

Year 2 and 3 Science Learning Sequence

Year A Term 1– Animals Including Humans – Nutrition, skeletons and muscles (Biology)

Resources to support planning: <https://grammarsaurus.co.uk/portal/tag/year-3-animals-including-humans/>

By the end of this unit I will know...

Children will 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.

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

By the end of this unit I will be able to...

Children will understand how to and be able to **identify and classify**.

Children will be able to **compare and contrast** different animals based on behavioural traits.

Children will be able to **report on their findings** from an enquiry in **written form**.

Children will be able to use **straightforward scientific evidence** to answer questions or to support their findings.

Children will understand what a **comparative test** is.

Children will be able to **ask questions** and **set up a comparative test** to find out the answer.

Children will be able to use their results to **draw simple conclusions** and **make predictions for new values**.

Children will be able to **compare and contrast**, suggesting **reasons for differences**.

Children will be able to **draw diagrams with labels**.

<u>Prior knowledge to recap...</u>	<u>Lesson 1</u>	<u>Lesson 2</u>	<u>Lesson 3</u>	<u>Lesson 4</u>	<u>Lesson 5</u>	<u>Lesson 6</u>	<u>Assessment</u>
Children will identify and name a variety of common animals including:	How does our skeleton help us? skeleton	Do our bones affect what we can do?	What do our muscles do?	Do all animals have the same skeleton? structure vertebrae invertebrate	Where do humans get nutrition from? producer predator prey	What kind of nutrition do we need? protein carbohydrate fats	Quiz End of term knowledge web

- Fish - Amphibia ns - Reptiles - Birds - Mammals Children will identify and name a variety of <i>common animals that are</i> - Carnivore s - Herbivore s - omnivore s Children will describe and compare the structure of a variety of common animals: - Fish - Amphibia ns - Reptiles - birds					nutrition	fruit	
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- mammals including pets Children will identify, name, draw and label the basic parts of the human body (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) and say which part of the body is associated with each sense. Children will know that animals reproduce and grow through a life cycle (egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep). Children will notice that							
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animals, including humans have offspring which grow into adults. Children will find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Children will describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.							
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Year A Term 2 – Rocks (Chemistry)

Resources to support planning: <https://grammarsaurus.co.uk/portal/tag/year-3-rocks/>

By the end of this unit I will know....

Children will be able to compare and group together different rocks based on appearance, and simple physical properties. (Lesson 2)

Children will be able to describe in simple terms how fossils are formed when things that have lived are trapped within rock. (Lesson 6)

Children can recognise that soils are made from rocks and organic matter. (Lesson 3)

Children will know about Mary Anning and the impact she had on the world today. (Lesson 6)

By the end of this unit I will be able to...

Children will understand how to use a **simple microscope** and be able to use one.

Children will be able to use keys to **classify and identify similarities and differences**.

Children will be able to **ask relevant questions** to further their understanding.

Children will be able to use **straight forward scientific evidence to answer questions**.

Children will be able to record their observations in a **table**.

Children will be able to use their data to draw **simple conclusions and make predictions** for new values.

<u>Prior knowledge</u> <u>to recap...</u>	<u>Lesson 1</u>	<u>Lesson 2</u>	<u>Lesson 3</u>	<u>Lesson 4</u>	<u>Lesson 5</u>	<u>Lesson 6</u>	<u>Assessment</u>
N/A	What are rocks? matter organic	Are all rocks the same? sedimentary igneous metamorphic porous	How are rocks formed? crystal microscope	Which rocks make up the Earth?	What are soils? soils grains	How are fossils formed? fossils	Quiz End of term knowledge web

Year A Term 3 and 4 – Movement, Forces and Magnets (Physics)

By the end of this unit I will know....

Children will compare how things move on different surfaces.

Children will notice that some forces need contact between two objects (opening a door, pushing a swing) but magnetic forces can act at a distance.

Children will explore the behaviour and everyday uses of different magnets (bar, ring, button and horseshoe).

Children will observe how magnets attract or repel each other and attract some materials and not others.

Children will 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.

Children will describe magnets as having two poles.

Children will predict whether two magnets will attract or repel each other, depending on which poles are facing.

By the end of this unit I will be able to...

Children will be able to **classify**.

Children will understand what a **comparative test** is.

Children will be able to **ask relevant questions** and set up a **comparative test** to answer them.

Children will understand what a **bar graph is** and be able to **record their data in a bar graph**.

Children will record their results in a **table**.

Children will be able to **observe and look for patterns and what might affect this**.

Children will be able to **record** their results using simple **scientific language and drawings**.

Children will be able to **use their results to draw simple conclusions and make predictions for new values**.

Children will be able to **suggest improvements and raise further questions**.

<u>Prior knowledge to recap...</u>	<u>Lesson 1</u>	<u>Lesson 2</u>	<u>Lesson 3</u>	<u>Lesson 4</u>	<u>Lesson 5</u>	<u>Lesson 6</u>	<u>Assessment</u>
What are magnets? What does a magnet look like?	What is a force? force	Do objects move the same on different surfaces? friction	How do magnetic forces work? pole magnet magnetism	Which materials are magnetic?	Do magnets attract each other? attract repel	Are all magnets the same strength?	Quiz End of term knowledge web

Year A Term 5 and 6 – Light (Physics)

Resources to support planning: <https://grammarsaurus.co.uk/portal/tag/year-3-light/>

By the end of this unit I will know...

Children will recognise that they need light in order to see things and that dark is the absence of light. (Lesson 1)

Children will notice that light is reflected from surfaces. (Lesson 2)

Children will recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Lesson 3)

Children will recognise that shadows are formed when the light from a light source is blocked by an opaque object. (Lesson 4)

Children will understand how the size of shadows change. (Lesson 5)

By the end of this unit I will be able to...

Children will be able to **look for patterns**.

Children will understand what a **fair test** is.

Children will be able to **ask relevant questions** about patterns and set up a **simple fair test to look for patterns**.

Children will understand what a **data logger** is and be able to take **accurate measurements, using standard units** to record the amount of light (lux).

Children will be able to **record** their data in a **table**.

<u>Prior knowledge to recap:</u>	<u>Lesson 1:</u>	<u>Lesson 2:</u>	<u>Lesson 3:</u>	<u>Lesson 4:</u>	<u>Lesson 5:</u>	<u>Lesson 6:</u>	<u>Assessment:</u>
Children will know the difference between day and night and talk about what happens at night and in the day. Children will understand that the sun gives us light. Children can identify a shadow.	What is light? opaque transparent translucent	What is reflected light? light source	Is the sun dangerous?	How are shadows formed? shadow light source	Does moving the light source change the shadow? fair test	How do mirrors work?	Quiz End of term topic web

Year B Term 1 – Animals Including Humans (Y2 content)

Resources to support planning: <https://grammarsaurus.co.uk/portal/tag/year-2-animals-including-humans/>

Children will know that animals reproduce and grow through a life cycle (egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep). (Lessons 2, 3, 4)

Children will notice that animals, including humans have offspring which grow into adults. (Lesson 2)

Children will find out about and describe the basic needs of animals, including humans, for survival (water, food and air). (Lesson 1)

Children will describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene. (Lesson 5, 6,)

<u>Prior knowledge to recap:</u>	<u>Lesson 1</u>	<u>Lesson 2</u>	<u>Lesson 3</u>	<u>Lesson 4</u>	<u>Lesson 5</u>	<u>Lesson 6</u>	<u>Assessment</u>
amphibians reptiles mammals birds Carnivore Herbivore omnivore What are the human body parts? What are the senses?	What do humans need? survive	What are offspring? offspring	How do animals change as they grow into adults?	Do we all grow the same? Measure Growth	Do we need to exercise? Healthy	What is a healthy diet? Why do we need to have good hygiene? Hygiene	Quiz End of unit topic web

Year B Term 2– Plants (Biology)

By the end of this unit I will know...

Children will identify and explain the functions of different parts of flowering plants and trees: leaves, flowers, petals, fruit, roots, bulb, seed, stem/trunk/branches. (Lesson 2)

Children will 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. (Lesson 1)

Children will understand how water is transported in plants. (Lesson 4)

Children will explore the part that flowers play in the life cycle of flowering plants, including (Lesson 2, 6)

- Pollination
- Seed formation
- Seed dispersal

By the end of this unit I will be able to....

Children will understand how to use a **simple microscope** and be able to use one.

Children will be able to record their observations in **labelled diagrams**.

Children will understand what a **comparative test** is.

Children will be able to **ask relevant questions** and answer them using a comparative test.

Children will be able to set up a **comparative test**.

Children will understand how to and be able to **look for patterns**.

Children will be able to use **straight forward scientific evidence to support their findings**.

<u>Prior knowledge to recap...</u>	<u>Lesson 1</u>	<u>Lesson 2</u>	<u>Lesson 3</u>	<u>Lesson 4</u>	<u>Lesson 5</u>	<u>Lesson 6</u>	<u>Assessment</u>
Children will identify and name a variety of plants - common wild plants	What do plants need? life cycle	What functions do the parts of plants have?	What are roots?	How do plants transport water?	How do plants reproduce? pollination pollen fertiliser	How are seeds dispersed? transported dispersal	

- garden plants - deciduous trees - evergreen trees Children will identify and describe the basic structure of - common flowering plants (leaves, flowers, petals, roots, stem) - common trees (leaves, trunk, branches, roots) Children will observe and describe how							
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- Seeds grow into mature plants - Bulbs grow into mature plants Children will find out and describe how plants need water, light and a suitable temperature for germination, growth, survival and reproduction.							
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Year B Term 3 and 4– Living Things and Their Habitats (Biology)

Resources to support planning: <https://grammarsaurus.co.uk/portal/tag/year-2-living-things-and-their-habitats/>

By the end of this unit I will know...

Children will explore and compare things that are living, dead and things that were never alive. (Lesson 1)

Children will identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. (Lesson 2, 3, 4, 5)

Children will be able to identify a variety of plants and animals in their habitats, including micro-habitats. (Lesson 2)

Children can describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. (Lesson 6)

By the end of this unit I will be able to...

Children will be able to **identify and classify**. Children will be able to **describe** how they decided where to place things.

Children will be able to record their findings using **charts**.

Children will be able to **ask and answer questions** to support their understanding.

Children will be able to **describe** conditions and explore the **impact** of different conditions.

Children will be able to **compare** animals in **familiar and unfamiliar** habitats.

<u>Prior knowledge to recap...</u>	<u>Lesson 1</u>	<u>Lesson 2</u>	<u>Lesson 3</u>	<u>Lesson 4</u>	<u>Lesson 5</u>	<u>Lesson 6</u>	<u>Assessment</u>
Is it living, dead or never alive? living alive dead What is a microhabitat? habitat What habitats are around the world? How can we investigate habitats? How are living things adapted to their habitats? What are food chains? food chain prey predator							
Children will know that animals have different habitats (under the ground, in the sea, on a farm).							
Children will recognise and describe different animals in their local habitat and from around the world (talk about animals that live in different climates).							
Children will describe different animals in their local habitat and from around the world (talk about							

animals that live in different climates). Children will learn how to observe what they see. Children will ask questions about what they see.							
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Year B Term 5 and 6 – Use of Everyday Materials

Resources to support planning - <https://grammarsaurus.co.uk/portal/tag/year-2-materials/>

By the end of this unit I will know

The names of a variety of everyday materials (e.g. wood, metal, plastic, glass, brick, rock, paper, cardboard).

That objects are made from materials and that one type of object can be made from different materials.

That materials have different physical properties such as hardness, flexibility, strength, transparency, and absorbency.

That materials are chosen for specific uses based on their properties.

That some materials can be changed by bending, squashing, twisting, or stretching.

Key vocabulary related to materials and their properties (e.g. rigid, flexible, waterproof, absorbent, transparent).

By the end of this unit I will be able to

Identify and name a range of everyday materials and the objects they are used to make.

Describe and compare the properties of different materials using appropriate scientific vocabulary.

Explain why certain materials are used for specific purposes based on their properties.

Sort and classify materials according to their characteristics.

Carry out simple comparative tests to explore the suitability of materials.

Observe how materials change when squashed, bent, twisted, or stretched.

Ask and answer questions about the uses and properties of materials.

Record findings in simple ways (e.g. charts, drawings, written explanations).

Reflect on what they have learned and suggest reasons for observations.

<u>Prior knowledge to recap</u> Children will distinguish between an object and the material from which it is made.	<u>Lesson 1</u> What are materials?	<u>Lesson 2</u> What are things made from?	<u>Lesson 3</u> How can I investigate materials?	<u>Lesson 4</u> How can I investigate materials?	<u>Lesson 5</u> How can I change materials?	<u>Lesson 6</u> Recap	<u>Assessment</u> Grammarsaurus assessment
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Children will be able to identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock.

Children will be able to describe the simple physical properties of a variety of everyday materials (hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/not absorbent, opaque/transpar ent).

Children will compare and group together a

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variety of
everyday
materials on the
basis of their
simple physical
properties.

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