



# SCIENCE OUTSIDE THE CLASSROOM

## Grow your own fungus

**Recommended age group:** 10-14 years

Safety warning – Mould should not be touched or inhaled. This is not a suitable activity for asthmatics or people with respiratory problems. Always wear gloves if handling food with mould.

### You will need:

Piece of bread  
Resealable airtight plastic bag  
Cotton swab  
Disposable rubber gloves

### What to do:

#### Experiment 1 – what does mould need to grow?

For Sample 1, Rub the cotton swab in dust on the ground and then rub the soiled end on to a piece of bread. Add six drops of water to the bread then place the bread into the plastic bag and seal it. Put the sealed bag in an empty ice cream container or box and keep it somewhere warm. Check your sample every day for a week to see the progress.

For Samples 2-5, make each experiment according to the table below. You will notice that one thing is missing from each sample.

- Sample 5 is your control experiment sample.
- For Sample 2, rub the swap directly into the bag.

**Table 1 – Experimental setup for what does mould need to grow?**

Experiment	Bread	Bag	Water	Germ Swab
Sample 1	✓	✓	✓	✓
Sample 2		✓	✓	✓
Sample 3	✓		✓	✓
Sample 4	✓	✓		✓
Sample 5	✓	✓	✓	

Which mould sample grew best? What is necessary (or absolutely essential) for mould to grow?

## **What is happening?**

Mould is a living fungus that grows together to make a multicellular community of cells, forming an organism that can be different sizes. Moulds are not plants, so they do not photosynthesise. Instead, they degrade organic matter to grow, such as our piece of bread. They also require moisture to grow, so without the dampness of the bread the organism will die and the bread will instead become stale. We have used a plastic bag to keep the moisture sealed in. Sample 5, our control sample, is designed to make sure that the mould we are growing is from the swab and not some form of contamination. If mould grows in sample five, it means the sample was contaminated and we can't be sure that the mould on the other samples was from something other than the swab.

## **Experiment 2 – Light, dark, hot, cold**

Make Sample 1 four times. Try leaving the sealed bag in different places (light, dark, hot, cold) to see different types of fungus grow. Always handle the bread mould with gloves, as some people are allergic to moulds.

## **What is happening?**

Mould is a living organism and, just like us, has ideal temperatures for growth. Most fungi grow best in a warm, moist place. Ultraviolet light can be harsh on moulds and kill mould spores. This is one reason why ultraviolet light is used for sterilisation. However, the ultraviolet light in daylight is not usually strong enough to do this, so the mould can still grow, even if it is slower. While mould grows best in the dark, these places also often have more moisture, because there is less sun light to dry the area out.