

# Hastings Cave and Thermal Springs



## Activity Sheet - Make Your Own Stalactites

- **Curriculum Strands:** SI, BK – Matter, Earth and Space
- **Stages:** 5–15

Geologists refer to cave formations such as stalactites and stalagmites as **speleothems**. They form as a result of water seeping through rock and dripping down to the cave floor.

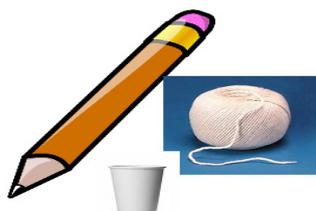
As the water moves through the rock, it dissolves small amounts of limestone (calcium carbonate). When the water drips from a cave ceiling, small amounts of this limestone are left behind, eventually leaving a thin **stalactite** hanging from the cave ceiling. Water landing on the cave floor again leaves some limestone behind as it runs away, 'piling up' and forming **stalagmites**, which grow up towards the stalactite above.

The speed at which they grow, and their colour, depends on the amount of water dripping and the exact type of limestone the water is passing through.

This experiment will take about half an hour to set up and several days to see results.

### Equipment

- You will need: water
- thick, natural-fibre string
- cardboard
- 2 large jam jars
- Epsom salts (magnesium sulphate,  $MgSO_4$ ), obtainable from chemists or supermarkets
- food colouring



### Method

1. Fill both jars with water and stir enough Epsom salts into each jar until no more will dissolve.
2. Place the jars on the piece of cardboard, about 15cm apart. Soak the string in the solution until it is completely saturated.
3. Place one end of the string in one jar of solution and the other end of the string in the other jar. Leave enough slack so that the string bows but do not let it touch the cardboard.
4. Leave the jars and the string where you can see them easily for several days while a stalactite and stalagmite form. **CAUTION:** Once these 'speleothems' begin to form, any movement of the string could break the stalactite.
5. Check out the shape of the formations.
6. Add some food colouring to one jar and see what happens.



**For more information see:**

<http://www.grandpapencil.net/science/stalacti.htm>

[http://resources.edb.gov.hk/~sisci/R\\_Science/sp/en/syllabus/unit5/act-byosas.htm](http://resources.edb.gov.hk/~sisci/R_Science/sp/en/syllabus/unit5/act-byosas.htm)

<http://www.abc.net.au/science/ozfossil/megafauna/caves/activity-stalactites.htm>