

# Microbe Magic Experiments

<http://microbemagic.ucc.ie>

## Healthy living – The effects of the sun

You will need a really, really hot sunny day for this experiment and a spot that get lots of intense heat and sun.

### **What you will need**

- Two slices of bread
- Two ripe bananas
- An outdoor sunny spot on a really hot day (you need a really hot day for the banana experiment to work properly)
- Pencil
- Paper

### **What to do:**

- Put one slice of bread and one banana in a sunny spot, in full view of the sun, at about 10a.m. on a really hot day.
- Put the other slice of bread and the other banana in the fridge at the same time.
- Check both sites every hour until at least 4pm and take note of any changes (you can use the template below).
  - You may need to move the bread and banana as the sun moves across the sky during the day. Make sure they are in the sun at all times.
- What have you seen?

### **What's happening?**

A little sun is very good for you but any more is very, very bad. Your body makes Vitamin D (an important vitamin you need to stay healthy) when you are out in the sun. Too much sun however and your skin begins to burn, you lose fluid and become dehydrated and you can become very ill indeed!

What you should see when you leave the bread and banana in the sun, compared to the bread and banana in the fridge is:

- burning and dehydration of the bread as it loses moisture in the heat of the sun. The bread will dry out and start to curl up at the edges. It will also feel 'crisper' to the touch as the sun cooks and even burns it, just like making toast without the toaster!
- the appearance or an increase in brown spots on the banana as the sun damages the banana skin. This is like the burning of unprotected skin in hot sunshine.

The most damage occurs between 11a.m. and 3p.m. when the sun is at its strongest.

Sunburn does not just affect humans, it also affects animals and plants. Humans have the advantage though, we can take four simple steps to protecting ourselves from the sun - *Slip, Slop, Slap & Wrap!* That means you should *Slip* on a T-shirt, *Slop* on sunscreen, *Slap* on a hat and *Wrap* on sunglasses.

Time	Control		Specimen	
	Bread	Banana	Bread	Banana
10:00				
11:00				
12:00				
13:00				
14:00				
15:00				
16:00				
17:00				

Write down what you see at different times during the day. Check that the bread and banana are in the sun at all times.

Note: the times above are from the 24 hour clock. 10:00 = 10a.m.; 11:00 = 11a.m.; 12:00 = noon; 13:00 = 1p.m.; 14:00 = 2p.m.; 15:00 = 3p.m.; 16:00 = 4p.m.; 17:00 = 5p.m.