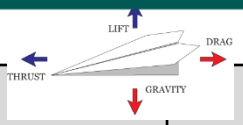
FORCES – Autumn 1 YEAR 5



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

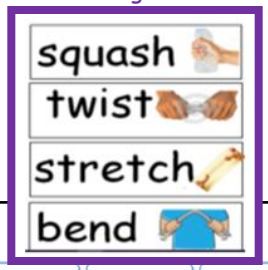
MATERIALS (properties and uses) Autumn 2, YEAR 5

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.
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance.

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.**
- **Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.**

construction
design
disassemble
dispose
flow
invent/invention
leak
pour
structure

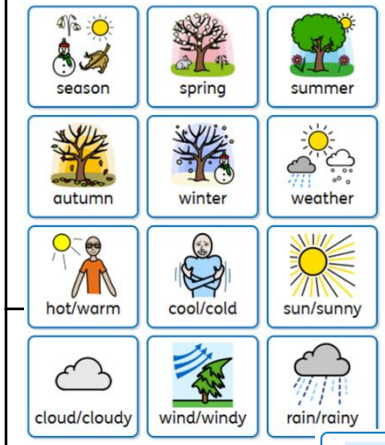
brittle
ductile
fragile
impermeable
malleable
permeable
thermal conductor
thermal insulator
compost
decompose
durable
elasticity

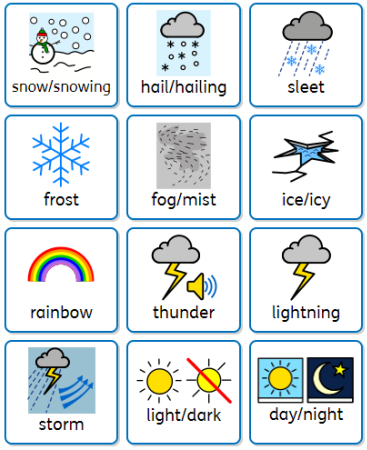
electrical conductor
electrical insulator
magnetic / non-magnetic

EARTH & SPACE- YEAR 5 – Spring 1

Year 1

- Observe changes across the four seasons. (Y1 - Seasonal changes)
- Observe and describe weather associated with the seasons and how day length varies. (Y1 - Seasonal changes





Year 5

- 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.

dawn
diameter
dusk
horozon
midday
spherical
sunrise
sunset
axis
moon
orbit
planet
rotate
solar system

star
year
dark/darkness
light
light source
opaque
shadow
sun

KS3

- Gravity force, weight = mass x gravitational field strength (g), on Earth g=10 N/kg, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun (qualitative only)
- Our Sun as a star, other stars in our galaxy, other galaxies.
- The seasons and the Earth's tilt, day length at different times of year, in different hemispheres.
- The light year as a unit of astronomical distance.

Living Things & Their Habitats (plant & animal lifecycles) – Spring 2 YEAR 5

Year 2	Year 4	Year 5	Year 6
• Explore and compare the differences between things that are living, dead, and things that have never been alive. • Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. • Identify and name a variety of plants and animals in their habitats, including microhabitats. • Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. • Notice that animals, including humans, have offspring which grow into adults. (Y2 - Animals including humans)	• Recognise that environments can change and that this can sometimes pose dangers to living things. • Recognise that living things can be grouped in a variety of ways. • Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. • Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)	• 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 how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. • Give reasons for classifying plants and animals based on specific characteristics.

compare
litter
evaluate
variable
biodegradable
compost
decompose
environment
filter
fungi
micro-organism

organism
pollution
rank
decay
decomposer
food chain

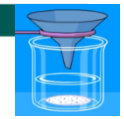
dissect
anther
asexual breeding
embryo
filament
female
fertilisation
gestation
larva
male
mate
metamorphosis
ovary
ovule
propagation
pupa
reproduction
seed

dispersal
stamen
style
thorax
carpel
lifecycle
organism
pollen
pollination
Pollinator

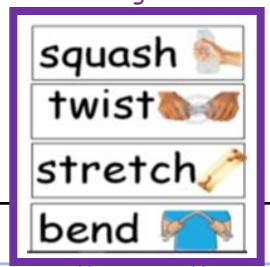
Anthropod
Cone
Conifer
Enchinodermata
Fern
Flatowrm
Monera
Moss
Mould
Needle
Protista
Spore
Taxonomy
Annelid
Arachnid
Carpel
Crustacean
Fungi

Mollusc
myriapod
Organism
Reproduction
Species
Stamen
Cold-blooded
Warm-blooded

MATERIALS (separating mixtures/changing materials) Summer 1, YEAR 5



Year 1	Year 2	Year 3	Year 4	Year 5
• 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.	• 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.	• 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. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance.	• 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.	• **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.** • **Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.**



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

construction
design
disassemble
dispose
flow
invent/invention
leak
pour
structure

brittle
ductile
fragile
impermeable
malleable
permeable
thermal conductor
thermal insulator
compost
decompose
durable
elasticity

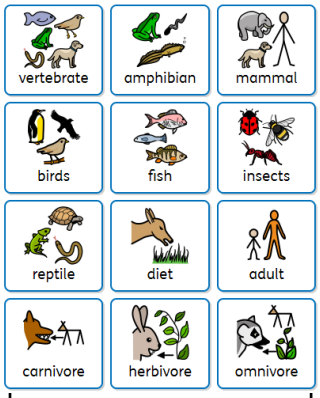
electrical conductor
electrical insulator
magnetic / non-magnetic

contamination
dissolve
filter
insoluble
non-reversible
react/reaction
reversible
saturated
separate
sieve
soluble
solution
crystal/crystalline

YEAR 5, ANIMALS INCLUDING HUMANS (human growth) – Summer 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.

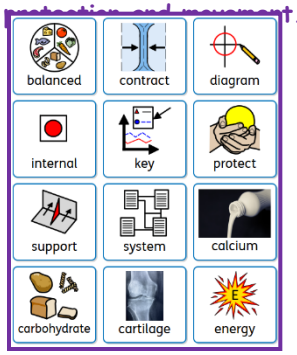


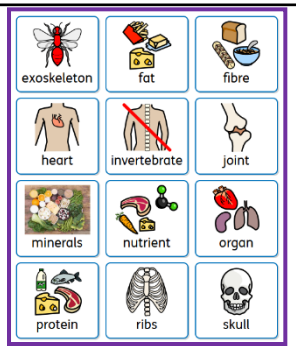
Year 2

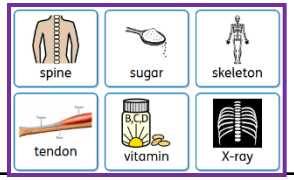
- Notice that animals, including humans, have offspring which grow into adults.
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

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.

contract	food web	small intestine
flow	incisor	stomach
function	jaw	vomit
grind	large intestine	
anus	mechanical	
canine	milk teeth	
chemicals	molar	
constipation	oesophagus	
decompose	predator	
diarrhoea	prey	
digestion	rectum	
extinct	saliva	

Y5

- Describe the changes as humans develop to old age.
- Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)

abdomen	sweat
Adam's apple	teenage
breasts	umbilical cord
childhood	uterus
genitals	vagina
infancy	hygiene
menstruation/period	life cycle
newborn	mammal
pregnancy	muscle
puberty	organ
pubic hair	
reproduction	

Y6

- identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood
- describe the ways in which nutrients and water are transported within animals, including humans.

circulate	capillaries	ventricle
contract	cell	white blood cells
flow	deoxygenated blood	
pump	hormone	
system	oxygenated blood	
transport	plasma	
	platelets	
aorta	pulmonary artery	
arteries	pulse	
atrium	red blood cells	
blood	valve	
blood vessels	veins	