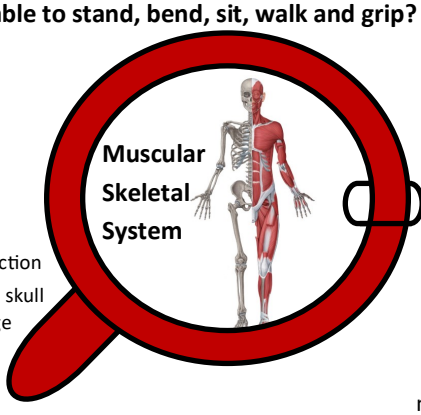
# Strand Junior School: Science Progression Model

## Biology: living things

**How are humans able to stand, bend, sit, walk and grip?**

**How does each part of a plant function to support life?**

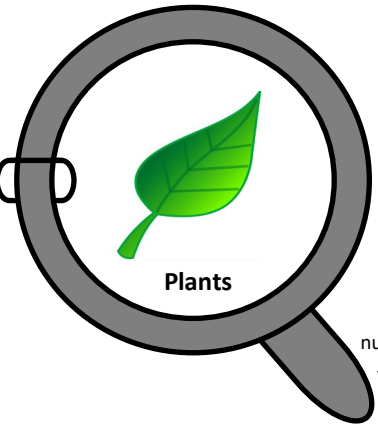
### Y3




tendon protection bone joint skull muscle spine ribcage food group support diet exercise vitamins

What do living things have in common? How do they function to stay healthy ?

structure function movement nutrition growth



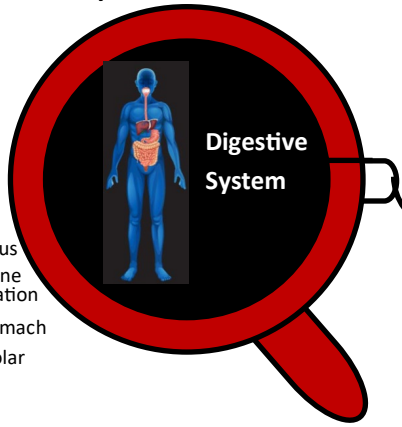

roots stem seed vein trunk conditions pollination formation nutrients dispersal flowers germination

**What does the human body do with food?**

**How can we group living things?**

**In what ways do environments support or threaten life?**

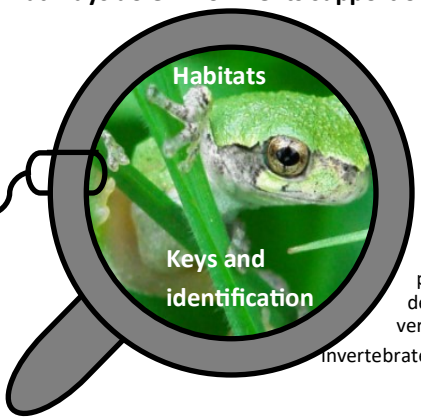
### Y4




absorb oesophagus large intestine small intestine hydration excrete fibre stomach canine incisor molar

How do food chains connect communities of living things?

variation interdependence

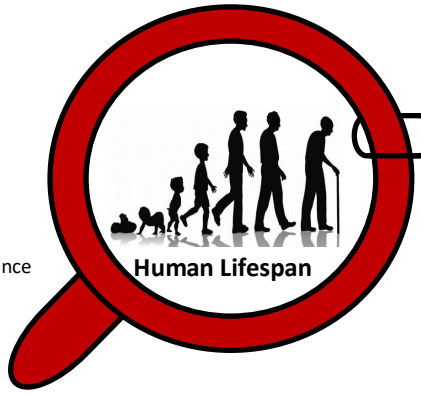



vary feeding relationship prey consumer predator producer decision tree shelter vertebrate herbivore invertebrate omnivore carnivore

**How do human beings grow, change and reproduce?**

**How does the production of offspring vary among animals and plants?**

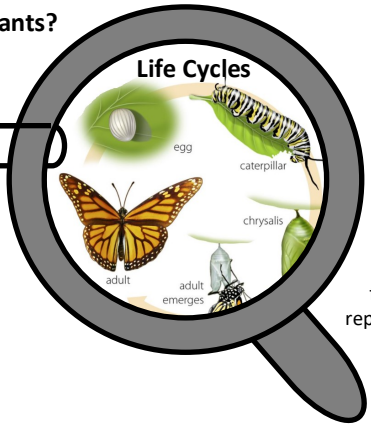
### Y5




offspring adolescence ageing adulthood development physical maturity

In what ways are life cycles similar and different?

reproduction life process

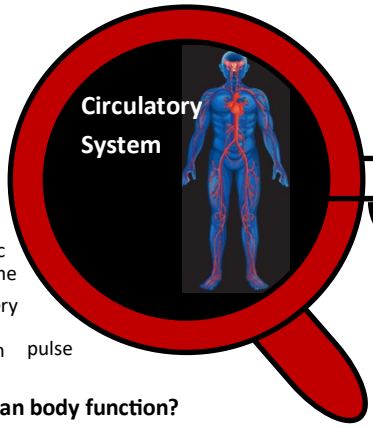



fertilisation flowering plants reptile live young amphibian gestation mammal

**Why do we need to look after our hearts and adopt a healthy lifestyle?**

**How has life on Earth changed over time?**

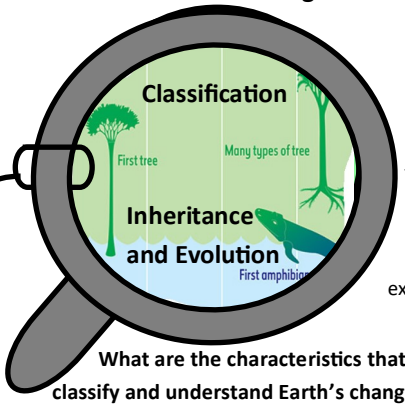
### Y6




blood vessel cardiac heart rate health outcome vein capillary artery risks harm benefit valve respiration pulse

Why do some individuals, populations and species thrive and survive better than others?

inherited characteristic adaptation evolution life expectancy




microorganism fossil record endangered evolve common ancestor family ecology extinct taxonomy

**How does the human body function?**

**What are the characteristics that enable us to classify and understand Earth's changing biodiversity?**

# How do living things thrive and survive?

# Physics: physical processes

## Force and Motion

**Magnetism and Friction**

pole attract repel

slide grip surface

When and why can you feel the force — how do contact and non-contact forces compare?

## Energy

**Light**

sunburn source translucent opaque transparent reflect shiny

What is the difference between light, reflection shadow and darkness?

**Y3**

How can we safely use electricity to light a lamp or sound a buzzer?

**Electricity**

circuit switch loop

vibration pitch volume

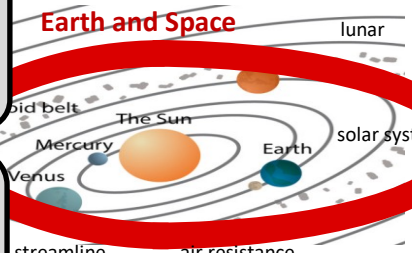
**Sound**

Where do noise and music come from and how do they travel to our ears?

**Y4**

Why is it both true and untrue to say that the sun rises in the east and the moon changes shape?

**Earth and Space**




How can forces describe the motion and interaction of objects in air, in water, on land and in space?

streamline air resistance

**Resistance**

**Y5**

lever pulley gear

**Mechanisms**

How can we lighten the load?

diagram ray model incident ray straight line

**Light**

Is it possible to see round corners? How does the way light travels explain what we can and can't see?

**Y6**

**Electricity**

energy-saving voltage electron incandescent current component symbol

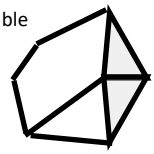
If we manipulate the components in a circuit, how does it change the way they function?

**How do forces, objects and familiar forms of energy behave and interact?**

# Chemistry: material properties

Are all rocks the same? Why are rocks, soil and fossils all so valuable?

property impermeable hardness type formation crystal grain sedimentary



**Y3**

**Rocks, Fossils and Soil**

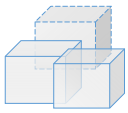
**States of Matter**

solid liquid gas

melt solidify condensation temperature evaporation

**Y4**

How does water exist in different states?

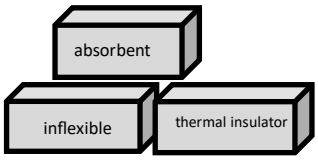


conductor insulator magnetic transparent

**Using and Changing Materials**

How do material properties determine their use?

**Y5**




irreversible reversible

recover solution dissolve separate filter chemical change

solubility

If we mix or change materials, what happens and is it permanent?

**How can we classify, use and change materials?**

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