



St White's Primary School - Science



Phase: UKS2

Topic: Animals including humans A

What should I already know?

- Animals can be grouped into **vertebrates** (and then further into fish, reptiles, amphibians, birds and **mammals**).
- A life cycle is the changes that a plant or animal goes through from birth to death.
- Reproduction** and **growth** are two of the seven life processes.

Reproduction

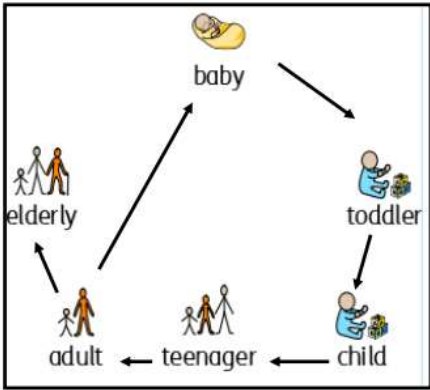
- New life starts because of reproduction.
- Sexual reproduction relies on two parents and male sex cells (sperm) fertilise female sex cells (eggs). This fusion means that the offspring resembles but is not identical to the parents. Examples include rose, seahorse, salmon and seal.
- Asexual reproduction only needs one parent to start new life. A cell starts to divide itself. All the cells are identical to the parent. Examples include bacteria, fungi, stick insect and aphid.

Gestation periods

- A gestation period is the amount of time a mammal spends in its mother's womb.
- Gestation periods are different for different mammals.

What is puberty?

- Puberty is the change that happens in late childhood and adolescence when the body starts to change because of hormones.
- Some changes include growth in height, more sweat, hair growth on arms and legs and on genitals, and growth in parts of the body such as male genitals and breasts.
- Females begin to menstruate.



Values	
Challenge	I can consider the challenges we face at each stage of our life
Commit	I can commit to learning about other people
Conquer	I can conquer the challenges of drawing a graph
Celebrate	I can celebrate life cycles

Technical vocabulary

adolescence	the period of your life in which you develop from being a child into being an adult
adulthood	the state of being an adult
development	the gradual growth or formation of something
foetus	an animal or human being in its later stages of development before it is born
genitals	the reproductive organs
gestation	the process in which babies grow inside their mother's body before they are born
growth	an increase in something
hormones	a chemical, usually occurring naturally in your body, that makes an organ of your body do something
infancy	the period of your life when you are a very young child
life processes	there are seven processes that tell us that living things are alive
mature	when a child or young adult matures, they become an adult
menstruation	the approximately monthly discharge of blood of non-pregnant women from puberty to menopause (when a woman gradually stops menstruating)
offspring	a person's children or an animal's young
puberty	the stage in someone's life when their body starts to become physically mature
reproduction	when an animal or plant produces one or more individuals similar to itself
toddler	a young child who has only just learned to walk

Main stages of the human life cycle

foetus	new born	Infancy	childhood	adolescence	Early adulthood	Middle adulthood	Late adulthood
an unborn animal or human being in the very early stages of development	this is a baby that has just been born	this is a period of rapid change. Many toddlers learn to walk and talk at this stage.	children learn new things as they grow. They become more independent.	this is when the body starts to change and prepare itself for adulthood. Hormonal changes take place over a few years. This is also known as puberty.	this is when humans are usually at their fittest and strongest.	changes such as hair loss may happen. There are also some hormonal changes again and the ability to reproduce decreases.	there is a decline in fitness and strength.

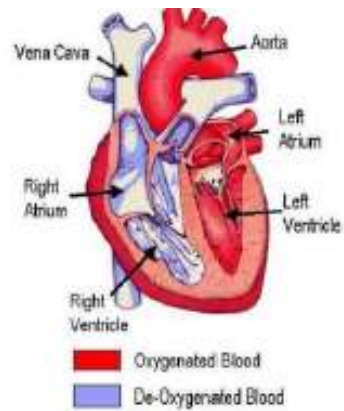


What should I already know?

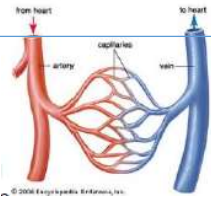
- The basic needs of animals for survival (water, food, air)
- The importance of exercise, hygiene and a balanced diet.
- Animals get nutrition from what they eat.
- Some animals have skeletons for support, protection and movement.
- The basic parts of the digestive system.

Healthy bodies

- Diet, exercise and drugs can all affect how are bodies work.
- Some choices such as smoking and drinking alcohol can be harmful to our health.
- Smoking can cause shortness of breath and heart/lung disease.
- Too much alcohol can damage the liver, heart and stomach.



- Arteries carry oxygenated blood from the heart to the rest of the body.
- Veins carry deoxygenated blood from the body to the heart.
- Nutrients, oxygen and carbon dioxide are exchanged via the capillaries.



Heart

- The circulatory system is made of the heart, lungs and the blood vessels.
- The heart is composed of four chambers; the right atrium, the right ventricle, the left atrium and the left ventricle.
- How often your heart pumps is called your pulse.

Nutrients and water

- The circulatory system transports nutrients and water in the blood to all the parts of the body that need them.
- These nutrients provide us with energy.
- Enzymes break down nutrients so that they can be absorbed into the blood stream.

Values

Challenge	I know that exercising and eating healthily is a challenge that must be overcome.
Commit	I know that we must commit to only putting good substances into our bodies.
Conquer	I know that the heart keeps beating even when we aren't thinking about it.
Celebrate	I know that we can celebrate keeping our bodies healthy.

Why is exercise so important?

- Exercise can
- Increase the number of capillaries in the muscles.
 - Strengthens the heart and muscles
 - Stimulates and releases brain chemicals.
 - Increase your stamina and fitness.
 - Strengthens the bones.

Technical vocabulary

aorta	the main artery through which blood leaves your heart before it flows through the rest of your body
atrium	one of the chambers in the heart
blood vessels	the narrow tubes through which your blood flows. Arteries, veins and capillaries are blood vessels.
capillaries	tiny blood vessels in your body
carbon dioxide	a gas produced by animals and people breathing out
circulatory system	the system responsible for circulating blood through the body, that supplies nutrients and oxygen to the body and removes waste products such as carbon dioxide.
deoxygenated	blood that does not contain oxygen
heart	the organ in your chest that pumps the blood around your body
lungs	two organs inside your chest which fill with air when you breathe in. They oxygenate the blood and remove carbon dioxide from it.
nutrients	substances that help plants and animals to grow
organ	a part of your body that has a particular purpose
oxygen	a colourless gas that plants and animals need to survive
oxygenated	blood that contains oxygen
pulse	the regular beating of blood through your body. How fast or slow your pulse is depends on the activity you are doing.
respiration	process of respiring; breathing ; inhaling and exhaling air.
vena cava	a large vein through which deoxygenated blood reaches your heart from the body
ventricle	one of the chambers in the heart
via	through

The circulatory system

The heart pumps blood in the blood vessels to the lungs where oxygen goes into the blood and carbon dioxide is removed.	The blood goes back to the heart.	It is then pumped around the body so that water, nutrients and oxygen are transported in the blood to the muscles and all the other parts of the body where they are needed. As all these are used, they produce carbon dioxide and other waste products.	Carbon dioxide is carried by the blood in blood vessels back to the heart	The cycle starts again as the carbon dioxide is then transported back to the lungs to be removed from the body
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