

# GROW YOUR OWN SUNFLOWER

Plant some seeds and watch them grow while learning about germination!

## YOU WILL NEED

- 2-3 medium-size plastic containers or pots
- Fresh, multi-purpose compost
- A packet of sunflower seeds



## WHAT YOU DO

### Step 1

Choose a packet of sunflower seeds at your local garden centre.

### Step 2

Fill a medium-size plastic container or pot with compost to half an inch below the rim; gently firm the surface so it is flat.

### Step 3

Poke a hole about an inch deep in the compost and drop in a sunflower seed. Sprinkle some compost in to fill the rest of the hole.

### Step 4

Water lightly to moisten the compost. Repeating this to prepare two or three pots will make it almost certain that at least one will grow, although one should do as sunflower seeds germinate reliably.



### Step 5

Leave the container or pot somewhere warm, preferably a windowsill where the sun can reach it.

### Step 6

Keep the soil moist by lightly watering daily and seedlings should appear within a few weeks. Plant outside in June - you can plant outside before this but make sure there are no longer any frosts, as sunflowers are particularly susceptible.

## THE SCIENCE BEHIND IT

For a seed to germinate, which means to start growing, it needs three things. The first is water; seeds are usually dry because this allows them to hibernate, which means that they can wait for a long time for the things they need to start growing. When a seed comes into contact with water the seed coat is able to swell up and break open, and the cells of the seed embryo absorb water to become hydrated. The embryo is a tiny little plant inside the seed and it needs to be moist to „wake up„ from its hibernation and start growing.

Secondly, seeds need oxygen; although plants can take in carbon dioxide and release oxygen for photosynthesis, seeds cannot yet photosynthesise so they only take in oxygen and release carbon dioxide like people and animals do. The cells of the seed then use the oxygen together with sugar stored in the seed to make energy, which is a process called respiration.

Finally, a seed needs warmth so that the cells can increase their metabolism, which means how quickly the cells work to make the energy and grow. It doesn„t matter where the warmth comes from, whether it„s from sunlight or the central heating in your house, as long as it is warm enough to start growing. Increased metabolism



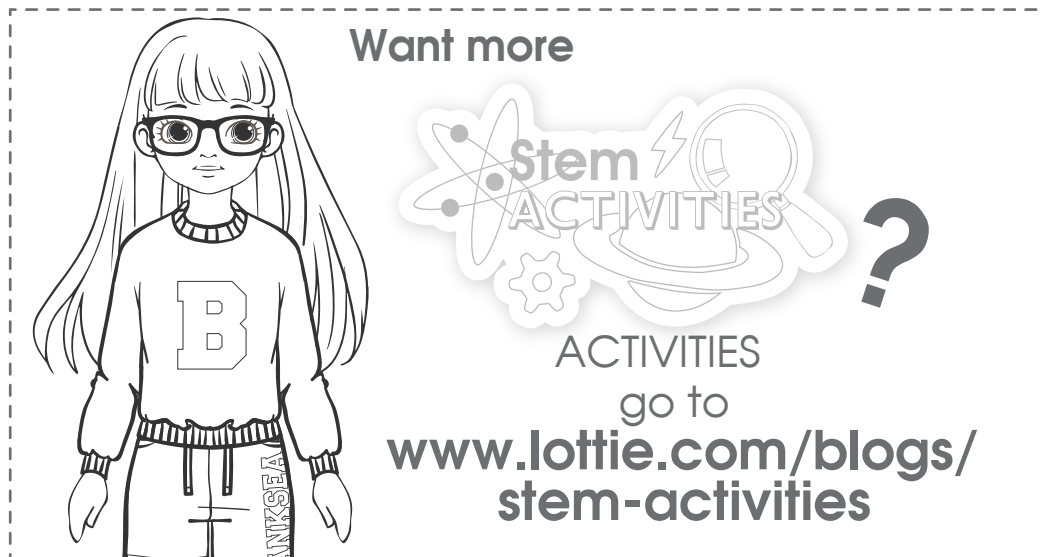
## KITCHEN SCIENCE - GROW YOUR OWN SUNFLOWER

allows the cells of the seed to make energy and grow quicker; the colder a seed is, the slower it will grow.

Once your seed has germinated and the seedling has turned green this means it has lots chlorophyll, which is the green pigment needed to collect energy from sunlight. The seedling will then use this energy from the sunlight, along with carbon dioxide in the air and water from rainfall to produce sugar and oxygen by photosynthesising. Photosynthesis looks like this:

**carbon dioxide + water + sunlight → sugar + oxygen**

Your seedling will then use the sugar as food to grow into a big sunflower!



Want more

Stem  
ACTIVITIES

ACTIVITIES  
go to  
[www.lottie.com/blogs/  
stem-activities](http://www.lottie.com/blogs/stem-activities)

### Photo Credits

- Sunflower: [Public domain], via Wikimedia Commons

