

Microbe Magic Experiments

<http://microbemagic.ucc.ie>

Healthy living – Write a secret message!

Method 1:

What you will need

Water
Baking soda (you will find this at the supermarket)
Cotton buds
Grape juice (you will find this at the supermarket)
Paper

What to do:

- Add 2 level tablespoons of baking soda with 100ml of water and mix well.
- Dip the cotton bud into the baking soda solution and soak well.
- Write a message on the paper.
- Let the message dry completely.

To read the message:

- Soak a cotton bud in grape juice.
- Wipe the grape juice across the paper.
- The message will appear right before your eyes!

What's happening?

Grape juice contains citric acid that reacts with the baking soda. The chemical reaction occurs just where you have written your message, making it appear in a different colour on the paper!

Try using different foods that contain citric acid, like lemon or orange juice. Look at the labels of foods in the supermarket or at home to see how much citric acid they contain. How much citric acid do you need for the message to appear? (hint: juices contain more citric acid with they are concentrated – look for the ones that you need to add water to before you drink them!).

Method 2:

What you will need

Water
Baking soda (you will find this at the supermarket)
Cotton buds
Paper
Salt
Coloured crayon

What to do:

- Add 2 level tablespoons of baking soda with 100ml of water and mix well.
- Dip the cotton bud into the baking soda solution and soak well.

- Write a message on the paper.
- Cover the area of the message with salt
- Let the message dry for 10 minutes and then dust off the salt.

To read the message:

- Colour the area of the message with a coloured crayon and the message will appear!

What's happening?

The salt provides a contrast in the texture of the page. Your message will appear in a coloured background (remember – the message may still be a little damp so be careful not to tear the page as you colour it!).

Method 3:

What you will need

Paper

Small colourless candle

Coloured crayon

What to do:

- Write your message using the candle.

To read the message:

- Lightly colour the area of the message with a coloured crayon and the message will appear!

What's happening?

The crayon will not stick to the wax already on the page. Your message will appear as clear areas in a coloured background!