



Claremont Primary and Nursery School Science Curriculum

Year 3: Superb Skeletons

NC link: Animals including Humans

Objectives:

- Identify and name bones in the human body
- Explain the functions of the skeleton
- Identify and name the bones in a range of animals
- Identify animals with and without a spine
- Recognise the similarities and differences in skeletons
- Explain what joints are and what they do
- Explain how we move

Substantive Knowledge:

- identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Disciplinary knowledge (Think like a scientist):

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.
- Recognise when and how secondary sources might help them to answer questions that cannot be answered through practical investigations
- Communicate their findings in ways that are appropriate for different audiences

Key Vocabulary:

Skull, ribcage, spine, pelvis, femur, mammal, bird, fish, amphibian, reptile, antennae, insect, exoskeleton, skeleton,



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Year 3: How can we eat healthily?

NC link: Animals including Humans

Objectives:

- Name the five food groups and some foods within each group
- Explain how each food group helps our bodies
- Explain what a balanced diet is and why it is important
- Compare different diets
- Explain the different diets of animals

Substantive Knowledge:

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.

Disciplinary knowledge (Think like a scientist):

Talk about criteria for grouping, sorting and classifying (non statutory)

Using straightforward scientific evidence to answer questions or to support their findings.

Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.

Identifying differences, similarities or changes related to simple scientific ideas and processes.

Key Vocabulary:

Carbohydrates, proteins, dairy products, fats, sugars, fruit, vegetables, balanced diet, balanced meal, nutrition, Eatwell guide, Vegan, Vegetarian, pescatarian, omnivorous, diet, herbivore, carnivore, omnivore,



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Year 3: How are rocks, soils and fossils connected?

NC link: Rocks

Objectives:

- Identify different types of rocks
- Group different types of rocks
- Test rocks
- Carry out a rock survey in our local area
- Explore fossils
- Explain fossil formation
- Explore soil
- Explain the importance of soil
- Be able to investigate the permeability of different soils

Substantive Knowledge:

- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- describe in simple terms how fossils are formed when things that have lived are trapped within rock
- recognise that soils are made from rocks and organic matter.

Disciplinary knowledge (Think like a scientist):

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Key Vocabulary:

Fossils, Soils, Sandstone, Granite, Marble, Pumice, Crystals, Absorbent, Rock, Skeleton, Shell, fossilisation, sediment, soil, sandy soil, clay soil, peat soil, chalky soil, organic matter, nutrients, habitat loss, deforestation, habitat, independent variable, dependent variable, controlled variable, filter paper, filter funnel, measuring cylinder, absorb, evaluation, data



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Year 3: How do we see?

NC link: Light

Objectives:

- Identify different light sources
- Be able to investigate which surfaces reflect light
- Identify facts about the sun and know that its light can be dangerous and there are ways that we can protect our eyes and body
- Explain how we see
- Explain why there are shadows
- Identify whether something is opaque, translucent or transparent
- Investigate how the distance between the light source and the object affects the size of a shadow

Substantive Knowledge:

- recognise that they need light in order to see things and that dark is the absence of light
- notice that light is reflected from surfaces
- recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- recognise that shadows are formed when the light from a light source is blocked by an opaque object
- find patterns in the way that the size of shadows change.

Disciplinary knowledge (Think like a scientist):

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
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- using straightforward scientific evidence to answer questions or to support their findings.

Key Vocabulary:

Light, eyes, light sources, natural light sources, artificial light sources, sun, sunglasses, protect, reflection, shiny, dull, opaque, translucent, transparent, shadow, distance, controlled variable, independent variable, dependent variable, evaluation, conclusion



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Year 3: How do the different parts of a plant help it to grow and reproduce?

NC link: Plants

Objectives:

- Be able to name the different parts of plants and explain their jobs
- Dissect a plant
- Plan and begin an investigation into plant growth
- Identify the importance of the stem and explain water transportation in plants
- Explain how seeds work
- Identify the reproductive parts of a plant
- Explain how pollination happens
- Explain the different ways of seed dispersal
- Explain the life cycle of a plant

Substantive Knowledge:

- identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- explore 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
- investigate the way in which water is transported within plants
- explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Disciplinary knowledge (Think like a scientist):

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
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Key Vocabulary:

Leaf, stem, roots, flower, soil, dissection, independent variable, dependent variable, controlled variable, seed, seedling, seed coating, germination, water transportation, petals, stamen, pistil, reproductive organs, pollination, pollen, pollinators, wind dispersal, animal dispersal, water dispersal, explosion dispersal, seed dispersal, life cycle



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Year 3: What are the attractions of magnets?

NC link: Forces and Magnets

Objectives:

- Identify what a force is
- Identify what friction is
- Investigate how a toy car moves over different surfaces
- Explain what a magnet is
- Identify magnetic and non-magnetic metals
- Investigate how some magnets attract materials
- Explain how North and South Poles attract and repel

Substantive Knowledge:

- compare how things move on different surfaces
- notice that some forces need contact between two objects, but magnetic forces can act at a distance
- observe how magnets attract or repel each other and attract some materials and not others
- 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
- describe magnets as having two poles
- predict whether two magnets will attract or repel each other, depending on which poles are facing.

Disciplinary knowledge (Think like a scientist):

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
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- using straightforward scientific evidence to answer questions or to support their findings.

Key Vocabulary:

Push, pull, force, contact force, friction, smooth, rough, independent variable, dependent variable, controlled variable, data, prediction