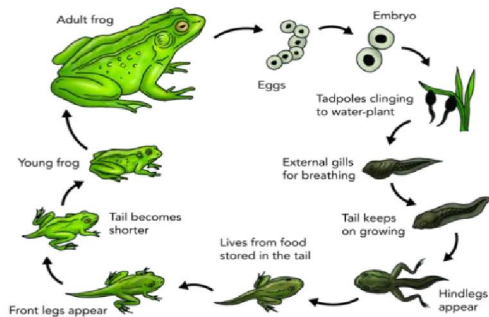




Key Ideas

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



- Flowering plants reproduce sexually when male and female parts make seeds.
- Some plants reproduce asexually when a small part splits off to grow in its own.
- All animals grow from eggs made inside a female.
- When an egg joins with a sperm from a male, it can grow into a new animal.
- Some baby animals are a lot like their parents.
- Some baby animals look completely different to their parents.
- Boys and girls grow to their full sizes and different rates.
- As teenagers grow up bodies change so they are ready to reproduce.

Important things to know/find out

- Animals can be grouped into **vertebrates** (and then further into fish, reptiles, amphibians, birds and mammals) and **invertebrates**
- Some examples of **life cycles** (including those of **plants**)
- The processes of **dispersal**, **fertilisation** and **germination**
- **Reproduction** is one of the seven life processes.
- Parts of a **plant**, their features and what their **functions** are.
- Flowers can be male and female, or both at once.
- A **seed** is formed when pollen (male) fertilises the ovum (female)

Vocabulary

- Pollination
- Fertilisation
- Petal
- Sepal
- Anther
- Ovary
- Sexual reproduction
- Asexual reproduction
- Reproduction
- Fertilisation
- Sperm
- Development
- Metamorphosis
- Puberty
- Adolescence

Questions to consider

How do flowers make seeds?

Do all plants reproduce in the same way?

How do animals reproduce?

How do the life cycles of different animals vary?

How do humans grow up?

Aldbrough Primary School

Topic: Properties and Change of Materials

Year:5

Strand:Science



Key Ideas

- 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.

Important things to know/find out

- Some rocks are hard and some are soft.

- You can do a scratch test to find out how hard rocks are.
- You can easily test materials to see if they are magnetic.
- Electric conductors allow electricity to flow easily through them.
- Electric insulators do not allow electricity to flow through them.
- Heat insulators keep things hot or cold.
- Materials that are NOT metals are usually good heat insulators.
- Mixing materials can be reversed in other ways
- Heating and cooling reverse changes of state.
- Some changes result in new materials being formed.
- These changes are usually reversible.
- Sieves can separate mixtures of solids with different sized particles.
- Filter papers can separate solid particles from water.
- Solids can be recovered once they have dissolved in water, it can be reversed.
- Materials have many different properties which help decide which material is best for a particular job.
- Mixing some materials together can produce new materials.
- Chemical reactions can make new materials.

Vocabulary

- State of matter
- Reversible
- Irreversible
- Mixture
- Filter paper
- Sieve

Questions to consider

- Are some rocks harder than others?

- How can magnets be used to group materials?
- What materials will let electricity flow?
- What is the best heat insulator to use?
- Can some changes be reversed?
- What changes are irreversible?
- How well does sugar dissolve?
- How can you get sugar back once it has dissolved?

Aldborough Primary School

Topic: Earth and Space

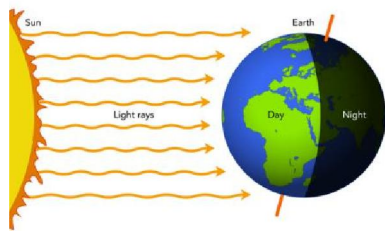
Year:5

Strand:Science



Key Ideas

- 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.



-

Important things to know/find out

- We have four seasons (Winter, Spring, Summer, Autumn)
- The sun is a source of light but the moon isn't.
- Know that a shadow is caused when light is blocked by an opaque object.
- What causes day and night?
- The Earth **rotates** on its **axis** anti-clockwise and makes a complete **rotation** over 24 hours (a day).

- This makes it appear as the Sun moves through the sky but the Earth's **rotation** causes day and night.
- Different parts of the Earth experience daylight at different times - this means that it is morning, afternoon and night in different places. This is also the reason why we have **time zones**.
- Because of the Earth's tilt, the poles experience 24 hours of sunlight in the summer, and very few hours of sunlight in the winter.
- As the Earth **rotates**, **shadows** that are formed change in size and orientation.



- The Sun is at the centre of our solar system
- Eight large planets and one dwarf planet orbit the Sun.
- The Earth's year is not exactly 365 days.
- The moon orbits the Earth about once a month.
- The shape of the moon appears to change shape as it goes around the orbit.

- The Earth was once thought to be at the centre of the universe.
- Copernicus did not agree with the geocentric model.
- Galileo used a telescope to prove Copernicus's model was a good one.

Vocabulary

Orbit, year, Gibbous moon, crescent moon, Earth's axis, Greenwich Mean Time (GMT)

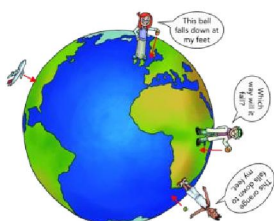
Questions to consider

- What was Ptolemy's big idea?
- What was Copernicus's big idea?



Key Ideas

- 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.



- Weight is the way scientists measure the force of gravity.
- Air resistance is a drag force that slows things down.
- Water resistance is another drag force that slows things down.
- Friction is a force that happens when two materials rub against each other.
- Both high and low friction can be useful.
- Levers and gears can magnify a force or make something move further.
- They are all examples of simple machines that make our lives easier.



Important things to know/find out

- At the age of 23 Isaac Newton realised that gravity is a force.
- Scientists are still finding out about what causes gravity to this day.
- A force called gravity pulls objects towards the centre of the Earth.

Vocabulary

Force, gravity, weight, drag, streamlined, friction,

Questions to consider

What was Sir Isacc Newton's big idea?
 What is weight?
 What effect can drag forces have?

Aldborough Primary School



Topic:

Year:1

Strand:Science

Key Ideas

Vocabulary

**Important things to know/find
out**

Questions to consider