# RHS STEM Amazing Seeds Activity Support Pack

The activities in this resource support the National Curriculum as follows:

## National Curriculum Science Programmes of Study Key Stage 1 & 2 - Curriculum learning aims in relation to plant science

**Purpose of study**

Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and ***develop a sense of excitement and curiosity about natural phenomena.***

**The nature, processes and methods of science**

Types of scientific enquiry should include: pattern seeking; comparative and fair testing (controlled investigations)

**Key stage 1 & Lower Key Stage 2**

The principal focus of science teaching in key stage 1 is to enable pupils to experience and observe phenomena, looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice.

**Year 1 programme of study**

**Plants**

Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees

**Notes and guidance (non-statutory)**

Pupils should use the local environment throughout the year to explore and answer questions about plants growing in their habitat.

Pupils might keep records of how plants have changed over time, for example the leaves falling off trees and buds opening (seeds forming).

**Year 2 programme of study**

**Living things and their habitats**

Explore and compare the differences between things that are living, dead, and things that have never been alive

**Plants**

Observe and describe how seeds grow into mature plants

**Notes and guidance (non-statutory)**

Pupils should be introduced to the requirements of plants for germination. Seeds have a store of food inside them.



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**Year 3 programme of study**

**Plants**

Explore the part that flowers play in the life cycle of flowering plants, including **seed dispersal.**

**Notes and guidance (non-statutory)**

Looking for patterns in the structure of fruits that relate to how the seeds are dispersed.

## Key subject vocabulary that students are expected to know by the end of the topic:

| Year 1 | Year 2 | Year 3 |
|---|---|---|
| Wild/garden plants<br>Flowering plants<br>Trees<br>Seed<br>Fruit<br>Seasons | Habitat<br>Local environment<br>Germination<br>Living/dead<br>Food store | Plant life cycle<br>Nutrition<br>Nutrients<br>Fair test<br>Seed formation<br>Seed dispersal<br>Function |

## Pupils may ask questions during the session. Use these answers to support your response:

**Ideas of a seed to show and why they are interesting:**

**A coconut:** It's a huge seed that drops from palm trees into the sea or rivers in exotic parts of the world like islands in the Caribbean**.**

**An avocado:** You can collect the seed and grow an avocado tree in England (though you probably won't get any avocados to grow). Avocados are known as 'orphan fruit' as the large mammals who would have eaten them (like mammoths and giant ground sloths) are now extinct.

**Burdock seed heads**: **Prickly bur seed heads** easily stick to animal fur or clothing. In 1941 George de Mestral was inspired by burrs to create Velcro!

**Q: Why is that your favourite plant?**

It reminds me of something nice or someone nice or a lovely time in my life.

I like the feel of the leaves.

It has flowers that are my favourite colour

It has flowers that smell gorgeous



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**Q: What's the difference between a photo of me and me?**

If asked this question, pupils may describe differences in what you are wearing in a photo compared to what you are wearing in the classroom, or refer to where the photo was taken.

Draw attention to a movement you can make that the photo cannot make.

Ask them to feel the breath coming out of their nose and mouth and draw awareness to their chests rising and falling when breathing. This shows you are alive. A picture of you cannot do this.

If you tickle a picture does it make the image of you laugh?

**Q: What is dead and what is alive?**

This is a tricky concept, but essentially it boils down to whether an organism performs the seven life processes performed by all living organisms (move, get energy from food, detect changes in the surroundings, grow, make more living things of the same type, get rid of waste, take in and use food).

A living organism is an organism that is currently able to carry out all these processes, a dead organism used to perform the processes, but no longer does, an organism that was never alive doesn't carry them out and has never done them.

**Q: Are leaves and twigs alive?**

Old, dry twigs and sticks that have fallen off trees some time ago (that are no longer green or flexible) are no longer alive.

Dried brown leaves that have been on the ground for some time, are no longer alive. Cut flowers will not grow again once they have been removed from the plant, so although they may look fresh if kept in water, they are not alive.

**Q: Are seeds alive?**

Seeds are alive, they are in something like a deep hibernation. The processes mentioned above in 'What is dead and what is alive' are basically "stalled" while the seed is dry.

**Q: Why can we eat some plants and not others?**

Some plants are made of things that would make us very ill if we ate them. They might give us a really bad stomach ache or make us sick. We should only eat plants if an adult like a teacher or parent has said it's ok to do so.

**Q: Where are the seeds on a sunflower?**



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The seeds are in the middle part of the flower and there are loads of them!

**Q Are trees with no leaves dead or alive?**

They are not always dead!

Some trees drop all their leaves and go to sleep in autumn as a way of surviving the cold winter months. These are called **deciduous trees**. Other trees have strong leaves that can survive the cold that they keep all winter, they only grow very slowly.

**Why do trees drop all their leaves in winter?**

Only some trees drop all their leaves in winter. These are called **deciduous trees**. Some trees keep all their leaves and are called **evergreen** (because they still have their green leaves).

In winter there is less light and days are much shorter than in the spring and summer. A tree needs lots of light to make food to keep growing and making new leaves.

Deciduous leaves are also not strong enough to survive frosty weather and they would curl up, die and drop off.

If it does not need to grow and make leaves a tree does not need lots of energy to survive. It stores its food in the roots underground and has a quiet time (like it is asleep) when it doesn't grow. The tree waits until the weather warms up and the days get longer with more sunshine in the spring. Then the tree uses its energy in the roots to make new shoots and leaves.

**Q: If I accidently eat apple seeds, why don't apple trees grow inside me?**

Seeds need everything around them to be right to make them grow. They need to be warm enough, have just enough water and sometimes light. Inside our tummies it is too wet, too dark and too hot for seeds to grow – so don't worry if you eat an apple seed!


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