

National Curriculum Scientific Vocabulary

Year 1 & 2 -Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Year 3 & 4 - Pupils should read and spell scientific vocabulary **correctly and with confidence**, using their growing word reading and spelling knowledge.

Year 5 & 6 - Pupils should read, spell **and pronounce** scientific vocabulary correctly.

CHILDREN NEED TO KNOW THE DIFFERENCE BETWEEN **SKILLS (learning to do - blue)** AND **KNOWLEDGE (learning about - black)**

Year 1 Scientific Vocabulary

Year 1 & 2 -Pupils should read and spell scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Skills vocabulary	Scientific Vocabulary Spellings	Other scientific vocabulary needed
ANIMALS INCLUDING HUMANS		
<p>observe compare contrast group</p>	<p>birds fish reptiles scales gills fins hair land water</p>	<ul style="list-style-type: none"> ❖ amphibians ❖ mammals ❖ invertebrates ❖ feathers ❖ backbone ❖ skeleton ❖ carnivores ❖ herbivores ❖ omnivores ❖ meat ❖ plants ❖ (common parts/structures of animals) ❖ (names of animals that can be found in the school grounds) ❖ (names of animals that the children keep as pets) ❖ (body parts: head, neck, arms, elbow legs, knees, face, ears, eyes, hair, mouth, teeth)
PLANTS		
<p>observe compare contrast describe diagrams record</p>	<p>trees evergreen roots branch trunk stalk leaf flower seeds bulbs twigs</p>	<ul style="list-style-type: none"> ❖ plants ❖ trees – deciduous, ash, birch, beech, rowan, common lime, oak, sweet chestnut, horse chestnut, apple, willow, sycamore, fir, pine , holly, etc ❖ wild flowering plants - daisy, dandelion, mallow, clover. ❖ garden plants – crocus, daffodil, bluebells, etc ❖ parts of plants –blossom, petal, leaves, fruits, bulb, seed,

Year 1 Scientific Vocabulary

Skills vocabulary	Scientific Vocabulary Spellings	Other scientific vocabulary needed
EVERYDAY MATERIALS		
<p>tests explore questions</p>	<p>wood plastic water rock brick sand soil hard soft smooth see hear smell tests</p>	<ul style="list-style-type: none"> ❖ types of materials: glass, metal, fabric, elastic, foil, paper, flour, butter, milk, ❖ properties of materials: stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/not waterproof, absorbent/ not absorbent, transparent/opaque, sticky/not sticky ❖ verbs associated with materials: crumble, squash, bend, stretch, twist ❖ senses: touch, taste
SEASONAL CHANGES (<i>THROUGH YEAR</i>)		
<p>tables & charts displays</p>	<p>spring summer winter year days hot rain wet damp</p>	<ul style="list-style-type: none"> ❖ seasons; autumn ❖ months ❖ warm, mild, cold ❖ sunny ❖ cloudy ❖ sleet, snow, hail, thunder, lightning, rainbow ❖ wet, damp, dry ❖ windy, breezy, gust ❖ temperature ❖ degrees Celsius ❖ thermometer ❖ weather vane ❖ anemometer

Year 2 Scientific Vocabulary

Year 1 & 2 -Pupils should *read and spell* scientific vocabulary at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ANIMALS INCLUDING HUMANS			
observe measure question answer	birds fish roots branch trunk stalk leaf flower seeds bulbs twigs	mammals carnivores herbivores omnivores butterflies dragonflies frog toad healthy strong answer	<ul style="list-style-type: none"> ❖ classification - amphibians, reptiles and invertebrates ❖ stages of growth of many insects – egg, larva, pupa, adult ❖ names of some invertebrates -ladybirds ❖ names of some amphibians – smooth newt ❖ stages of life –baby, toddler, child, teenager, adult ❖ life processes – growth, nutrition (feeding), respiration (breathing is part of this) ❖ hygiene – clean, wash, germs ❖ foods –grow, energy
PLANTS			
observe record compare	trees evergreen roots branch trunk stalk leaf flower seeds bulbs twigs	birch beech sweet chestnut horse chestnut apple fir pine daffodil bluebells petal water light heat temperature record	<ul style="list-style-type: none"> ❖ trees - deciduous, rowan, common lime, oak, willow, sycamore, holly, etc ❖ wild flowering plants – e.g. cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd’s purse, sorrel, spear thistle, white campion, white deadnettle & yarrow. ❖ garden plants – crocus etc

Year 2 Scientific Vocabulary

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
LIVING THINGS & THEIR HABITATS			
sort & classify record chart describe explore	trees evergreen roots branch trunk stalk leaf flower seeds bulbs twigs	pond log pile animal birch beech sweet chestnut horse chestnut apple fir pine daffodil bluebells petal snail slug woodlouse spider beetle fly chart	<ul style="list-style-type: none"> ❖ habitat, micro habitat ❖ meadow, woodland, river, lake, beach, cliff ❖ organism – plant, ❖ trees - deciduous, rowan, common lime, oak, willow, sycamore, holly, etc ❖ wild flowering plants – e.g. cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd’s purse, sorrel, spear thistle, white campion, white deadnettle & yarrow. ❖ garden plants – crocus etc ❖ invertebrates ❖ pond animals – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt, etc
USE OF EVERY EVERYDAY MATERIALS			
compare observe/ observations identify and classify record	wood plastic water rock brick fabric sand paper soil hard/soft smooth see hear smell	metal glass flour butter milk rough stretchy/stiff crumble bend stretch twist touch taste record	<ul style="list-style-type: none"> ❖ properties of materials: shiny/dull bendy/not bendy, waterproof/not waterproof, absorbent/ not absorbent, transparent/opaque, sticky/not sticky ❖ verbs associated with materials: squash

Year 3 Scientific Vocabulary

Year 3 & 4 - Pupils should read and spell scientific vocabulary **correctly and with confidence**, using their growing word reading and spelling knowledge.

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ANIMALS INCLUDING HUMANS			
identify group observe explore ideas compare and contrast group research		diet fats proteins carbohydrates dairy skeleton	<ul style="list-style-type: none"> ❖ nutrition ❖ vitamins ❖ minerals ❖ functions of skeletons – protect, support and aid movement
PLANTS			
compare factors patterns observe	trees evergreen birch beech chestnut apple fir pine daffodil bluebells roots branch trunk stalk leaf flower petal seeds bulbs twigs	deciduous stamen carpel stigma pollination fertilisation germination	<ul style="list-style-type: none"> ❖ trees - rowan, common lime, oak, willow, sycamore, holly, etc ❖ wild flowering plants – e.g. cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd’s purse, sorrel, spear thistle, white campion, white deadnettle & yarrow. ❖ garden plants – crocus etc ❖ parts of a flower –stamen (anther + filament), carpel (stigma + style + ovary + ovule)
LIGHT			
look for patterns		dark dull bright light opaque translucent transparent mirror reflection light source position	<ul style="list-style-type: none"> ❖ comparative vocabulary: brighter, duller, and darker ❖ superlative vocabulary: brightest, dulllest, and darkest ❖ shadow – block, absence of light ❖ reflect – bounce, mirror, reflection ❖ see – light source ❖ sun – sunset, sunrise

Year 3 Scientific Vocabulary

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ROCKS			
<p>observe exploring change over time identify and classify research discuss similarities and differences investigate raise and answer questions</p>		<p>limestone granite flint slate marble pressure erosion volcanoes mountains valleys mantle earth core crust heat classify similarities differences investigate questions</p>	<ul style="list-style-type: none"> ❖ names of rocks – chalk, basalt, sandstone, shale ❖ types of rock – sedimentary, metamorphic, igneous ❖ types of minerals – calcite, feldspar, topaz, diamond, talc, corundum ❖ properties of rocks – hard/soft, permeable/impermeable ❖ processes – heat, transportation, deposition, melt, solidify ❖ size of rocks – grain, pebbles ❖ rock describing words – crystals, layers ❖ early areas of land – gondwana, pangea ❖ land formations – plates
FORCES & MAGNETS			
<p>compare raise questions test record data answers questions explore sort looking for patterns creative uses</p>	<p>record test answers</p>	<p>attract repel magnetic compare questions data questions</p>	<ul style="list-style-type: none"> ❖ magnets – bar and horseshoe ❖ north and south poles ❖ magnetic field ❖ gravity

Year 4 Scientific Vocabulary

Year 3 & 4 - Pupils should read and spell scientific vocabulary **correctly and with confidence**, using their growing word reading and spelling knowledge.

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ANIMALS INCLUDING HUMANS			
<p>compare suggest reasons draw and discuss ideas</p>		<p>intestine incisors function food chain producer consumer predator prey</p>	<ul style="list-style-type: none"> ❖ digestive system –, oesophagus, stomach, acid, small intestine ❖ protein, vitamin, mineral, carbohydrate, fats, energy, growth, repair. saliva ❖ teeth –canines, premolars, molars
LIVING THINGS & THEIR HABITATS			
<p>guides or keys explore and identify raise and answer questions observe research</p>	<p>pond log pile trees evergreen deciduous birch beech sweet chestnut horse chestnut apple fir pine daffodil bluebells roots branch trunk stalk leaf flower petal seeds bulbs twigs snail slug woodlouse spider beetle fly</p>	<p>habitat micro habitat river beach meadow woodland lake cliff invertebrates animal organism</p>	<ul style="list-style-type: none"> ❖ trees - rowan, common lime, oak, willow, sycamore, holly, etc ❖ wild flowering plants - cleavers, coltsfoot, daisy, dandelion, garlic mustard, mallow, mugwort, plantain, red clover, self heal, shepherd's purse, sorrel, spear thistle, white campion, white deadnettle and yarrow. ❖ garden plants – crocus etc ❖ parts of plants – roots, branch, trunk, stalk, leaf, flower, petal, seeds, bulbs and twigs ❖ pond animals – pond skater, water slater, ramshorn snail, pond snail, leech, common frog, smooth newt, etc

Year 4 Scientific Vocabulary

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
STATE OF MATTER			
<p>group and classify explore observe record</p>	<p>temperature pressure water</p>	<p>processes – melting, condensation, evaporation, solidifying, freezing water cycle water vapour steam heating cooling</p>	<ul style="list-style-type: none"> ❖ states of matter - solid, liquid and gas ❖ examples of gases (at room temperature and pressure) – oxygen, hydrogen, helium, carbon dioxide, methane ❖ examples of liquids (at room temperature and pressure) – water, milk, juice, petrol, oil ❖ examples of solids (at room temperature and pressure) –wood, rocks, metal, plastic, glass, wool, leather, etc
SOUND			
<p>patterns investigate</p>		<p>quiet, quieter, quietest, loud, louder loudest pitch low, lower, lowest, high, higher, highest vibrations</p>	<ul style="list-style-type: none"> ❖ ways to create sound – bang, blow, shake, and pluck ❖ source
ELECTRICITY			
<p>observe patterns</p>	<p>bulb</p>	<p>electricity computer, battery buzzer switch brighter duller conductor insulator</p>	<ul style="list-style-type: none"> ❖ electricity ❖ appliances: fridge, freezer, TV, iron, kettle, etc ❖ series circuit ❖ components: battery, bulb (lamp), bulb (lamp) holder, crocodile clip, leads, wires, switch ❖ describing words: slow, fast, quiet, loud ❖ effects of electricity: light, sound, movement, heat ❖ switches – open, close

Year 5 Scientific Vocabulary

Year 5 & 6 - Pupils should *read, spell and pronounce* scientific vocabulary correctly.

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ANIMALS INCLUDING HUMANS			
research finding out record		gestation fertilisation species adolescent pituitary gland testosterone oestrogen	❖ foetus ❖ baby ❖ toddler ❖ adult ❖ elderly person ❖ puberty ❖ hormones
LIVING THINGS & THEIR HABITATS			
observe compare question reason change	reptiles birds mammals fish stamen carpel pollination fertilisation germination compare	amphibians insects larva pupa nymph observe	❖ animal development – egg, adult, metamorphosis ❖ parts of a flower – petal, stamen (anther + filament), carpel (stigma + style + ovary + ovule)
PROPERTIES AND CHANGES OF MATERIALS			
test question observe compare research		thermal electrical insulator conductor solution solute soluble insoluble solid liquid particles suspensions	❖ dissolving – solvent, ❖ separating materials – sieve, filter, evaporate, condense

Year 5 Scientific Vocabulary

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
EARTH AND SPACE			
<p>compare model</p>	<p>earth</p>	<p>gibbous moon waxing waning orbit planets revolve sphere</p>	<ul style="list-style-type: none"> ❖ day and night - axis, rotate ❖ solar system – star = sun, planets = Mercury, Venus, earth, mars, Jupiter, Saturn, Uranus, Neptune (Pluto was classified as dwarf planet in 2006) ❖ phases of the moon - full moon, half moon, crescent moon, new moon, ❖ moon's orbit: 29.5 days, lunar month
FORCES			
<p>explore design fair tests explore effects measure</p>		<p>air resistance Newton meter Newton's mechanical</p>	<ul style="list-style-type: none"> ❖ types of forces: gravity, friction, upthrust, weight ❖ particles ❖ surface area ❖ push, pull ❖ balance ❖ mass – grams and kilograms ❖ mechanical devices – gears, levers, pulleys, springs ❖

Year 6 Scientific Vocabulary

Year 5 & 6 - Pupils should *read, spell and pronounce* scientific vocabulary correctly.

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ANIMALS INCLUDING HUMANS			
explore scientists scientific research	fats proteins	heart blood veins arteries pulse vitamins minerals	<ul style="list-style-type: none"> ❖ circulatory system – clotting ❖ diet – balanced, carbohydrates, sugars, ❖ drugs – caffeine, nicotine, alcohol, cannabis, cocaine, heroine ❖ lifestyle – healthy
LIVING THINGS & THEIR HABITATS			
classification systems keys identify research	amphibian reptile bird mammal	vertebrate invertebrate	<ul style="list-style-type: none"> ❖ classification ❖ kingdoms: animal, plant, 'micro-organism' ❖ classes: ❖ scales, feathers ❖ flowering plant, non-flowering plant
EVOLUTION & INHERITANCE			
observe question compare analyse		evolution evolve reproduction offspring variation	<ul style="list-style-type: none"> ❖ natural selection ❖ survival ❖ parents, siblings ❖ environment ❖ fossils; ammonites, belemnites, micrasters, etc
LIGHT			
decide investigate	dark – er, est, dull – er, est bright- er, est light- er, est opaque translucent transparent mirror reflection light source position	shadow reflect	<ul style="list-style-type: none"> ❖ reflect – bounce, ❖ sun – sunset, sunrise,

Year 6 Scientific Vocabulary

Skills Vocabulary	Scientific Vocabulary Spellings		Other scientific vocabulary needed
	Already taught	New for Year	
ELECTRICITY			
systematically identify	electricity battery bulb buzzer switch brighter duller conductor insulator	volt voltage current alternating electrodes electrolytes circuit cell motor	<ul style="list-style-type: none"> ❖ components: crocodile clip, leads, wires ❖ describing words: brighter, duller, slow, fast, quiet, loud ❖ resistance ❖ effects of electricity: light, sound, movement, heat