

# Growing Seeds Experiment

A resource for teachers within the 'Spring' theme for learning.

This resource links with the Primary Science Curriculum; Strand: Living Things; Strand Unit: Plants and Animals and is suitable for middle to upper primary.

## *Introduction*

There are three things that every plant needs to grow; sunlight, the right temperature and water. Let's look at each of these three things in more detail.

## *Sunlight*

When you're hungry, how do you get food? Do you go to the fridge? Ask your parents? Grab a piece of fruit? Well, plants are different. Plants can make their own food using a *molecule* named *chlorophyll*. Chlorophyll is found in the leaves of plants and, in order for the plants to make their own food, the leaves must get some sunlight.

## *Water*

All living creatures need water to survive. Camels can survive even if they only drink water once every ten days, but for humans that's not often enough at all! Different *species* of plants need different amounts of water too. Cacti are used to hot, dry climates and so can store water. This means that they need very little water. Other plants, such as yellow hibiscus need a lot of water. It is important to water plants enough, but not too much. Most plants have labels on them that will tell you how often to water them.

## *Temperature*

Temperature is a measure of how hot or cold things are. Some plants like warmer temperatures than others but very few plants like to be cold. For this reason it is important that plants are kept at the right temperature and this is why people usually start to plant their gardens in spring so that it is nice and warm for seeds to *germinate*.

## ***Growing Seeds Experiment***

For this simple experiment, we need some quick growing seeds such as cress. We are going to remove one of the factors for growth (water, the right temperature or light) from each of three different sets of seeds. We will have a fourth set of seeds that will act as a *control*; this means that the seeds will have ALL of the factors they need for growth. We will plant the seeds and then observe their growth over a number of weeks.

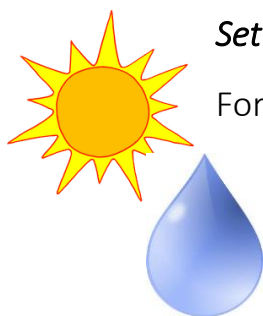
### ***Set 1***

For this set of seeds, we are going to remove SUNLIGHT. In an old yogurt carton/egg carton/other small container, place some damp cotton wool. Onto this scatter a few seeds. Leave the container in a dark cupboard in a warm room and regularly check for growth. Make sure the cotton wool stays damp, you will need to spray it with water or dampen it every couple of days.



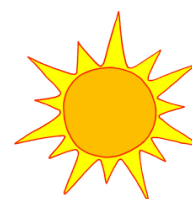
### ***Set 2***

For this set of seeds, we are going to remove the correct TEMPERATURE. As in set one, place some damp cotton wool into a container and sprinkle some seeds on top. Keep this container somewhere cold (maybe in a garage or shed).



### ***Set 3***

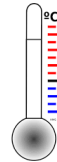
For this set of seeds we are going to remove the WATER. Place some dry cotton wool into a container and sprinkle some seeds on top. Place this container somewhere bright and warm (maybe on a windowsill).



### ***Set 4 (Control)***

The control set receives all of the factors necessary for growth; sunlight, water and the correct temperature. Dampen some cotton wool in a container and sprinkle some seeds on top. Place the container somewhere warm and bright.





## How to Grow Cress Seeds

1. Find an old container such as an old yogurt carton or egg carton. Make sure it's clean!



2. Place some cotton wool into the container. The cotton wool will either be DAMP or DRY depending on the set of seeds you are planting.



3. Place the container in the appropriate place for the set you are planting (cupboard, garage/shed, windowsill).



cupboard



Shed



garage



windowsill

### *Predictions*

What do you think is going to happen to each set of seeds? Do you think they will grow? Do you think they will be a nice green colour? Do you think they will be strong? Record your predictions below and then afterwards you can compare your predictions with the results.

Set 1	Set 2	Set 3	Set 4

### *Results*

What actually happened to each set of seeds? What did you *observe*?

Set 1	Set 2	Set 3	Set 4

## Glossary/Key Words

It is normal not to understand every word you read when you are reading a piece of text. Here are some words you might not have heard before and their meanings:

- **Molecule:** The smallest unit of a substance that has all the properties of that substance. For example, a water *molecule* is made up of two hydrogen atoms and one oxygen atom.
- **Chlorophyll:** A substance that is found in plants and is necessary for photosynthesis.
- **Photosynthesis:** How plants make their own food.
- **Species:** A group of things of the same kind with the same name (e.g. all dogs belong to the same *species* but there are different breeds).
- **Germinate:** To begin to grow.
- **Control:** An individual in an experiment that is not being tested and can be used for comparison.
- **Observe:** To watch carefully.