

## Whole School Science Vocabulary Progression 2026

### Introduction to key vocabulary

This document outlines the vocabulary progression within Kapow Primary's Science curriculum.

It does not include **all** vocabulary that pupils encounter in their Science lessons but instead focuses on the essential words and terms crucial for understanding the subject. These words are carefully selected to help pupils grasp important concepts and ideas outlined in the **National curriculum**.

The vocabulary is categorised under three curriculum strands: **Working scientifically**, **Science in action** and **Scientific knowledge and understanding**. This document also organises the words related to scientific knowledge and understanding into Kapow Primary's key areas.

The aim in consolidating these keywords is to enable teachers to focus their teaching on the vocabulary outlined for each year group, ensuring a strong understanding of what words pupils should already be familiar with and those they will encounter in future years.

**What we call 'knowledge' is language, and this fact proves that to understand any subject, we first need to understand its language.**

*Alex Quigley, Closing the Vocabulary Gap*

## Receptive vs expressive vocabulary



### **Receptive vocabulary**

The words a person understands when heard or read them. Vocabulary that an individual can recognise and comprehend even if they do not actively use it in conversation or writing.



### **Expressive vocabulary**

The words that a person can actively use in speech or writing to communicate.

Some vocabulary will be used in lessons earlier than indicated in this document and this is done intentionally. Pupils often understand vocabulary receptively *before* they can confidently use it expressively. Lesson plans guide teachers to model new vocabulary before the vocabulary is explicitly taught and before pupils are expected to use it to communicate ideas themselves. At times, the teacher may model the use of new words while pupils may use synonyms.

The year groups listed represent when pupils are expected to retain the vocabulary and its meanings and begin to actively use the words in appropriate contexts. The focus is on when vocabulary is used expressively, making it easier for teachers to assess.

Active use of new vocabulary does not necessarily imply complete mastery of each word or concept as understanding continues to evolve and deepen over time. For instance, in Year 1, pupils might recognise the term 'season' as different times of the year characterised by specific weather patterns. By Year 5, they develop a deeper understanding of why seasons occur, exploring the Earth's tilt and its orbit around the Sun.

### Choosing words to teach

In selecting the words to include in this vocabulary progression, the 'three-tiers framework' (Beck, McKeown & Omanson, 1987), which advises focusing instruction on tier 2 vocabulary for the most productive gains, has been used.

Words typically classified as tier 1 vocabulary, such as 'bird', are familiar to most learners due to their frequent use in everyday language. However, in Science lessons, it is essential that pupils learn the specific scientific meanings of these words, which often involve more detailed and precise definitions than their general usage. For example, while 'bird' is commonly known as a type of animal, scientifically, it specifically refers to a group of warm-blooded vertebrates with feathers, wings and a beak, most of which are able to fly. Therefore, these kinds of words have been included in the progression.



**Tier 3:** These words are used infrequently in conversation and their use is often subject-specific. Textbook glossaries usually focus on tier 3 words as they tend to be abstract in nature. They require explicit teaching and contextualisation.

**Tier 2:** These words are high-utility as they appear across the school curriculum and in written texts. Often, explicit teaching of tier 2 words is not planned for but this can be the most productive place to focus vocabulary instruction.

**Tier 1:** The most basic words, which typically appear in conversation and are frequently encountered by pupils from an early age. They rarely require explicit teaching because they are already familiar to most pupils.

# Whole School Science Vocabulary Progression 2026

## Working Scientifically

|                           | Year 1 and 2                                                                       | Year 3 and 4                                                                                                                                 | Year 5 and 6                                                                                                                                  |
|---------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Question                  |                                                                                    | fair (1)                                                                                                                                     |                                                                                                                                               |
| Plan and predict          | plan (1)<br>predict                                                                | investigate<br>investigation<br>method<br>variable<br>control<br>variable<br>rate                                                            | hazard<br>model<br>safety (1)<br>testable<br>fair test                                                                                        |
| Observe, test and measure | diagram group (1)<br>measure observe sort (1)<br>table (1)<br>research<br>test (1) | bar chart<br>record<br>results table<br>stopwatch<br>classify<br>classification key<br>degrees Celsius (3)<br>temperature<br>thermometer (3) | anomaly (3)<br>data<br>estimate<br>line of best fit (3)<br>line graph relationship<br>mean<br>average<br>scale<br>secondary data/source units |
| Record                    |                                                                                    |                                                                                                                                              |                                                                                                                                               |
| Conclude                  | compare difference (1)<br>pattern (1)<br>similarity<br>results (1)                 | conclusion<br>trustworthy<br>proof/prove                                                                                                     | evidence<br>evaluate<br>reliable                                                                                                              |
| Evaluate                  |                                                                                    |                                                                                                                                              |                                                                                                                                               |

## Science in action

|                                   |        |                         |
|-----------------------------------|--------|-------------------------|
| science<br>scientist<br>invention | ethics | discovery (1)<br>theory |
|-----------------------------------|--------|-------------------------|

The words on this page have been classified as tier 2 vocabulary. Words that may also be considered tier 1 or 3 are indicated. However, it is important to ensure that children understand the scientific meaning of these words, which may differ from their general usage or usage across other subjects.

| Scientific knowledge and understanding                                                                                                                                                                                            |                                                                                                                                                                                                             |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Plants                                                                                                                                                                                                                            |                                                                                                                                                                                                             |  |
| bulb<br>deciduous*<br>evergreen*<br>flower (1)<br>fruit (1)<br>garden plants<br>growth (1)<br>leaf (1)<br>roots (1)<br>seed (1)<br>stem (1)<br>trunk (1)<br>germinate<br>energy* (2)<br>nutrient* (2)<br>life cycle* (2)<br>shoot | female (1)<br>flowering plant<br>male (1)<br>pollen<br>pollination<br>reproduction<br>seed dispersal<br>transport (2)<br>female (1)<br>flowering plant<br>male (1)<br>pollen<br>pollination<br>reproduction |  |

\*This word also appears in the vocabulary progression for another key area.

The words on this page have been classified as tier 3 vocabulary. Words that may also be considered tier 1 or tier 2 vocabulary are indicated in parentheses. However, it is important to ensure that, in Science lessons, pupils understand the scientific meaning of these words, which may differ from their general usage or usage across other subjects.

**Living things and their habitats. Animals, including humans.**

**Sensitive bodies**

hearing (1)  
senses (1)  
sight (1)  
smell (1)  
taste (1)  
touch (1)

**Movement and nutrition**

balanced (diet) (2)  
bone (1)  
carbohydrate  
fat  
fibre  
invertebrate  
joint  
mineral  
movement  
muscle (1)  
nutrient\*  
protection  
protein  
skeleton  
support  
vertebrate  
vitamin

**Life cycles and reproduction**

adolescence\* (2)  
asexual reproduction  
characteristic (2)  
fertilisation\*  
germination  
gestation  
gills  
incubation  
lungs\*  
mating  
metamorphosis  
offspring  
ovule  
pollen\*  
pollination\*  
reproduction\* (2)  
sexual reproduction

**Comparing animals**

amphibian  
bird (1)  
carnivore  
diet  
fish (1)  
herbivore  
mammal  
omnivore  
reptile

**Classification and changing habitats**

conservation (2)  
deforestation (2)  
endangered (2)  
flowering plants\*  
insect  
nature reserve  
non-flowering plants  
pollution (2)  
slug  
snail  
spider  
worm

**Human timeline**

foetus  
gestation period  
hormones  
period (menstruation)  
puberty



|                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Habitats and Microhabitats</b></p> <ul style="list-style-type: none"> <li>alive (1)</li> <li>dead (1)</li> <li>depend (2)</li> <li>energy* (2)</li> <li>food chain (2)</li> <li>habitat (2)</li> <li>life processes</li> <li>microhabitat</li> <li>minibeast</li> <li>predator (2)</li> <li>prey (2)</li> <li>shelter (1)</li> </ul> | <p><b>Digestion and food</b></p> <ul style="list-style-type: none"> <li>canine</li> <li>digest (2)</li> <li>digestive system</li> <li>faeces</li> <li>incisor</li> <li>large intestine</li> <li>molar</li> <li>mouth (1)</li> <li>oesophagus</li> <li>premolar</li> <li>producer*</li> <li>saliva</li> <li>small intestine</li> <li>stomach (1)</li> </ul> | <p><b>Classifying big and small</b></p> <ul style="list-style-type: none"> <li>Cold-blooded</li> <li>Conifer</li> <li>Exoskeleton</li> <li>Fern</li> <li>Life processes*</li> <li>Microorganism</li> <li>Moss</li> <li>Organism</li> <li>Warm-blooded</li> </ul>                     |
| <p><b>Life cycles and health</b></p> <ul style="list-style-type: none"> <li>basic needs egg (1)</li> <li>health (1)</li> <li>hygiene (1)</li> <li>life cycle* (2)</li> <li>live young</li> <li>pupa</li> <li>spawn</li> <li>survive</li> <li>teenager (1)</li> <li>toddler (1)</li> <li>tadpole</li> </ul>                                 |                                                                                                                                                                                                                                                                                                                                                            | <p><b>Circulation and health</b></p> <ul style="list-style-type: none"> <li>Blood (1)</li> <li>Bloodstream</li> <li>Blood vessels</li> <li>Carbon dioxide</li> <li>Circulatory system</li> <li>Drug</li> <li>Heart (1)</li> <li>Heart rate</li> <li>Oxygen</li> <li>pulse</li> </ul> |



|  |  |                                                                                                                                                                                                                                                                                                                                        |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | <b>Evolution and Inheritance</b><br>Adaptation (2)<br>Competition (2)<br>Environment (2)<br>Environmental (2)<br>Evolution (2)<br>Extinct (2)<br>Fossil*<br>Gene<br>Inherit<br>Inheritance (2)<br>Natural selection<br>Parent (biological) (1)<br>Population (2)<br>Selective breeding<br>Survival of the fittest (2)<br>Variation (2) |
|--|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

The 'Living things and their habitats' and 'Animals, including humans' units share strong connections and overlap. To avoid repetition, the vocabulary from these key areas has been combined into a single progression.

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Forces Earth and Space

deciduous tree\*  
evergreen tree\*  
season (1)  
weather (1)

attract (2)  
contact force  
force (2)  
friction (2)  
magnet (2)  
magnetic material  
magnetism (2)  
non-contact force  
north pole  
repel (2)  
south pole

celestial bodies  
day/daytime  
gravity (2)  
moon (1)  
night/nighttime  
orbit (2)  
phase (2)  
planet (1)  
spherical  
star (1)  
year  
Solar System  
Mercury  
Venus  
Earth  
Mars  
Jupiter  
Saturn  
Uranus  
Neptune  
Pluto  
air resistance  
balanced (2)  
gear  
gravity  
lever  
pivot  
pulley  
surface area  
unbalanced (2)  
water resistance

| Energy |                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|        | cast (a shadow)<br>light source<br>luminous<br>mirror<br>non-luminous<br>opaque<br>reflect<br>reflective (shiny)<br>shadow (1)<br>translucent<br>transparent<br>air (1)<br>eardrum<br>insulator*<br>pitch (2)<br>sound<br>vibration<br>volume (2)<br>appliance<br>battery/cell<br>bulb<br>circuit (2)<br>electrical conductor *<br>electrical insulator*<br>electricity (!)<br>mains<br>power source<br>property*<br>switch (2)<br>wire (1) | light ray<br>pupil<br>ray diagram<br>reflective<br>cell<br>circuit diagram<br>current<br>resistance<br>voltage |

| Materials                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| absorbent<br>fabric<br>glass (1)<br>metal (1)<br>material<br>object<br>plastic (1)<br>rock (1)<br>tough<br>waterproof (1)<br>wood (1)<br>elastic<br>flexible (2)<br>property<br>suitable (1) | crystal<br>fossil<br>grain<br>hard<br>hardness<br>rock<br>sediment<br>sedimentary rock<br>sedimentation<br>soft<br>soil<br>boiling<br>condensing<br>evaporating<br>evaporation rate<br>freezing<br>gas<br>liquid<br>melting<br>precipitation<br>solid<br>steam<br>the water cycle | dissolve<br>filtering (2)<br>insoluble<br>mixture<br>sieving<br>soluble<br>solution<br>burning<br>conductor*<br>electrical conductivity*<br>insulator*<br>irreversible change<br>reversible change<br>rust<br>thermal conductivity<br>transparency |

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