

Year 4 Knowledge Organiser: Animals Including Humans

Key Vocabulary

Term	Definition
Digestive	Relating to the process of breaking down food
Mouth	Where digestion begins by chewing food
Stomach	An organ where food is mixed with digestive juices
Intestine	A long tube where food is further digested and nutrients absorbed
System	A group of organs working together
Oesophagus	A tube that connects the mouth to the stomach
Small intestine	Part of the intestine where most digestion and absorption occurs
Large intestine	Part of the intestine where water is absorbed
Function	The purpose or role of something
Incisor	A sharp tooth at the front used for cutting food
Canine	A pointed tooth used for tearing food
Molar	A large tooth at the back used for grinding food
Chew	To crush food with teeth

Bite	To cut into food with teeth
Grind	To crush into small pieces
Cut	To divide or shape with a sharp tool or edge
Tear	To pull apart or into pieces with force
Type	A category or kind
Role	The function of a part or participant
Decay	The process of rotting or breaking down
Sugar	A sweet substance that can cause tooth decay
Hygiene	Practices that maintain health and prevent disease
Enamel	The hard, outer layer of a tooth
Plaque	A sticky film on teeth that can lead to decay
Producer	An organism that makes its own food
Predator	An animal that hunts other animals for food
Prey	An animal hunted by others for food
Consumer	An organism that eats other organisms
Food chain	A sequence showing how energy is transferred through eating
Energy	The strength needed to perform activities
Arrows	Used in diagrams to show direction of

	energy flow
Chain	A connected sequence
Trophic	Relating to feeding and nutrition
Web	A system of interconnected food chains
Habitat	The natural environment where an organism lives
Connection	A relationship between things
Digest	To break down food so the body can use it
Process	A series of steps
Absorb	To take in or soak up
Breakdown	To separate into smaller parts
Nutrient	A substance that provides nourishment
Herbivore	An animal that eats only plants
Carnivore	An animal that eats only meat
Diet	The kinds of food an organism eats
Adaptation	A change that helps an organism survive
Nutrition	The process of obtaining food necessary for health
Structure	The arrangement of parts

Big Questions

- How does the human digestive system work?
- What are the different types and functions of teeth?
- How do we keep our teeth healthy?
- What is a food chain and how do energy and nutrients flow through it?
- How are food chains connected in a food web?
- How do animals' diets and digestive systems relate to their habitat?

Sticky Knowledge

- The digestive system breaks down food so nutrients can be absorbed.
- Different teeth have different roles: incisors cut, canines tear, molars grind.
- Good hygiene helps protect teeth from decay.
- Food chains show how energy passes from producers to consumers.
- Food webs show how food chains are connected.
- Animals have adaptations and diets suited to their habitats.

Working Scientifically

- Label and explain diagrams of the digestive system and food chains.
- Use models and role-play to show digestion and food chain processes.
- Compare teeth types in humans and animals.
- Record observations and draw conclusions about healthy habits.
- Build and interpret food chains and food webs.

Real-World Links

- Understanding healthy eating and tooth care.
- Exploring how energy flows in ecosystems.
- Relating animal diets to their teeth and habitats.
- How nutrition affects growth and wellbeing.

Year 4 Knowledge Organiser: Electricity

Key Vocabulary

Term	Definition
Electricity	A form of energy used to power devices and appliances
Appliance	A device or machine powered by electricity
Battery	A portable source of electrical power
Mains	Electricity supplied from the sockets in buildings
Device	A tool or piece of equipment
Circuit	A complete path for electricity to flow
Cell	A single unit that provides electric power in a circuit
Wire	A conductor used to connect components in a circuit
Bulb	A component that lights up when electricity flows
Switch	A device that opens or closes a circuit
Buzzer	A component that makes a sound when electricity flows
Connection	A point where parts of a circuit join
Complete	A closed circuit where electricity can flow
Incomplete	A broken circuit where electricity cannot flow

Loop	A closed path in which electric current flows
Break	A gap in the circuit that stops the current
Light	The visible result of electricity flowing through a bulb
Open	When a switch is in the off position and the circuit is broken
Close	When a switch is in the on position and the circuit is complete
Control	To regulate or manage the flow of electricity
Conductor	A material that allows electricity to flow through it
Insulator	A material that does not allow electricity to flow through it
Metal	A common type of conductor
Material	A substance that something is made from
Test	To try something to see how it behaves
Fair test	An experiment where only one variable is changed
Result	What happens in an experiment
Conclusion	What is learned from the results of an investigation
Diagnose	To identify a problem in a circuit
Fix	To correct a problem

Component	An individual part of a circuit
Design	To plan how something should be made or work
Purpose	The reason something is used or done
Plan	To organise a set of steps
Diagram	A drawing to show how something works
Explanation	A clear description of how something works
Flow	The movement of electricity through a circuit
Power	The supply of electricity
Application	A practical use of electricity
Real-world	Used or occurring in everyday life
Safety	Being free from danger
Energy	The ability to do work or cause change

Big Questions

- What is electricity and how is it used in everyday life?
- What makes a circuit complete or incomplete?
- How do components like switches, bulbs, and buzzers work in a circuit?
- Which materials are conductors and which are insulators?
- How can we design and explain a working circuit?

Sticky Knowledge

- Electricity powers many everyday appliances and devices.
- A complete circuit is needed for electricity to flow and power a component.
- Switches open and close a circuit to control the flow of electricity.
- Metals are good conductors; plastics and rubber are good insulators.
- Diagrams help us explain and understand how circuits work.

Working Scientifically

- Build and test simple electrical circuits.
- Use diagrams to show how a circuit is connected.
- Identify and fix problems in a circuit.
- Test materials to classify them as conductors or insulators.
- Design circuits with specific purposes like lighting a bulb or sounding a buzzer.

Real-World Links

- How household appliances use electricity from batteries or mains.
- The role of circuits in everyday items like torches and toys.
- Electricity safety in the home and at school.
- Careers in engineering and electrical design.

Year 4 Knowledge Organiser: Living Things and Their Habitats

Key Vocabulary

Term	Definition
Classify	To group things based on shared characteristics
Characteristic	A feature or quality belonging to something
Group	To place things into sets with common features
Living	Something that grows, breathes, reproduces, and responds to its environment
Organism	Any living thing
Carnivore	An animal that eats only meat
Herbivore	An animal that eats only plants
Vertebrate	An animal with a backbone
Habitat	The natural home or environment of a living thing
Feature	A noticeable part or quality of something
Classification key	A tool used to identify organisms based on characteristics
Identify	To name or recognise something
Question	A sentence used to gather information
Match	To pair based on similarity
Key	A guide used to classify living things

Branching	A form of classification key that splits into options
Trait	A distinguishing quality or feature
Distinguish	To tell apart
Microhabitat	A small, specific habitat within a larger one
Species	A group of similar organisms that can reproduce
Environment	The surroundings where an organism lives
Observe	To watch carefully
Pollution	Harmful substances introduced into the environment
Deforestation	Cutting down of forests
Climate	The typical weather in a place
Change	To make or become different
Impact	The effect something has
Extinction	When a species no longer exists
Danger	The possibility of harm or injury
Threat	Something likely to cause damage
Human	Relating to people
Conservation	Protecting the environment and wildlife
Protect	To keep safe
Endangered	At risk of extinction
Nature reserve	An area set aside to protect wildlife and habitats

Recycle	To use materials again to reduce waste
Survey	An investigation to collect information
Record	To write down information
Table	A way to organise information using rows and columns
School ground	The outdoor area of a school
Wildlife	Animals living in their natural environment
Career	A job or profession
Community	A group of people living in one area
Nature	The natural world including plants, animals, and landscapes

Big Questions

- How can we classify living things based on their characteristics?
- What is a classification key and how do we use one?
- What are habitats and how do they support living things?
- How do changes in the environment affect living things?
- How can we protect endangered species and habitats?

Sticky Knowledge

- Living things can be grouped in different ways based on traits.
- Classification keys help us identify and sort living things.
- Habitats provide living things with what they need to survive.
- Environmental changes, including pollution and deforestation, impact habitats.

- Conservation helps protect habitats and prevent extinction of species.

Working Scientifically

- Use classification keys to identify living things.
- Observe and record information about local habitats.
- Sort living things into groups and explain criteria.
- Investigate environmental changes and their effects.
- Research local conservation efforts and present findings.

Real-World Links

- Learning about wildlife in local parks and school grounds.
- Understanding the importance of reducing waste and recycling.
- Recognising how conservation protects endangered species.
- Exploring careers in environmental science and nature protection.

Year 4 Knowledge Organiser: Sound

Key Vocabulary

Term	Definition
Sound	A type of energy made by vibrations
Vibration	A back and forth movement that creates sound
Source	The origin of a sound
Movement	A change in position or place
Noise	Unpleasant or unwanted sound
Vibrate	To move quickly back and forth
Cause	Something that makes something else happen
Effect	The result of a cause
Object	A thing that can be seen or touched
Travel	To move from one place to another
Medium	The material through which sound travels (solid, liquid, gas)
Solid	A state of matter with a fixed shape
Liquid	A state of matter that flows freely
Air	The gas we breathe; a medium for sound travel
Ear	The organ that detects sound
Hearing	The ability to perceive sound
Brain	Processes sound information received from the ear

Detect	To notice or identify
Sound wave	A wave of compression and rarefaction by which sound travels
Pitch	How high or low a sound is
High	A sound with a high frequency
Low	A sound with a low frequency
String	A material that can vibrate to produce sound
Volume	How loud or soft a sound is
Loud	High volume
Soft	Low volume
Strength	How forcefully something is done
Distance	The amount of space between two things
Fainter	Quieter as distance increases
Measurement	The size or amount of something, often using a standard unit
Investigation	A planned scientific study
Fair test	An experiment where only one factor is changed
Pattern	A repeated or regular way in which something happens
Data	Information collected during an investigation
Observe	To watch carefully
Results	The outcomes of an experiment
Graph	A diagram showing data

Conclusion	What is learned from the results
Concept map	A diagram showing relationships between ideas
Application	A use for something
Music	Organised sound for artistic expression
Communication	Exchanging information using sound or other means
Hearing	The sense used to detect sound

Big Questions

- What is sound and how is it made?
- How does sound travel through different materials?
- How do we hear sound?
- What is the difference between pitch and volume?
- How can we investigate sound using scientific enquiry?

Sticky Knowledge

- Sound is caused by vibrations.
- Vibrations travel through solids, liquids, and gases to reach our ears.
- The ear detects sound and sends signals to the brain.
- Pitch is how high or low a sound is, and volume is how loud or soft it is.
- Sound gets fainter as you move away from the source.
- We can investigate sound using fair tests and record results using graphs.

Working Scientifically

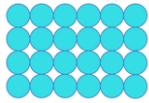
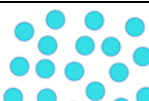
- Observe how vibrations create sound.
- Test how sound travels through different materials.
- Investigate changes in pitch and volume using instruments.
- Plan and carry out fair tests on sound properties.
- Collect, record, and interpret data using tables and graphs.

Real-World Links

- How musicians use pitch and volume in instruments.
- Using sound for communication, like phones or alarms.
- Careers involving sound, such as music production or audiology.
- Understanding hearing and protecting our ears from loud noises.

Year 4 Knowledge Organiser: States of Matter

Key Vocabulary

Term		Definition
Solid		A state of matter with a fixed shape and volume
Liquid		A state of matter that flows and takes the shape of its container
Gas		A state of matter that fills any space and moves freely
Material		A substance from which things are made
State		A physical condition of matter (solid, liquid, gas)
Particle		A tiny part of matter
Arrangement		How particles are positioned in a substance
Compress		To press something into a smaller space
Flow		To move smoothly and continuously
Fixed		Not changing; held in place
Melting		Changing from solid to liquid
Heating		Raising the temperature of something
Temperature		How hot or cold something is
Cooling		Lowering the temperature of something
Freezing		Changing from liquid to solid

Condense	To change from gas to liquid
State change	When matter changes from one state to another
Celsius	A scale to measure temperature
Thermometer	A device for measuring temperature
Measure	To find out the size or amount of something
Heat	The energy that makes things warmer
Water cycle	The process water goes through as it moves through the environment
Evaporation	When liquid water turns into gas
Condensation	When gas changes into liquid
Cloud	A visible collection of water droplets in the sky
Precipitation	Water that falls from clouds as rain, snow, etc.
Change	To become different
Water	A liquid that living things need
Variable	Something that can change in an experiment
Investigation	A scientific study to discover something
Result	The outcome of an investigation
Melt	To change from solid to liquid
Freeze	To change from liquid to solid
Test	A procedure to assess something

Water vapour	Water in gas form
Cycle	A series of events that happen in a repeating order
Evaporate	To turn from liquid into gas
Application	The use of something in real life
Real-world	Happening in everyday situations

Big Questions

- What are the properties of solids, liquids, and gases?
- How can materials change from one state to another?
- What happens during evaporation and condensation?
- How does the water cycle work?
- How can we investigate state changes scientifically?

Sticky Knowledge

- Solids, liquids, and gases are the three states of matter.
- Particles behave differently in each state of matter.
- Heating and cooling can change the state of materials.
- Evaporation and condensation are key parts of the water cycle.
- We measure temperature in degrees Celsius using a thermometer.

Working Scientifically

- Sort and classify materials by state.
- Observe and describe state changes through heating and cooling.
- Use thermometers to measure temperature accurately.
- Plan and carry out fair tests related to evaporation and melting.
- Present data using tables, bar charts, and labelled diagrams.

Real-World Links

- Understanding the water cycle helps explain rain and weather.
- Cooking involves state changes like melting and evaporation.
- Insulation uses materials that reduce heat loss.
- Engineers use knowledge of materials and their properties in design.