Manor Primary School
Science Year 3: Animals including humans

Overview of the Learning:

- **In this unit children will** identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food. Children will identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Core Aims

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics about humans and other animals
- develop understanding of the **nature, processes and methods of science** through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

Pupils should be taught to work scientifically. They will:

- 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.

Pupils should be taught about animals including humans:

- 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

	• identify that humans and some other animals have skeletons and muscles for support, protection and movement. • Pupils will continue to learn about the importance of nutrition (including a balanced diet). Pupils should be introduced to the main body parts associated with the skeletal, muscular system, and how they have special functions. This can include: skeletal system – skeleton, bones and specific bones: skulls, ribs, legs, arms and spine; muscular system – muscles: arms, legs, abdomen/stomach muscles; the skeleton and muscular system work together for movement. • Pupils should apply their knowledge and skills by: describing how the body uses up the food eaten and the oxygen breathed in. setting up a simple comparative test to show how everyday activities (e.g. exercise, resting, walking) affect the human body (e.g. breathing increasing and slowing down, tired muscles). recording information about the skeletal and muscular system though e.g. scientific labels, models, displays etc.

Expectations

Children 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
- identify that humans and some other animals have skeletons and muscles for support, protection and movement.
- Identify the main body parts associated with the skeletal, muscular system, and how they have special functions
- 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 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.observe closely, using simple equipment
- perform simple tests considering investigative factors like recording of results, equipment, fair testing and pattern drawing.

Manor Primary School
Science Year 3: Forces and Magnets - Amazing Magnets

Overview of the Learning:

In this unit of learning children will explore and discuss how a push or a pull is exerted by something and acts on something else and describe how some forces are made by contact (pushing, pulling) while others act at a distance (e.g. gravity and magnets). Children will investigate and explain how gravity pulls things down, and that on the Earth's surface, we are supported by a contact force with the ground. They will describe the use of magnets in familiar objects and explain that magnets attract magnetic materials; that magnets work through, e.g. cardboard make a magnet.

Core Aims

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- are equipped with the scientific knowledge required to understand the **uses and implications** of science, today and for the future.

Pupils should be taught to work scientifically. They will:

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- 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. **Pupils should be taught about forces and magnets:** • experience making things move by pushing them. They should notice that there are always two objects involved in a force – one that exerts the force, which acts on something else. • apply their knowledge and skills by: • observing what happens when they push e.g. scooters, toy cars. • putting objects in water and seeing what happens when they try to immerse a floating object – noticing that there is a contact force with the water • carry out simple tests to see how the strength of the force varies. trying out ways of slowing things down e.g. braking on a bicycle, the effect of friction between surfaces. • making things that move; for example, windmills.

Expectations

Children can:

- experience making things move by pushing them. They should notice that there are always two objects involved in a force – one that exerts the force, which acts on something else.
- Observing what happens when they push e.g. scooters, toy cars.
- putting objects in water and seeing what happens when they try to immerse a floating object – noticing that there is a contact force with the water
- carry out simple tests to see how the strength of the force varies.
- trying out ways of slowing things down e.g. braking on a bicycle, the effect of friction between surfaces.
- making things that move; for example, windmills. .
- 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.observe closely, using simple equipment
- perform simple tests considering investigative factors like recording of results, equipment, fair testing and pattern drawing.

Manor Primary School
Science Year 3: Investigating Light & Shadows!

Overview of the Learning:

In this unit children will investigate the relationship between light, an object and the formation of shadows. Children observe the apparent movement of the Sun and the associated changes in shadows. Work in this unit also offers children opportunities to explain shadows using scientific knowledge and to recognise the hazards and risks in looking at the Sun.

Core Aims

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- 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. **Pupils should be taught about light and shadows:** • 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 a solid object • find patterns in the way that the size of shadows change.

Expectations

Children can:

- 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 a solid object
- find patterns in the way that the size of shadows change
- 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.observe closely, using simple equipment
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Manor Primary School
Science Year 3: Investigating What Helps Plants Grow!

Overview of the Learning:

In this unit of learning children will investigate about what plants need to grow well and why it is important that they do. Experimental and investigative work focuses on: considering what evidence should be collected ; making careful measurements ; considering how good the evidence is and using results to draw conclusions. Work in this unit also offers opportunities for children to relate their knowledge about the growth of plants to everyday contexts.

Core Aims

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics about humans and other animals
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- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

	Pupils should be taught about What Helps Plants Grow: • 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.

Expectations

Children can:

- 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.
- 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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Manor Primary School
Science Year 3: Rocks and Soil

Overview of the Learning:

In this unit of learning children will investigate the physical characteristics (Including the appearance, texture and permeability of rocks and soils) of the local environment and the living things in it (including food chains) comparing them with those from another locality. Children will explore and investigate in order to collect data, analyse it and identify patterns; use their knowledge and research to inform designs for functional products and plans for investigations to capture, record and analyse data using a range of equipment to sort, group and identify familiar living things and materials according to observable features and properties to evaluate their skills, findings and outcomes using given criteria and offer explanations for their findings.

Core Aims

- develop **scientific knowledge and conceptual understanding** through the specific disciplines of biology, chemistry and physics about humans and other animals
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- 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.

Pupils should be taught about rocks and soil:

	• 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.

Expectations

Children can:

- 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.
- 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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