WATCH A FUNGUS FIZZ

BRITISH MYCOLOGICAL SOCIETY FUNGAL EDUCATION & OUTREACH

PRIMARY RESOURCE

INTRODUCTION

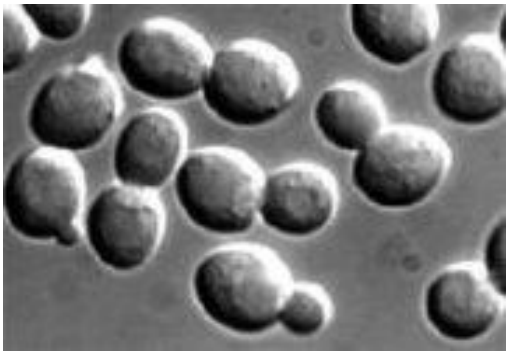
The aim of this activity is to see what conditions a fungus needs to make energy for growth.

Yeast is a type of microscopic fungus. Yeasts are used to make bread and beer and help to put the fizz in champagne. Yeasts just like other fungi can't make their own food so they have to be fed to enable them to make energy for growth. When yeast has the correct conditions to grow (Warmth, Sugar and Water) it will feed on the sugar and produce carbon dioxide gas as a waste product. The gas builds up as the fungus feeds and it cannot escape so it begins to fill up the balloon.

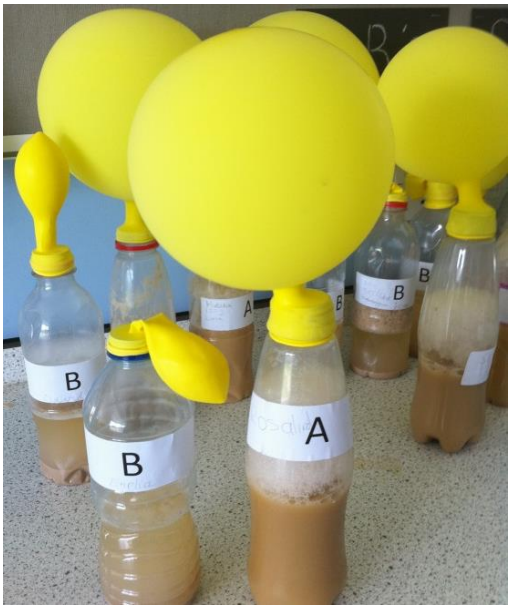
Respiration: Like us – fungi break down sugars using oxygen to make energy. The by-products are carbon dioxide and water. However, yeast has another trick up its sleeve. If there's lots of sugar present (i.e. golden syrup) but not enough oxygen, the yeast can make energy by breaking down the sugar into alcohol and carbon dioxide. This is a great advantage to yeast and allows it to thrive in many environments such as the bottle with golden syrup added!

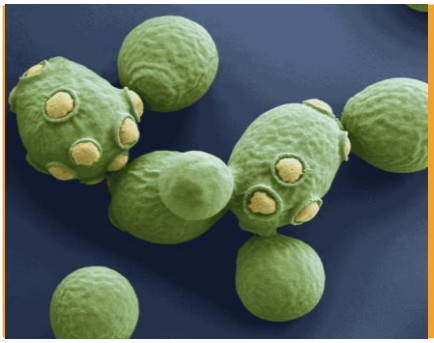
THIS ACTIVITY SUPPORTS THE FOLLOWING STATUTORY CURRICULUM REQUIREMENTS:

Year 1&2: Working scientifically performing simple tests, observing closely using simple equipment.



This is the baker's yeast *Saccharomyces cerevisiae*. This fungus is a budding yeast used in bread making to help the bread to rise.





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For older children (Ages 10-11; years 5 &6) you could extend the investigation to include: (1) no warmth plus yeast; (2) warmth, sugar plus heat inactivated yeast.

METHOD

Children should work in pairs. Each pair will need two 500 ml empty water bottles, labelled A and B. 2 balloons, 2 sachets of dried active yeast, Golden syrup and 400 ml warm water.

1. Add the yeast sachet to bottle A and bottle B
2. Add 2 squirts of Golden Syrup to bottle A
3. Add warm water to both
4. Put the plastic lids on the bottles and shake well
5. Remove the lids and replace with a balloon
6. Watch and wait!

USEFUL LINKS AND RESOURCES

Video Time Lapse of Bread Rising:

https://www.youtube.com/watch?v=i1w09QKf9GU

Making bread with yeast:

http://www.ukfungusday.co.uk/files/2914/3205/6050/Families_makingbread.pdf

A similar fungus fizz experiment from 'The Naked Scientists':

http://www.thenakedscientists.com/HTML/experiments/exp/fizzy-yeast/