

MARVELLOUS

MICROBES

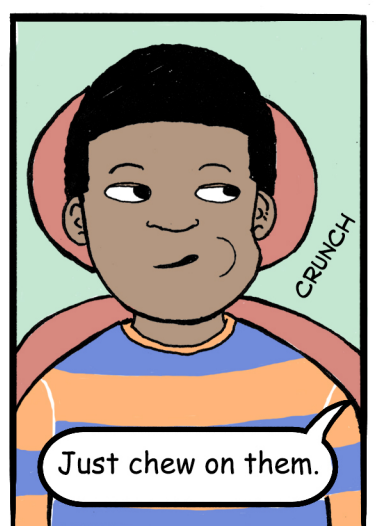
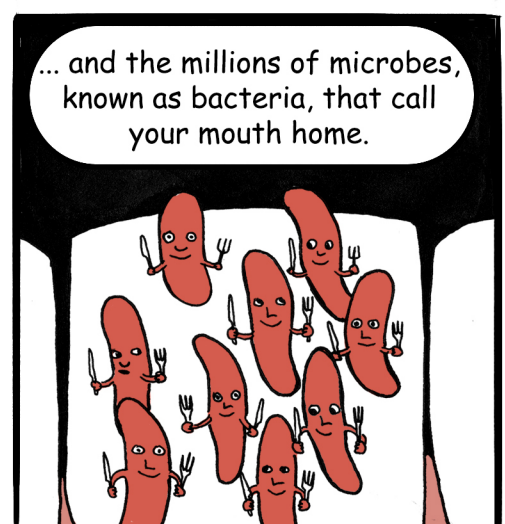
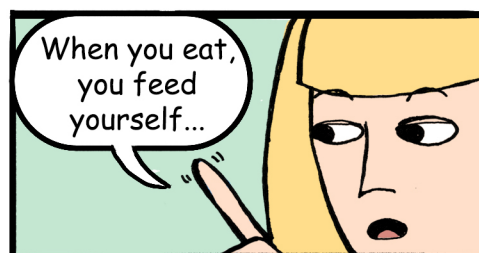
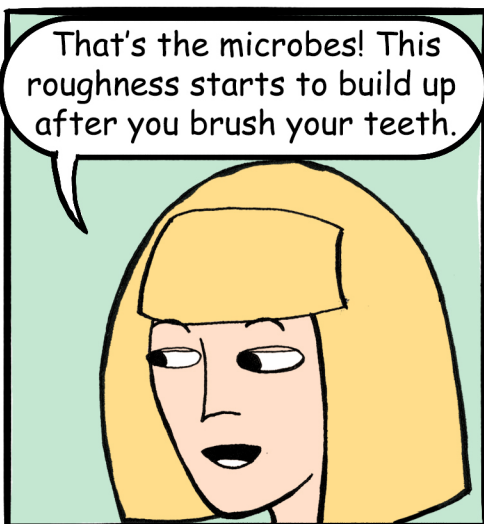
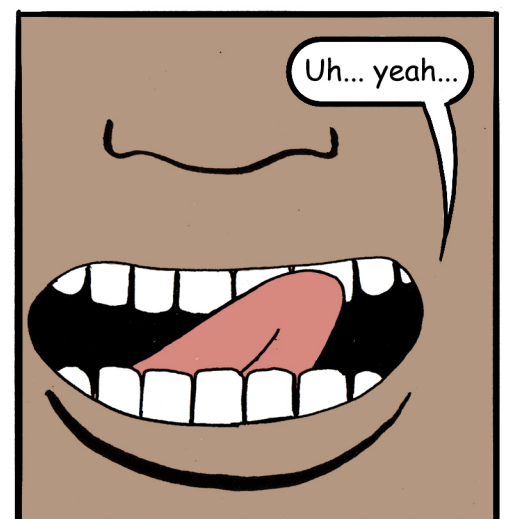
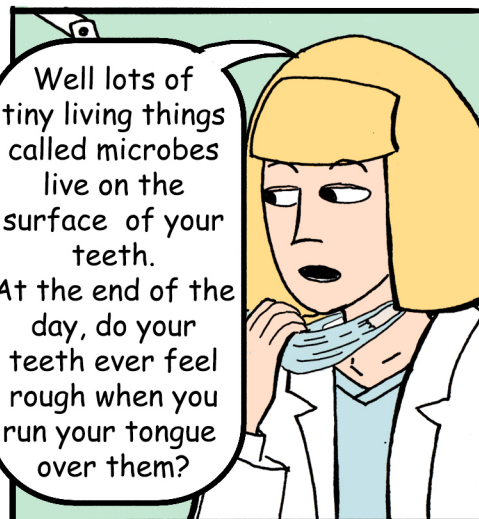
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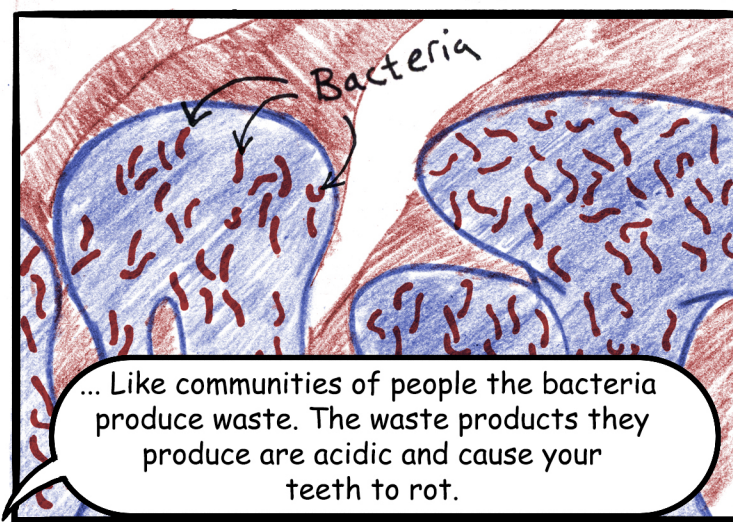
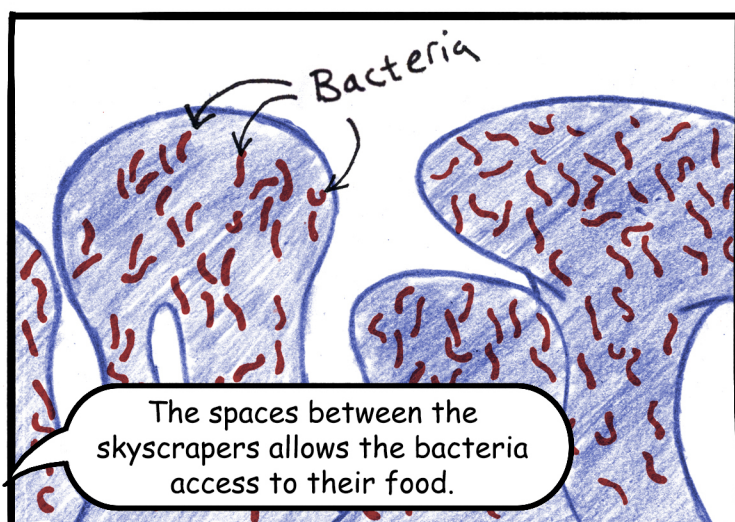
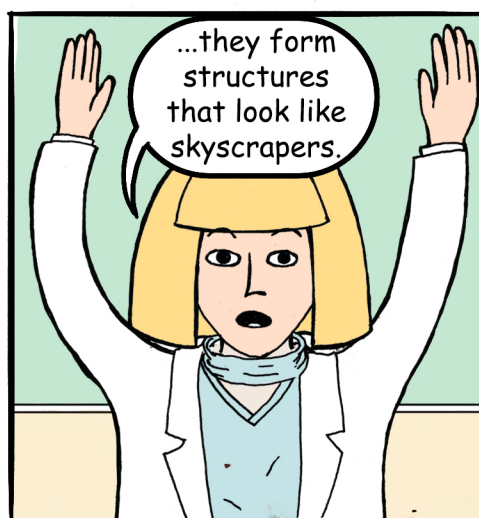
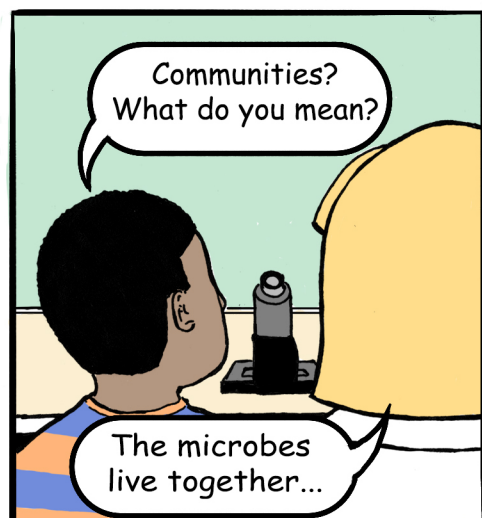
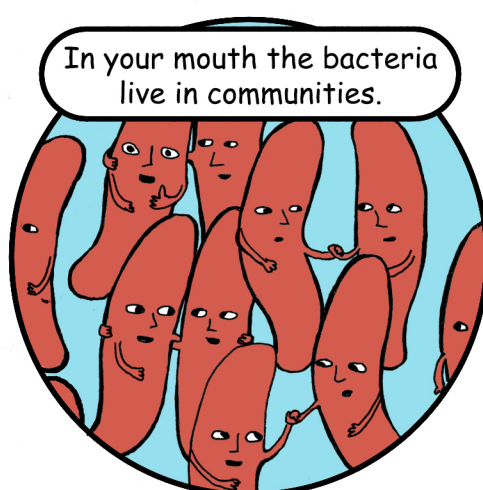
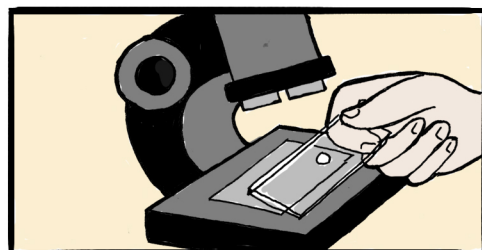
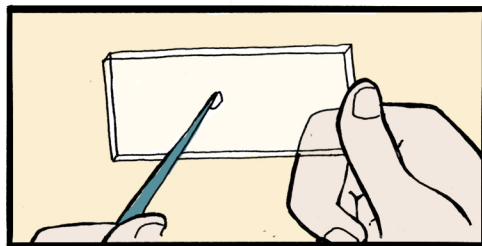
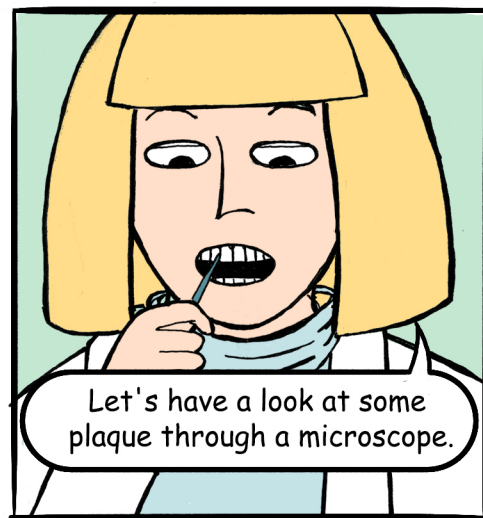
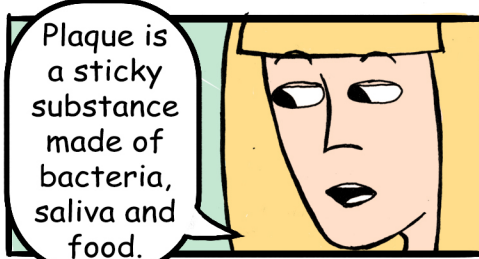
SCINTILLATING STORIES FROM
THE MICROBIOLOGY SOCIETY

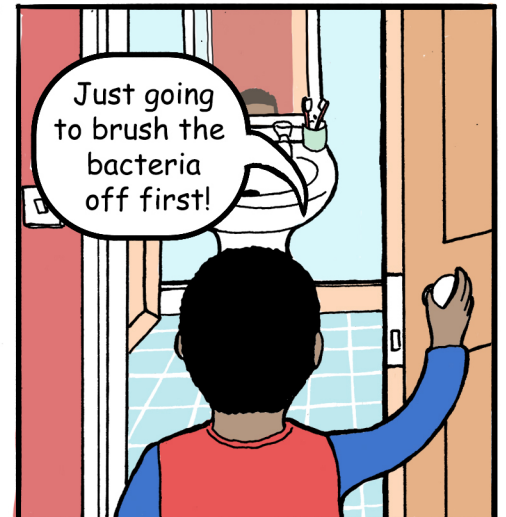
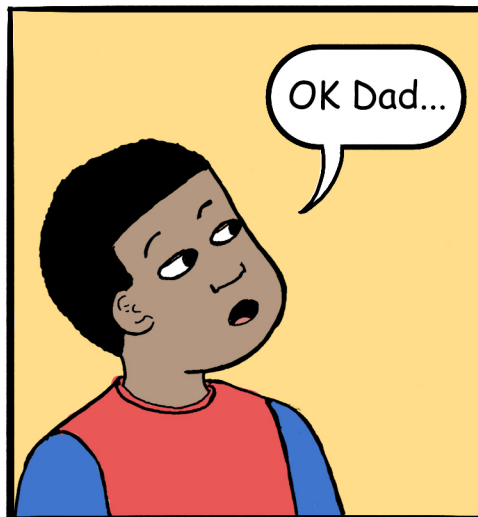
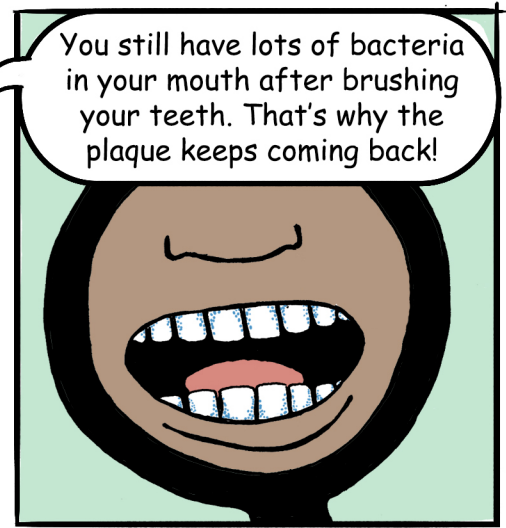
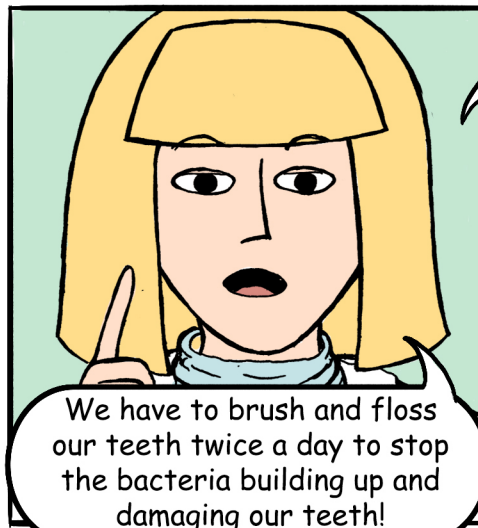


BRUSHING TEETH

ISSUE 3







Did you know... that as well as causing trouble by rotting our teeth, microbes also help us clean our teeth? Silica, which is a hard substance from algal cells, is used to make toothpaste!

The Microbiology Society is a membership organisation for scientists who work in all areas of microbiology. It is the largest learned microbiological society in Europe with a worldwide membership based in universities, industry, hospitals, research institutes and schools. An important function of the Society is the promotion of the public understanding of microbiology. The Society produces a wide range of resources to support microbiology teaching in schools and colleges. For further information, please visit www.microbiologyonline.org.uk

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EGGS-PERIMENT

What happens when you don't brush your teeth.

Note: this experiment takes six days.

This experiment demonstrates the effect of acid on tooth enamel. egg shells are like teeth as they are both rich in calcium - this makes egg shells a good substitute for teeth in this experiment. the vinegar is an acid that simulates the effect of acid produced by bacteria.

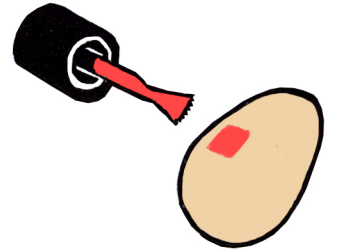
You will need:

A tube of fluoride toothpaste.
A small pudding bowl.
Fresh egg (without cracks).
Vinegar.
Tablespoon.
Cling film.
Coloured nail varnish.



Method

1. Wash the egg carefully with water and dry with some kitchen roll.
2. Squeeze a tube of toothpaste into the bowl and level to remove any air bubbles.
3. Paint a spot of nail varnish on one side of the egg.
4. After the nail varnish has dried, place the egg into the toothpaste marked side down so the toothpaste covers half the egg. make sure the egg does not touch the bottom of the bowl.
5. Cover the bowl with cling film and leave it in a safe place at room temperature for at least 5 days.
6. After 5 days carefully rinse the toothpaste off the egg with warm water and dry thoroughly with kitchen roll.
7. Place the egg into a clean bowl and cover with vinegar. Rest the spoon on top of the egg to keep it submerged; cover the bowl with cling film. Watch what happens!
8. Leave the egg in the vinegar until the untreated side (the unmarked side) of the egg softens. After 7 hours remove the egg and check if the side not treated with toothpaste has softened by tapping it very lightly with your finger. If soft, go to step 10.
9. If the untreated side is still hard, put the egg back into the vinegar. check the egg every hour until the untreated shell has softened.
10. When the untreated side is soft, remove the egg and gently wash it with warm water. The egg is very fragile now so be careful!



Conclusion

By gently tapping both sides of the egg, you can now see how the acid (vinegar) has made the side of the shell not treated with toothpaste soft and weak, whereas the fluoride in the toothpaste has protected the other side of the shell and kept it hard and strong.

This experiment shows the importance of using fluoride toothpaste when brushing teeth to protect them from plaque acid attack.