# Year 3 Knowledge Organiser: Animals Including Humans

## Key Vocabulary

| Term | Definition |
|---|---|
| Nutrition | The process of getting the food needed for health and growth |
| Food | What animals and people eat to survive |
| Water | A liquid all living things need to stay alive |
| Air | The invisible gas around us that we breathe |
| Healthy | Being well and not sick |
| Nutrient | A substance that gives the body what it needs to grow and work well |
| Carbohydrate | A nutrient that gives energy |
| Protein | A nutrient that helps the body grow and repair |
| Fat | A nutrient that stores energy |
| Vitamin | A nutrient that helps keep the body healthy |
| Balanced diet | Eating the right amount of different foods |
| Portion | The amount of food served |
| Food group | A category of foods with similar nutrients |
| Plate | A tool to show food group balance (e.g. Eatwell Plate) |
| Meal | Food eaten at one time (e.g. lunch, |

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| | dinner) |
| **Herbivore** | An animal that eats only plants |
| **Carnivore** | An animal that eats only meat |
| **Omnivore** | An animal that eats both plants and meat |
| **Energy** | The power we get from food to move and grow |
| **Consume** | To eat or drink |
| **Skeleton** | The framework of bones in a body |
| **Support** | To hold up or carry the weight of something |
| **Protect** | To keep safe from harm |
| **Bones** | The hard parts that make up the skeleton |
| **Structure** | The way parts are arranged or built |
| **Muscle** | A tissue that can contract to produce movement |
| **Movement** | The act of changing position or place |
| **Joint** | Where two bones meet and allow movement |
| **Contract** | To become shorter or tighter |
| **Relax** | To become longer or looser |
| **Endoskeleton** | A skeleton found inside the body |
| **Exoskeleton** | A skeleton found outside the body |
| **Compare** | To look at how things are similar or different |

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| **Animal** | A living creature that is not a plant |
| **Function** | The job something does |
| **Hinge** | A joint that moves like a door |
| **Growth** | The process of becoming bigger or more mature |
| **Balance** | Having the right amount of different things |
| **System** | A group of parts working together |
| **Body** | The physical structure of a person or animal |
| **Health** | The condition of being well and free from illness |
| **Job** | A task or work someone does |

## Big Questions

- What do animals and humans need to stay healthy?
- What is a balanced diet and why is it important?
- How do bones and muscles help our bodies move?
- What types of skeletons do different animals have?
- How do the parts of our body work together to help us move and stay strong?

## Sticky Knowledge

- Animals need food, water, and air to survive.
- There are different types of nutrients that help our bodies grow and stay healthy.
- A balanced diet includes foods from all the food groups.

- Skeletons support the body and protect important organs.
- Muscles work with bones and joints to help us move.
- Some animals have skeletons inside, some outside, and others have none.

## Working Scientifically

- Sort and classify food types and skeletons.
- Label diagrams of skeletons and muscles.
- Build and test models that show movement.
- Plan and explain how the body gets nutrients and moves.
- Use observations to support ideas about the body.

## Real-World Links

- Doctors and nutritionists help people stay healthy.
- Athletes train to strengthen muscles and bones.
- Chefs plan balanced meals for health.
- Scientists study the body to understand how it works and how to care for it.

# Year 3 Knowledge Organiser: Forces and Magnets

## Key Vocabulary

| Term | Definition |
|---|---|
| Force | A push or pull on an object |
| Push | To move something away using force |
| Pull | To move something closer using force |
| Friction | A force that slows movement between surfaces |
| Surface | The outer layer of something |
| Rough | Having an uneven surface |
| Smooth | Having an even surface |
| Movement | The act of changing position |
| Resist | To slow down or stop movement |
| Contact | Touching between objects |
| Magnetic | Able to be attracted to a magnet |
| Distance | The space between objects |
| Attract | To pull objects toward each other |
| Repel | To push objects away from each other |
| Magnet | An object that produces a magnetic field |
| Material | What something is made from |
| Metal | A type of material often attracted to magnets |

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| **Test** | A way to find something out by trying it |
| **Non-magnetic** | Not attracted to a magnet |
| **Group** | To put things together by shared features |
| **Interact** | To act upon each other |
| **Pole** | The ends of a magnet (north and south) |
| **North** | One end of a magnet that points north |
| **South** | The other end of a magnet |
| **Label** | To name or describe |
| **Predict** | To say what you think will happen |
| **Opposite** | Completely different or facing |
| **Same** | Exactly alike |
| **Investigation** | A scientific study to discover something |
| **Fair test** | An experiment where only one factor is changed |
| **Data** | Information gathered from tests |
| **Result** | What happened in the experiment |
| **Strength** | How strong something is |
| **Glossary** | A list of words and definitions |
| **Compass** | A tool using a magnet to show direction |
| **Magnetism** | The force magnets use to attract or repel |

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| **Application** | How something is used in real life |
| **Real-world** | Part of everyday life |

## Big Questions

- What are forces and how do they affect movement?
- How do surfaces affect how things move?
- What are magnets and how do they work?
- Which materials are magnetic and which are not?
- How do magnets interact with each other?

## Sticky Knowledge

- A force is a push or pull and can make things start, stop, or change direction.
- Friction is a force that slows things down when surfaces rub together.
- Magnets can attract some metals and work without touching.
- Magnets have poles—opposites attract and like poles repel.
- We can test magnet strength and use them in many real-world tools.

## Working Scientifically

- Plan and carry out fair tests with magnets and surfaces.
- Record results in tables and charts.
- Use predictions and draw conclusions from investigations.
- Classify materials as magnetic or non-magnetic.
- Build glossaries and explain findings with diagrams.

## Real-World Links

- Magnets are used in compasses, fridge doors, and trains.
- Friction helps stop cars and bikes safely.
- Scientists and engineers use magnetism in technology.
- Understanding forces helps in sports and building design.

# Year 3 Knowledge Organiser: Light

## Key Vocabulary

| Term | Definition |
|---|---|
| Light | A form of energy that helps us see |
| Dark | The absence of light |
| See | To use your eyes to notice things |
| Source | Where light comes from |
| Reflect | To bounce light off a surface |
| Absence | Something that is missing or not present |
| Vision | The ability to see |
| Shadow | A dark shape made when something blocks light |
| Beam | A line of light |
| Surface | The top layer of something |
| Shiny | Smooth and bright surface that reflects light |
| Mirror | A surface that reflects a clear image |
| Bounce | To spring back after hitting a surface |
| Reflection | Light bouncing off a surface |
| Safety | Being protected from harm |
| Visibility | How clearly something can be seen |
| Sun | The star that gives light to the Earth |

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| **Natural** | Found in nature and not made by people |
| **Damage** | Harm or injury |
| **Protection** | Keeping something safe |
| **UV** | Invisible rays from the Sun that can harm skin and eyes |
| **Sunglasses** | Eyewear that protects eyes from bright light |
| **Protect** | To keep safe |
| **Glare** | Bright and harsh light that makes it hard to see |
| **Brightness** | How much light there is |
| **Opaque** | An object that does not let light through |
| **Light source** | An object that gives off light |
| **Block** | To stop something from passing through |
| **Shape** | The form of an object |
| **Size** | How big or small something is |
| **Distance** | How far apart things are |
| **Investigate** | To look into something carefully |
| **Pattern** | A repeated or regular design or sequence |
| **Fair test** | An experiment where only one thing is changed |
| **Record** | To write down or keep track of |
| **Variable** | Something that can be changed in a test |

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| **Chart** | A visual way to show data |
| **Fact sheet** | A page with key information about a topic |
| **Technology** | The use of science to make things work |

## Big Questions

- Why do we need light to see?
- What is the difference between light and dark?
- How does light reflect off surfaces?
- How are shadows formed and how do they change?
- What are safe ways to protect our eyes from the Sun?

## Sticky Knowledge

- We need light to see things. Darkness is the absence of light.
- Light reflects off shiny surfaces like mirrors.
- Shadows are made when something blocks light.
- The size and shape of a shadow depends on the distance from the light source.
- The Sun is a natural light source and its rays can be harmful if we don't protect our eyes.

## Working Scientifically

- Observe how light helps us see and how shadows form.
- Investigate reflective surfaces and measure shadow size.
- Plan and carry out fair tests using light sources and materials.
- Record results using charts and diagrams.

- Use observations to explain patterns in light and shadow behaviour.

## Real-World Links

- Understanding how light is used in torches, road signs, and mirrors.
- Protecting eyes from the Sun with sunglasses and hats.
- Using light in technology like cameras and projectors.
- Using reflectors and high-visibility gear for safety.

# Year 3 Knowledge Organiser: Plants

## Key Vocabulary

| Term | Definition |
|---|---|
| Root | The part of a plant that holds it in the ground and absorbs water and nutrients |
| Stem | The part of the plant that supports it and transports water and nutrients |
| Leaf | The part of the plant where photosynthesis happens |
| Flower | The part of the plant used for reproduction |
| Function | The job something does |
| Anchor | To hold something in place |
| Support | To hold up or bear weight |
| Absorb | To soak up |
| Photosynthesis | The process plants use to make food using sunlight |
| Transport | To move things from one place to another |
| Light | A requirement for plants to make food |
| Water | A liquid that plants need to live |
| Air | The invisible gas we breathe, which plants also need |
| Nutrient | A substance that helps plants grow |

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|---|---|
| **Variable** | Something that can change in an experiment |
| **Growth** | The process of increasing in size |
| **Comparison** | Finding similarities and differences |
| **Conditions** | The environment in which something lives or grows |
| **Requirement** | Something needed |
| **Result** | What happened in an investigation |
| **Transport** | The movement of water and nutrients in plants |
| **Veins** | Tubes in the leaf that transport water and food |
| **Movement** | Change of position or place |
| **Root hair** | Tiny hairs on roots that absorb water |
| **Soak** | To take in liquid |
| **Uptake** | Absorbing something into a system |
| **Petal** | The colorful part of a flower that attracts pollinators |
| **Stigma** | The part of the flower that receives pollen |
| **Stamen** | The male part of the flower that produces pollen |
| **Pollen** | The powder made by the male part of a flower |
| **Ovary** | The part of the flower that contains eggs and becomes fruit |
| **Pollinate** | To carry pollen to the stigma |

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| **Fertilise** | To join pollen with an egg to make a seed |
| **Seed** | What grows into a new plant |
| **Reproduce** | To make new living things |
| **Disperse** | To spread out |
| **Wind** | Air in motion that can carry seeds |
| **Animal** | A living creature that can help spread seeds |
| **Explosion** | A forceful spreading of seeds |
| **Water** | Can carry seeds to new places |
| **Observe** | To look carefully |
| **Data** | Information collected during an investigation |
| **Measure** | To find the size or amount of something |
| **Chart** | A way to show data visually |
| **Conclusion** | What you learn from your results |
| **Crop** | A plant grown for food |
| **Herb** | A plant used for flavour or medicine |
| **Fibre** | Material from plants used to make cloth |
| **Habitat** | The place where a plant or animal lives |
| **Environment** | The natural world around us |

## Big Questions

- What are the parts of a plant and what do they do?
- What do plants need to grow well?
- How do water and nutrients move through a plant?
- How do flowers help plants reproduce?
- How are seeds dispersed in nature?

## Sticky Knowledge

- Plants have roots, stems, leaves, and flowers, each with a different job.
- Plants need light, water, air, nutrients, and space to grow.
- Water travels through the plant from the roots via the stem and veins.
- Flowers are important for pollination, fertilisation, and making seeds.
- Seeds can be spread by wind, water, animals, or explosions.

## Working Scientifically

- Observe and record how plants grow over time.
- Set up fair tests to explore what plants need to grow.
- Draw and label diagrams of plant parts and functions.
- Use tables and charts to present data from experiments.
- Explain findings and make conclusions based on evidence.

## Real-World Links

- Understanding how to grow crops for food.
- Using herbs in cooking and medicine.
- Using plant fibres to make clothes and materials.
- Caring for plants in gardens, parks, and wild habitats.

# Year 3 Knowledge Organiser: Rocks

## Key Vocabulary

| Term | Definition |
|---|---|
| Igneous | Rock formed from cooled lava or magma |
| Sedimentary | Rock formed from layers of mud, sand, and small stones |
| Metamorphic | Rock formed from other rocks changed by heat or pressure |
| Rock | A solid natural substance made from minerals |
| Type | A kind or category of something |
| Hardness | How easily a rock can be scratched |
| Texture | How a rock feels or looks on its surface |
| Property | A characteristic of a material |
| Appearance | What something looks like |
| Compare | To find similarities and differences |
| Fossil | The remains or impression of a prehistoric organism |
| Organism | A living thing |
| Sediment | Small pieces of rock or plant/animal material |
| Preserved | Kept in good condition over time |
| Layers | Thin levels of material stacked on each other |
| Palaeontologist | A scientist who studies fossils |

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| **Ancient** | Very old; from a long time ago |
| **Evidence** | Information that helps explain or prove something |
| **Remains** | What is left of something after time has passed |
| **Discovery** | Finding something that was not known before |
| **Soil** | A mixture of rock particles, organic matter, air, and water |
| **Organic matter** | Decayed plants and animals in soil |
| **Particles** | Tiny pieces of something |
| **Clay** | A fine-grained natural soil material |
| **Sand** | Small loose grains of rock |
| **Silt** | Fine soil found in rivers |
| **Humus** | Decayed organic matter in soil |
| **Settle** | To sink to the bottom of a liquid |
| **Investigate** | To look closely and find out about something |
| **Sample** | A small part used to represent the whole |
| **Fair test** | An experiment where only one thing changes |
| **Result** | What happened in an investigation |
| **Conclusion** | What we learn from the results |
| **Observe** | To watch carefully |
| **Environment** | The natural world around us |
| **Material** | What something is made from |

| | |
|---|---|
| **Natural** | Found in nature, not made by people |
| **Record** | To write or draw information |
| **Formation** | How something is made or formed |
| **Granite** | A hard igneous rock |
| **Chalk** | A soft white sedimentary rock |
| **Marble** | A smooth metamorphic rock used in buildings |
| **Sandstone** | A sedimentary rock made of sand-sized particles |
| **Limestone** | A sedimentary rock often formed from sea creatures |

## Big Questions

- What are the three main types of rocks and how are they formed?
- What are fossils and how do they tell us about the past?
- What is soil made of and how can we test it?
- How can we compare rocks and their properties?
- Where do we see rocks used in everyday life?

## Sticky Knowledge

- There are three types of rocks: igneous, sedimentary, and metamorphic.
- Fossils are formed when dead organisms are preserved in sedimentary rocks.
- Soil is made from broken rocks, decayed plants and animals, air, and water.
- Rocks can be tested and sorted by properties like hardness and texture.
- We use different rocks for buildings, statues, and everyday materials.

## Working Scientifically

- Test rock properties like hardness and permeability.
- Observe and record changes in soil and rock investigations.
- Plan and carry out fair tests using rock samples.
- Use data to draw conclusions about rocks, soils, and fossils.
- Compare and classify rocks based on observations.

## Real-World Links

- Understanding how rocks are used in buildings and roads.
- Recognising fossils in museums and what they teach us about history.
- Knowing how soil is important for growing food.
- Appreciating the natural materials used in our local environment.