key questions: How do we keep healthy? Why is it important to keep healthy? What choices can we make for a healthy lifestyle? How can we group the type of foods we eat? How do the different food groups help to keep us healthy? What are the diets of different animal like? Can you design a healthy meal/menu? 	 Pupils will work scientifically by: comparing and contrasting the diets of different animals (including their pets). deciding ways of grouping them according to what they eat. researching different food groups and how they keep us healthy. designing meals based on what they find out. 	I can identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. I know that an adequate and varied diet is beneficial to health (along with a good supply of air and clean water). I know that regular and varied exercise from a variety of different activities is beneficial to health (focusing on energy in versus energy out. Including information on making informed choices).	Food/feed/feeding, growth, activity, healthy, unhealthy, nutrition, exercise, choice, balanced diet, lifestyle, adequate and varied diet, the right types and amount of nutrients. Food groups: vegetables, meat, fish, sugars and starches, fruit, fats etc. Words which have different meanings in other contexts: diet, activity, evidence, conclusion etc.

Spring 1	Rock and Roll!	History Geography Art	 Pupils will answer the following questions: What is rock? How can rocks be different? What are rocks used for? How can we test rocks/compare rocks? How hard is your rock? Does it float? Does it float? Does it allow water in? Is it permeable? What happens if you put an acid on your rock? What if all rocks were the same? How do rocks change over time? What are fossils? How are fossils formed? What can fossils tell us about the past? What is soil made up of? How is soil formed? 	 Pupils will work scientifically by: observing rocks, including those used in buildings and gravestones, and exploring how and why they might have changed over time. using a hand lens or microscope to help them identify and classify rocks according to whether they have grains or crystals, and whether they have fossils in them. researching and discussing the different kinds of living things whose fossils are found in sedimentary rock and explore how fossils are formed. exploring different soils and identifying similarities and differences between them and investigating what happens when rocks are rubbed together [hardness test] or what changes occur when they are in water [permeability test]. raising and answering questions about the way soils are formed. 	I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. I can describe in simple terms how fossils are formed when things that have lived are trapped within rock. I recognise that soils are made from rocks and organic matter. I recognise that rocks and soils can feel and look different. I recognise that rocks and soils can be different in different places/ environments.	Words describing rocks e.g. rock, stone, pebble, slate, marble, chalk, granite, sand, sandstone, hard, texture, grains, crystals, contains fossils, bits pressed together, sedimentary. Words describing soils e.g. darker, lighter, organic matter, leaf litter, grains, clay, sandy, grains. Rub together, break apart/break up, permeable, non- permeable, acid rain, weathering, erosion. Comparison/compare, description/describe. Words which have different meanings in other contexts e.g. test, fair, conclude.
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Spring 2	The Iron Man	DT Music	 Pupils will answer the following questions: What materials are attracted to magnets? When and where are magnets useful? How strong are magnets? Are all magnets the same strength? 	 Pupils will work scientifically by: Comparing how different things move and grouping them. Raising questions and carrying out tests to find out how far things move on different surfaces. Gathering and recording data to find answers to 	I can compare how some things move on different surfaces. I notice that some forces need contact between two objects but magnetic forces can act at a distance. I can observe how	Move, movement: fly, bounce, slide, spin, roll, swirl, swing, forward, backward, upwards, downwards, faster, slower, accelerate, decelerate, ramp, incline. Push, pull, squeeze, springy, attract, repel,
			 attract plastic covered paperclips? What if everything was magnetic? How can we make objects move? How can we stop things moving? How can we stop things moving? How can we change the movement? How can we slow down a moving object? Do different surfaces make a difference? What if we could only push but not pull? 	 Exploring the strengths of different magnets and finding a fair way to compare them. Sorting materials into those that are magnetic and those that are not. Looking for patterns in the way that magnets behave in relation to each other and what might affect this, for example, the strength of the magnet or which pole faces another. Identifying how these properties make magnets useful in everyday items and suggesting creative uses for different magnets. 	each other and attract some materials and not others. I can 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. I can describe magnets as having two poles (like and unlike poles). I can predict whether two magnets will attract or repel each other, depending on which poles are facing.	magnetic, attraction, repulsion, names of common metals (e.g. iron, copper, aluminium), poles, horseshoe magnet, bar magnet, ring magnet, button magnet. Stronger / weaker, best / worse.

Summer 2	How does your Garden Grow?	DT	 Pupils will answer the following questions: What makes a plant a plant? (Features of plants). What does each feature do to help the plant survive, grow and reproduce? What do plants need to grow healthily? Do seeds need soil to grow? Do plants need soil to grow healthily? How much water should we give plants? How long can they last without water? Where is the best location to keep our plants? Does a greenhouse help? Why do plants need leaves? What happens if we remove all the leaves from a plant? Why are plants important? What if all plants died out? How do plants help their seeds to spread? What are pollinators and how do they help plants? How do plants change as they grow? 	 Pupils will work scientifically by: Comparing the effect of different factors on plant growth, for example the amount of light, the amount of fertiliser; Discovering (research and modelling) how seeds are formed by observing the different stages of plant cycles over a period of time; Looking for patterns in the structure of fruits that relate to how the seeds are dispersed. Observing how water is transported in plants, for example, by putting cut, white carnations into coloured water. Observing how water travels up the stem to the flowers 	I can identify, locate and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. I understand the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. I can investigate the way in which water is transported within plants. I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. I know that roots grow downwards and anchor the plant. I know that water, taken in by the roots, goes up the stem to the leaves, flowers and fruit. I know that nutrients (not food) are taken in through the roots. I know that stems provide support and enable the plant to grow towards the light. I know that flowers attract insects to aid pollination. I know that pollination is when pollen is transferred between plants by insects, birds, other animals and the wind. I know that seed sare formed after the flowers are pollinated. I know that seed sare formed after the flowers are pollinated. I know that seed dispersal. I know that seed dispersal. I know that plants make their own food in the leaves using energy from the sun.	Role, part/structure, flowering plant, root / roots, leaf / leaves, stem / stalk / trunk / branch, flowers, blossom, petal, pollen, transfer, pollination, seed formation, seed, bulb, fruit, berry, seed dispersal (explosion, wind, water, animal), transported, insects / birds / animals. Life cycle, grow / growth, reproduce, air, light (dark / light), water (damp / wet / dry), nutrients, soil, room to grow, fertiliser, volume (liquids), temperature (hot / warm / cool / cold). Words to describe physical characteristics of plants e.g. yellow, pale, thin, spindly, healthy, features representing good growth.
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Standaione Onit	Shadows	Art	 the following questions: What are shadows? How are shadows formed? Can shadows change? Where will the shadow be? What will the shadow be like? How does light travel? How do mirrors work? / What can mirrors do? 	scientifically by looking for patterns in what happens to shadows when the light source moves or the distance between the light source and the object changes	need light in order to see things and that dark is the absence of light. I notice that light is reflected from surfaces. I recognise that light from the sun can be dangerous and that there are ways to protect my eyes. I recognise that shadows are formed when the light from a light source is blocked by a solid object. I can find patterns in the way that the size of shadows can change.	source, eyes, travel, torch, shadow, opaque, transparent, translucent, block, reflect, reflection, reflective, mirror, direction, light travels, straight lines. Comparisons e.g. shortest, highest, furthest, closest. Words which have different meanings in other contexts e.g. test, fair, conclude.
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Standalone Unit -	Skeletons	PE	 Pupils will answer the following questions: What if humans didn't have a skeleton? Do all animals have a skeleton? Which are the most important bones in our body and why? Does our skeleton grow the older we get? How do we know? How does our skeleton help with movement? Why do we have muscles and how do they work? Do we all grow at the same rate? Is our body in proportion? 	 Pupils will work scientifically by: identifying and grouping animals with and without skeletons. observing and comparing their movement; exploring ideas about what would happen if humans did not have skeletons. 	some other animals have skeletons and muscles for support, protection and movement. I can identify animals (vertebrates) which have a skeleton which supports their body, aids movement and protects vital organs (be able to name some of the vital organs). I can identify animals without internal skeletons/backbones (invertebrates) and describe how they have adapted other ways to support themselves, move and protect their vital organs. I know how the skeletons of birds, mammals, fish, amphibians or reptiles are similar (backbone, ribs, skull, bones used for movement) and the differences in their skeletons. I know that muscles, which are attached to the skeleton, help animals move parts of their body. I can explore how humans grow bigger as they reach maturity by making comparisons linked to body proportions and skeleton growth – e.g. do people with longer legs have longer arm spans? Is the size of our head related to our height? etc. I recognise that animals are alive; they move, feed, grow, use their senses and reproduce.	 words relating to skeletons and muscles e.g. bones, skeleton, muscle(s), ribs, backbone/spine, vertebra, skull, joints, sockets. Features of skeletons: movement, support, protection (organs). Animal groups: vertebrates and invertebrates, insects, minibeasts, mammals, reptiles, fish, birds, amphibians.
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