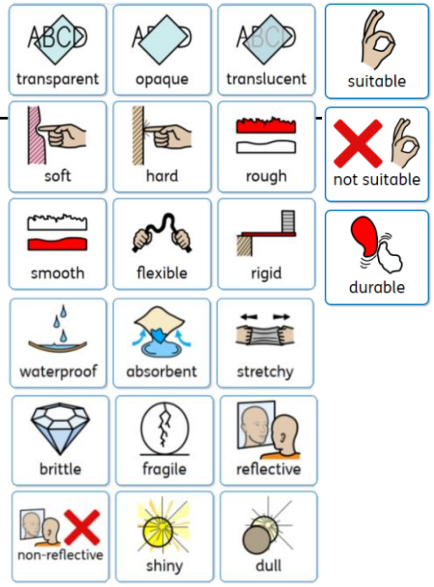
MATERIALS (rocks, soils & fossils) – Autumn 1 YEAR 3

Year 1

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Year 2

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.



Year 3

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock.
- Recognise that soils are made from rocks and organic matter.

Year 4

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

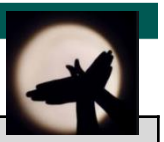
degree Celsius
interval
model
scale
variable
volume
boil
boiling point
bubble
carbon dioxide
change of state
cloud
compress
Condense
condensation
Evaporate
evaporation
expand
freeze
freezing point
gas
granular
heat-sensitive
helium
ice
liquid
melt
melting point
oxygen
powder
rain
snow
sold
solidify
steam
viscous
water vapour

Year 5

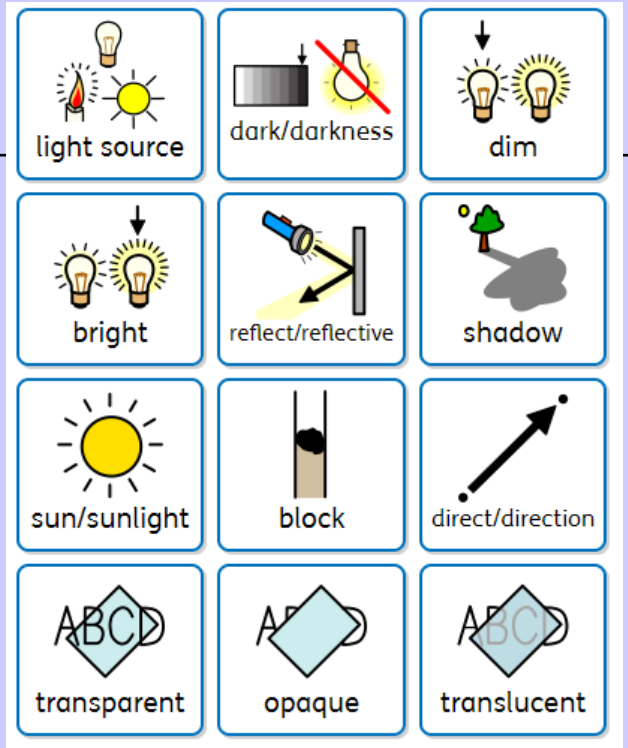
Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. • Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance 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.

brittle
ductile
fragile
impermeable
malleable
permeable
thermal conductor
thermal insulator
viscosity
compost
decompose
durable
elasticity
electrical conductor
electrical insulator
soluble
insoluble
magnetic / non-magnetic
reversible
irreversible

LIGHT - Autumn 2 YEAR 3



Year 3	Year 6
• Recognise that they need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces. • • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • Recognise that shadows are formed when the light from a light source is blocked by an opaque object. • Find patterns in the way that the size of shadows change.	• Recognise that light appears to travel in straight lines. • Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye. • Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.



conclude/conclusion
comparative
data
data logger
evidence
explain/explanation
identifying and classifying
measure/measurement
observe/observation
pattern
predict/prediction

light source
dark/darkness
dim
bright
reflect/reflective
shadow
sun/sunlight
block
direct/ direction
transparent
opaque
translucent
absorb

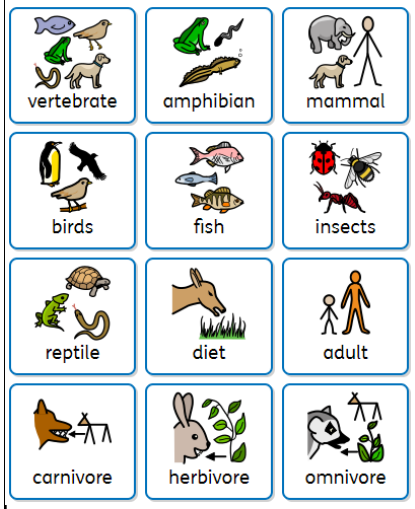
FORCES – Spring 1 YEAR 3

Year 2	Year 3		Year 5	
• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)	• Compare how things move on different surfaces. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract or repel each other and attract some materials and not others. • Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. • Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing		• 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.	
	force push/pushing pull/pulling contact force non contact force magnetic force magnet strength bar magnet ring magnet button magnet horseshoe magnet attract repel magnetic material	non magnetic material poles north pole south pole pendulum slide smooth surface texture	fall earth gravity air resistance water resistance friction moving surfaces mechanisms magnetism oppose pivot pulley levers pulleys gears force transfers load	weight mass newton water resistance

YEAR 3, ANIMALS INCLUDING HUMANS (movement & nutrition) – Spring 2

Year 1

- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).
- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

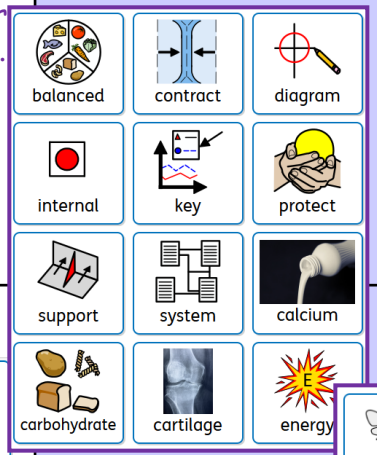


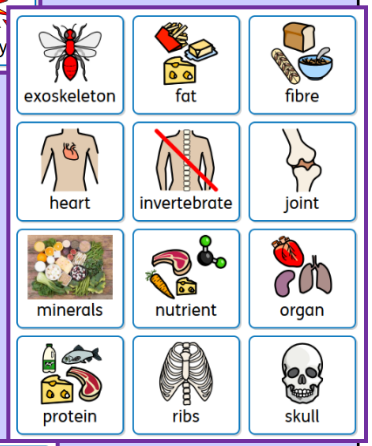
Year 2

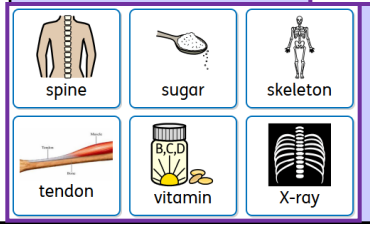
- Notice that animals, including humans, have offspring which grow into adults.
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Year 3

- **Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.**
- **Identify that humans and some other animals have skeletons and muscles for support, protection and movement.**







Year 4/5/6

Y4

Describe the simple functions of the basic parts of the digestive system in humans.

- Identify the different types of teeth in humans and their simple functions.
- Construct and interpret a variety of food chains, identifying producers, predators and prey.

Y5

- Describe the changes as humans develop to old age.
- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats)
- Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)

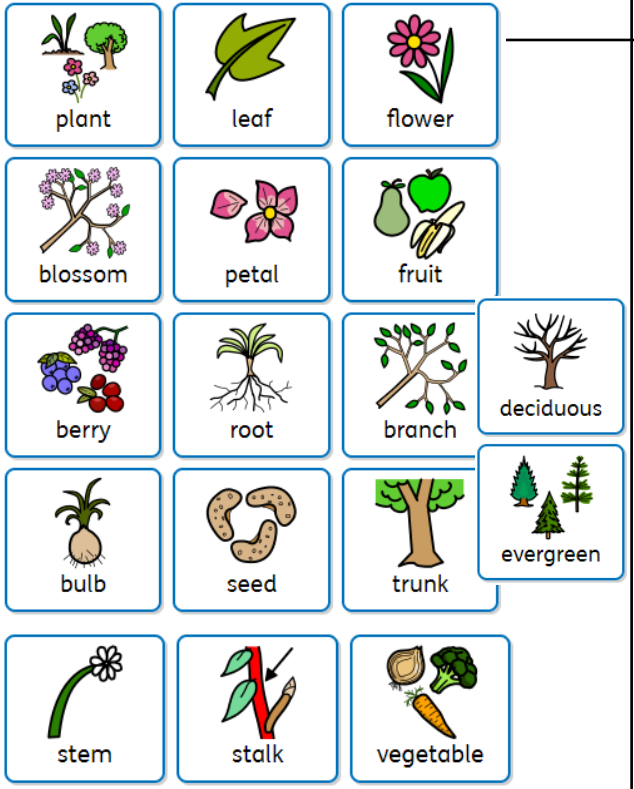
Y6

- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
- Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.
- Describe the ways in which nutrients and water are transported within animals, including humans.
- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. (Y6 - Living things and their habitats)
- Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)

Plants YEAR 3 (flowering plants & plant growth) – Summer 1 & 2

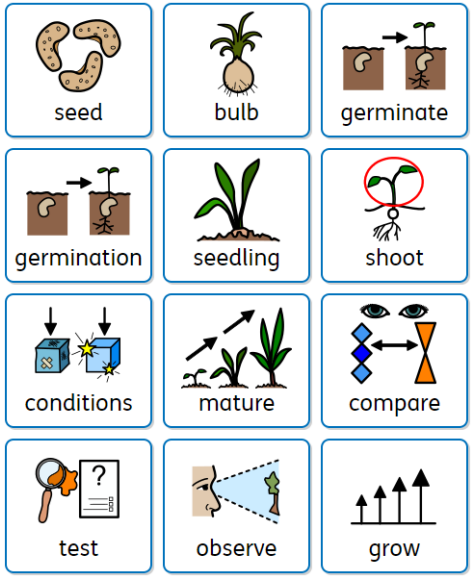
Year 1

- identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen
- identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.



Year 2

- observe and describe how seeds and bulbs grow into mature plants
- find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.



Year 3

- identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers
- explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- investigate the way in which water is transported within plants
- explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.