



Year 4

Animals including Humans



Animals



The Human Body

Living Things and Habitats



Animals



Plants

Sound



Energy and Forces

Electricity



Energy and Forces



Materials and Matter

States of Matter



Materials and Matter



Earth and Space



Year 4 Unit Overview – Animals Including Humans (Animals and The Human Body Strand)

National Curriculum:

Pupils should be taught to:

- Describe the simple functions of the basic parts of the digestive system in humans
- Identify the different types of teeth in humans and their simple functions
- Construct and interpret a variety of food chains, identifying producers, predators and prey

Outcomes:

Core Knowledge

Core knowledge, vocabulary and progression are outlined in the Science Knowledge Progression document (Animals + 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 + Human Body strands.

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

- Describe the simple functions of the basic parts of the digestive system
- Identify the different types of human teeth and their functions
- Explain how food moves through the digestive system
- Construct and interpret simple food chains
- Identify producers, predators and prey
- Create a model of the digestive system using household objects
- Explore eating different types of food, to identify which teeth are being used for cutting, tearing and grinding (chewing)
- Classify animals as herbivores, carnivores or omnivores according to the type of teeth they have in their skulls

Working Scientifically

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

Working Scientifically (TAPS framework)

Ask relevant questions
Gather and record data
Use results to draw conclusions
Pattern seeking
Classification thinking

TAPS Enquiries: Animals inc Humans: teeth (eggs) in liquids

Other Enquiry Opportunities:

Ask questions (e.g. “What happens to food in our bodies?”)
Compare different types of teeth
Construct food chains
Use models to represent processes

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 4 Unit Overview – Living Things and Habitats (Animals and Plants Strands)

National Curriculum:

Pupils should be taught to:

- Recognise that living things can be grouped in a variety of ways
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- Recognise that environments can change and that this can sometimes pose dangers to living things

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 Animals and Plants strands.

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

- Group living things in a variety of ways based on observable characteristics
- Use simple classification keys to identify living things
- Describe how environments can change (natural and human impact)
- Explain how changes in habitats can affect living things
- Compare different habitats and the living things found there
- Use fieldwork to explore human impact on the local environment e.g. litter, tree planting

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Working Scientifically

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

Working Scientifically (TAPS framework)

Identify and classify

Use classification keys

Gather, record and present data

Use evidence to answer questions

TAPS Enquiries: Local Survey (Identifying and classifying)

Other Enquiry Opportunities:

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

Use classification keys to identify organisms

Observe and compare different habitats

Record findings using charts or tables

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



Year 4 Unit Overview – Sound (Energy and Forces Strand)

National Curriculum:

Pupils should be taught to:

- **Identify how sounds are made, associating some of them with something vibrating**
- **Recognise that vibrations from sounds travel through a medium to the ear**
- **Find patterns between the pitch of a sound and features of the object that produced it**
- **Find patterns between the volume of a sound and the strength of the vibrations that produced it**
- **Recognise that sounds get fainter as the distance from the sound source increases.**

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 Energy and Forces strand.

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

- Identify how sounds are made (vibrations)
- Explain how sound travels through a medium
- Explore how pitch is affected by the object producing the sound
- Explore how volume is affected by the strength of vibrations
- Observe how sound changes over distance

Working Scientifically

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

Working Scientifically (TAPS framework)

Perform comparative tests

Identify patterns

Record and present results

TAPS Enquiries: Investigating Pitch and String Telephones

Other Enquiry Opportunities:

Ask questions (e.g. “How does sound travel?”)

Investigate pitch and volume

Compare sounds produced by different objects

Observe how sound changes with distance

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

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Year 4 Unit Overview – Electricity (Energy and Forces, Materials and Matter Strands)

National Curriculum:

Pupils should be taught to:

- Identify common appliances that run on electricity
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- Recognise some common conductors and insulators, and associate metals with being good conductors.

Outcomes:

Core Knowledge

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

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

- Identify how sounds are made (vibrations)
- Explain how sound travels through a medium
- Explore how pitch is affected by the object producing the sound
- Explore how volume is affected by the strength of vibrations
- Observe how sound changes over distance

Working Scientifically

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

Working Scientifically (TAPS framework)

Construct and test circuits (fair testing)

Observe and record results

Use results to draw conclusions

TAPS Enquiries: Conductors

Other Enquiry Opportunities:

Ask questions (e.g. “What makes a circuit work?”)

Test different materials as conductors/insulators

Investigate how circuits change

Record results using 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

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Year 4 Unit Overview – States of Matter (Materials and Matter, Earth and Space Strands)

National Curriculum:

Pupils should be taught to:

- Compare and group materials together, according to whether they are solids, liquids or gases
- Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature

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 Materials and Matter strand.

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

- Compare and group materials as solids, liquids and gases
- Describe the properties of solids, liquids and gases
- Observe and explain changes of state (melting, freezing, evaporation, condensation)
- Measure or observe temperature changes linked to changes of state
- Explore how evaporation and condensation occur
- Describe and explain the water cycle

Working Scientifically

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

Working Scientifically (TAPS framework)

Observe changes over time

Measure and record data

Use results to draw conclusions

TAPS Enquiries: Measure Temperature and Drying Materials

Other Enquiry Opportunities:

Ask questions (e.g. “What causes materials to change state?”)

Observe melting and freezing

Measure temperature changes

Explore evaporation and condensation

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

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