

Animals including Humans



Animals



The Human Body

Living Things and Habitats



Animals



Plants

Properties and Changes of
Material



Materials and Matter

Forces



Energy and Forces

Earth and Space



Earth and Space



Year 5 Unit Overview – Animals Including Humans (Animals and The Human Body Strand)

National Curriculum:

Pupils should be taught to:

- **Describe the changes as humans develop to old age**

Some aspects of human development and reproduction are taught through the school's **RSE curriculum (Journey in Love)**.

Outcomes:

Core Knowledge

Core knowledge, vocabulary and progression are outlined in the Science Knowledge Progression document (Animals and Human Body strands) and should be explicitly taught and revisited. This knowledge builds on prior learning and prepares pupils for future learning within the Animals and Human Body strands.

By the end of this unit all pupils should have had the opportunity to:

Describe the stages of the human life cycle
Explain how humans grow and change from birth to old age
Compare life cycles of different animals
Describe how different animals reproduce (age-appropriate)
Identify similarities and differences in life cycles

Working Scientifically

By the end of this unit pupils should have developed the following working scientifically skills:

Working Scientifically (TAPS framework)

Ask relevant questions

Use observations and evidence to answer questions

Gather and record data

Identify patterns

TAPS Enquiries: Growth Survey (Pattern seeking)

Other Enquiry Opportunities:

Ask questions (e.g. "How do animals change as they grow?")

Compare life cycles of different animals

Observe and describe changes over time

Use diagrams to represent life cycles

Possible Evidence and Assessment Opportunities:

Assessment is based on retrieval of sticky knowledge and application through discussion and practical work.

Retrieval of sticky knowledge (quizzes)

Observation of practical work

Use of scientific vocabulary in discussion

TAPS enquiry assessments

Retrieval Opportunities

Review prior knowledge at the start of lessons

Use low-stakes quizzes to secure sticky knowledge throughout the unit

Teacher Support

Teachers are supported through high-quality, nationally recognised resources such as Oak National Academy, Explorify, TAPS Resources, ASE (Association for Science Education) and STEM Learning, ensuring consistency while maintaining professional autonomy



Year 5 Unit Overview – Living Things and Their Habitats (Animals and Plants Strands)

National Curriculum:

Pupils should be taught to:

- **Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird**
- **Describe the life process of reproduction in some plants and animals.**

Outcomes:

Core Knowledge

Core knowledge, vocabulary and progression are outlined in the Science Knowledge Progression document (Animals and Plants strands) and should be explicitly taught and revisited. This knowledge builds on prior learning and prepares pupils for future learning within the Animal and Plants strands.

By the end of this unit all pupils should have had the opportunity to:

- Describe the differences in life cycles of mammals, amphibians, insects and birds
- Compare life cycles of different animals
- Explore how living things reproduce
- Describe changes as humans develop to old age
- Identify similarities and differences in life processes

Working Scientifically

By the end of this unit pupils should have developed the following working scientifically skills:

Working Scientifically (TAPS framework)

Ask relevant questions

Use classification systems

Gather, record and present data

Use evidence to answer questions

TAPS Enquiries: Life Cycle Research (Identifying and classifying)

Other Enquiry Opportunities:

Ask questions (e.g. "How can we group living things?")

Use classification keys and charts

Compare similarities and differences between organisms

Record findings using tables or diagrams

Possible Evidence and Assessment Opportunities:

Assessment is based on retrieval of sticky knowledge and application through discussion and practical work.

Retrieval of sticky knowledge (quizzes)

Observation of practical work

Use of scientific vocabulary in discussion

TAPS enquiry assessments

Retrieval Opportunities

Review prior knowledge at the start of lessons

Use low-stakes quizzes to secure sticky knowledge throughout the unit

Teacher Support

Teachers are supported through high-quality, nationally recognised resources such as Oak National Academy, Explorify, TAPS Resources, ASE (Association for Science Education) and STEM Learning, ensuring consistency while maintaining professional autonomy



Year 5 Unit Overview – Properties and Changes of Material (Materials and Matter Strand)

National Curriculum:

Pupils should be taught to:

- **Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets**
- **Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution**
- **Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating**
- **Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic**
- **Demonstrate that dissolving, mixing and changes of state are reversible changes**
- **Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda**

Outcomes:

Core Knowledge

Core knowledge, vocabulary and progression are outlined in the Science Knowledge Progression document (Materials and Matter strand) and should be explicitly taught and revisited. This knowledge builds on prior learning and prepares pupils for future learning within the Materials and Matter strand.

By the end of this unit all pupils should have had the opportunity to:

- Compare and group materials based on their properties (e.g. hardness, solubility, transparency, conductivity)
- Explain how materials are chosen for different uses based on their properties
- Investigate how some materials dissolve to form solutions
- Separate mixtures using filtering, sieving and evaporation
- Explore and compare reversible and irreversible changes
- Explain how some changes result in new materials being formed

Working Scientifically

By the end of this unit pupils should have developed the following working scientifically skills:

Working Scientifically (TAPS framework)

Ask relevant questions

Plan and set up simple comparative and fair tests

Gather and record data

Use results to draw conclusions

TAPS Enquiries: Dissolving, Nappy Absorbency, Insulation Layers, Champion Tape

Other Enquiry Opportunities:

Ask questions (e.g. “Which materials dissolve?” “Can materials be separated again?”)

Plan and carry out investigations into dissolving

Compare materials based on their properties

Explore how mixtures can be separated

Use observations to explain reversible and irreversible changes

Possible Evidence and Assessment Opportunities:

Assessment is based on retrieval of sticky knowledge and application through discussion and practical work.

Retrieval of sticky knowledge (quizzes)

Observation of practical work

Use of scientific vocabulary in discussion

TAPS enquiry assessments

Retrieval Opportunities

Review prior knowledge at the start of lessons

Use low-stakes quizzes to secure sticky knowledge throughout the unit

Teacher Support

Teachers are supported through high-quality, nationally recognised resources such as Oak National Academy, Explorify, TAPS Resources, ASE (Association for Science Education) and STEM Learning, ensuring consistency while maintaining professional autonomy



Year 5 Unit Overview – Forces (Energy and Forces Strand)

National Curriculum:

Pupils should be taught to:

- **Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object**
- **Identify the effects of air resistance, water resistance and friction, that act between moving surfaces**
- **Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect**

Outcomes:

Core Knowledge

Core knowledge, vocabulary and progression are outlined in the Science Knowledge Progression document (Energy and Forces strand) and should be explicitly taught and revisited. This knowledge builds on prior learning and prepares pupils for future learning within the Energy and Forces strand.

By the end of this unit all pupils should have had the opportunity to:

- Explain that forces can make objects move, stop or change direction
- Identify gravity as a force acting between the Earth and objects
- Compare the effects of air resistance, water resistance and friction
- Explore how mechanisms (levers, pulleys, gears) make work easier
- Investigate how forces affect movement

Working Scientifically

By the end of this unit pupils should have developed the following working scientifically skills:

Working Scientifically (TAPS framework)

Plan and set up comparative and fair tests

Measure and record results accurately

Use results to draw conclusions

Identify patterns

TAPS Enquiries: Aquadynamics (Comparative and fair testing)

Other Enquiry Opportunities:

Ask questions (e.g. “What affects how fast objects fall?”)

Investigate friction, air resistance or water resistance

Compare how different forces act

Record and interpret results

Possible Evidence and Assessment Opportunities:

Assessment is based on retrieval of sticky knowledge and application through discussion and practical work.

Retrieval of sticky knowledge (quizzes)

Observation of practical work

Use of scientific vocabulary in discussion

TAPS enquiry assessments

Retrieval Opportunities

Review prior knowledge at the start of lessons

Use low-stakes quizzes to secure sticky knowledge throughout the unit

Teacher Support

Teachers are supported through high-quality, nationally recognised resources such as Oak National Academy, Explorify, TAPS Resources, ASE (Association for Science Education) and STEM Learning, ensuring consistency while maintaining professional autonomy



Year 5 Unit Overview – Earth and Space (Earth and Space Strand)

National Curriculum:

Pupils should be taught to:

- **Describe the movement of the Earth, and other planets, relative to the Sun in the solar system**
- **Describe the movement of the Moon relative to the Earth**
- **Describe the Sun, Earth and Moon as approximately spherical bodies**
- **Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky**

Outcomes:

Core Knowledge

Core knowledge, vocabulary and progression are outlined in the Science Knowledge Progression document (Earth and Space strand) and should be explicitly taught and revisited. This knowledge builds on prior learning and prepares pupils for future learning within the Earth and Space strand.

By the end of this unit all pupils should have had the opportunity to:

- Describe the movement of the Earth and other planets relative to the Sun
- Explain how the Earth's rotation causes day and night
- Describe the movement of the Moon relative to the Earth
- Use models to represent the Sun, Earth and Moon
- Explain how these movements affect what we observe

Teacher Support

Teachers are supported through high-quality, nationally recognised resources such as Oak National Academy, Explorify, TAPS Resources, ASE (Association for Science Education) and STEM Learning, ensuring consistency while maintaining professional autonomy

Working Scientifically

By the end of this unit pupils should have developed the following working scientifically skills:

Working Scientifically (TAPS framework)

Ask relevant questions

Use models to explain ideas

Interpret data and observations

Use evidence to support explanations

TAPS Enquiries: Craters

Other Enquiry Opportunities:

Ask questions (e.g. "Why do we have day and night?")

Use models to represent the Earth, Sun and Moon

Interpret information from diagrams or videos

Use secondary sources to answer questions

Possible Evidence and Assessment Opportunities:

Assessment is based on retrieval of sticky knowledge and application through discussion and practical work.

Retrieval of sticky knowledge (quizzes)

Observation of practical work

Use of scientific vocabulary in discussion

TAPS enquiry assessments

Retrieval Opportunities

Review prior knowledge at the start of lessons

Use low-stakes quizzes to secure sticky knowledge throughout the unit