Scaffolds are only effective if the student has the correct background knowledge needed to then learn a new cognitive strategy. It is important to explain new ideas in the context of what students already know, so before beginning a new task the teacher must identify what the children will need to already know in order to do what is expected, then assess to find out if they have the necessary understanding and plug any gaps that may exist.

Scaffolding needs to be temporary and adjustable. As the learner makes progress within the learning process the amount of scaffolding is reduced. In this way as the learning process progresses the difficulty of the task and the level of responsibility a student takes for the learning is increased. When a teacher feels the student is ready they need to carry out an assessment prior to independent practice taking place. Students should then be given several varied opportunities to apply the learning without the scaffolds.

This document has been created with ideas across the GSP schools

8. Provide scaffolds for different tasks.

The teacher provides temporary support and scaffolds to assist when they are doing a difficult task
A scaffold is a temporary support that is used to assist a learner.
These scaffolds are gradually withdrawn as learners become more competent, although students may continue to rely on scaffolds when they encounter difficult problems.
Providing scaffolds is part of guided practice
Scaffolds include: modelling the steps, thinking aloud by the teacher as they solve the problem, tools, prompts, cue cards check lists, or models. (Page 75-76 Barak Rosenshine's Principles of Instructions)

Scaffolding

Scaffolding is the support provided by the teacher and/or other students which allows a learner to bridge the gap between their current abilities and their intended learning goal. Scaffolds can be used in the teaching of all skills but are particularly useful or necessary when teaching higher level cognitive strategies. Scaffolding can be seen as a form of mastery coaching, where cognitive supports are given, then gradually withdrawn. It allows all students to gain access to the ideas being taught, to develop their expertise and to make steps towards increasing their fluency and understanding.

Scaffolding in Science

- Knowledge organisers are created at the start of a unit with key vocabulary, diagrams/images. These are given to children who can then use them for reference.
- Low stakes quizzes are used to regularly assess understanding informally.
- The focus is placed on scientific understanding (not writing / reading ability). Answers can be scribed for children who find writing challenging.
- A writing frame can be provided for investigations.
- Group work or pair work allows children to take on different roles e.g. scribe, reporter etc
- Key vocabulary is clearly displayed
- Different questioning strategies are used to assess understanding and identify misconceptions e.g. Pose, Pause, Pounce and Bounce.
- Clear Learning Objectives and Success Criteria
- Sentence stems
- Written prompts
- Pictures/ photos of experiments to help structure learning, perhaps images with missing labels
- Working walls (containing key vocab and knowledge organisers)
- Cloze procedure (Missing words from sentences)
- Writing frames
- Word banks
- Vocabulary bank
- Practical work/ experiments
- Modelling e.g. diagrams
- Displaying information in a range of ways that suits the child's needs..i.e using clicker, drawing the concept, labelling rather than full sentences etc
- Pre teaching / reading of concepts

Scaffolding in Science- examples

Knowledge organisers

Science Year 2 Plants Knowledge Organiser

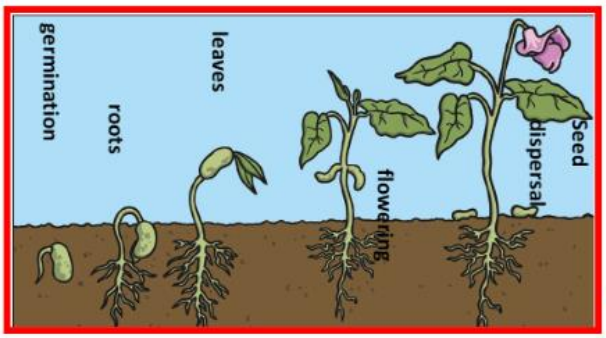
Key Vocabulary

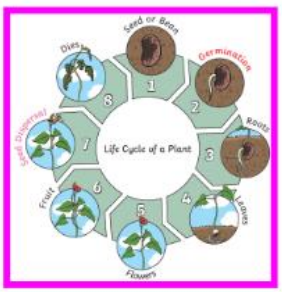
water
light
shade
warm / warmth
cool
suitable temperature
grow
sprout
shoot
germination
seed dispersal / reproduce

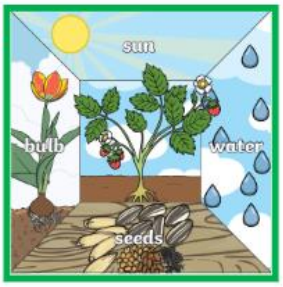
Turn and TALK

National Curriculum

- 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





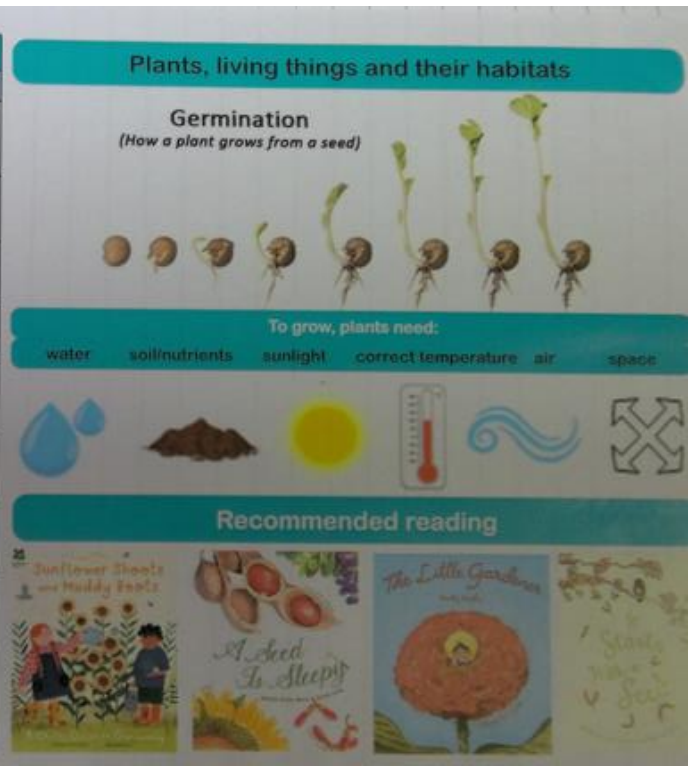


Sticky Knowledge

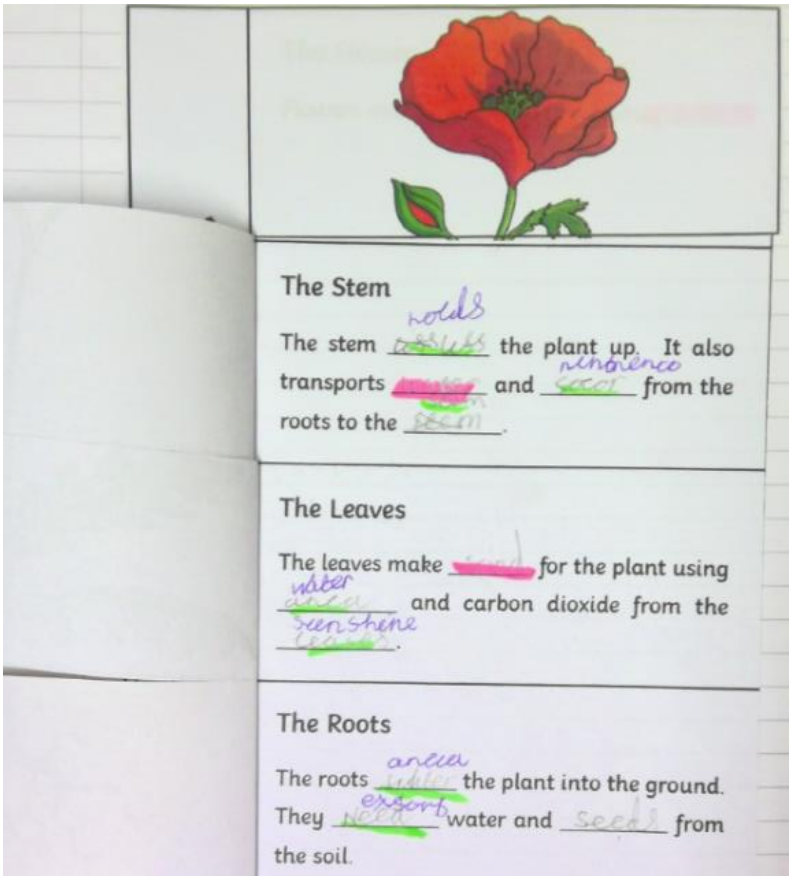
- Plants grow from seeds/bulbs
- Plants need light, water and warmth to grow and survive
- Flowers make seeds to make more plants (reproduce)
- Plants are important
- We need plants to survive (to clean air, to eat)

Key Vocabulary

Key Word	Meaning
Germination	The stage of plant growth when a seed begins to sprout
Nutrients	Things needed by a living thing so it can grow and has energy to survive
Sprout	The new shoots of a plant as it first starts to grow from a seed or a bulb
Seed	Part of a flowering plant that can grow into a new plant
bulb	An underground food storage system. Plants can grow from these in summer.
Temperature	How hot or cold it is
Roots	The underground part of a plant that absorbs nutrients and water that the plant uses to grow
Absorb	To take in or swallow up
Habitat	Habitats are places where animals and plants live. The plants and animals - including humans - in a habitat need each other to survive.



Cloze procedure (Missing words from sentences)



The Stem

The stem holds the plant up. It also transports minerals and water from the roots to the leaves.

The Leaves

The leaves make food for the plant using water and carbon dioxide from the sunshine and leaves.

The Roots

The roots anchor the plant into the ground. They absorb water and minerals from the soil.

A light source is something that makes light. Some examples of light sources are bright because it is made of fire light.

Some objects seem to make light but are not really light sources. The moon is not a light source because it reflects off it.

Dark is the source of light. It is dark at night time because light from the sun is not visible. When it is dark, there is no light to illuminate objects, so we can see them. We need light to be able to see things.

When the feely bags were dark inside, we need light to see in the dark pla

When the bags were opened up so light could illuminate the objects, we can see in side the bags. This shows that we need light to see.