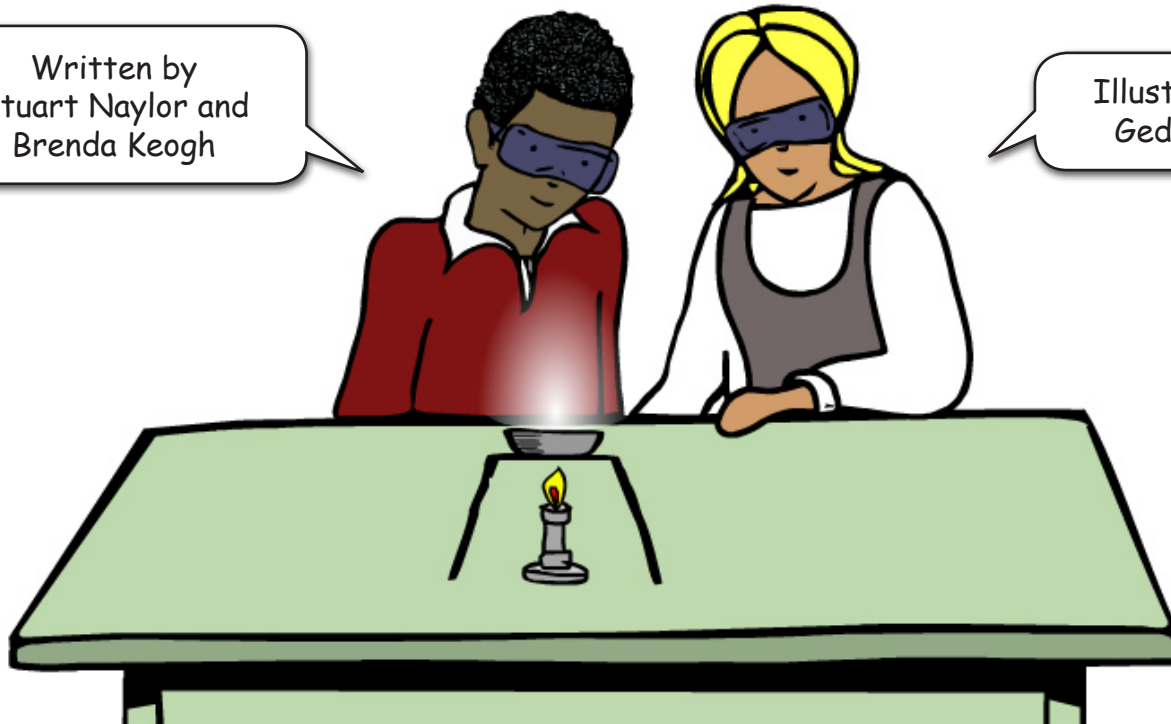


# Science Concept Cartoons®

## Sample Set 3

Written by  
Stuart Naylor and  
Brenda Keogh

Illustrations by  
Ged Mitchell



Produced by Millgate House Education

# Science Concept Cartoons® Sample Set 3

Concept Cartoons® are cartoon-style drawings that put forward a range of viewpoints about a particular situation. They are designed to intrigue, provoke discussion and stimulate thinking. Concept Cartoons make concepts problematic and provide a stimulus for developing ideas further.

Each Concept Cartoon can be used to stimulate a free standing discussion and enquiry. Alternatively, the Concept Cartoons can be linked together to form a larger topic or to create a project related to science.

Some Concept Cartoons may look as if they are too easy for some learners, but their deceptive simplicity can stimulate discussion about more challenging concepts and can often reveal some basic misunderstandings. Learners can create their own Concept Cartoons as a way of assessing and reviewing their current understanding.

Concept Cartoons do not always have a single right answer.

Each Concept Cartoon has support material, including ideas for follow up and some possible answers.

- \* Concept Cartoons are normally used to promote a group discussion.
- \* Ask learners to discuss why each character in the Concept Cartoon might hold their particular idea. Do they have any other ideas that might go in the blank speech bubble?
- \* Avoid being judgemental when learners are sharing their ideas. The uncertainty created by Concept Cartoons is productive.
- \* Provide an opportunity for learners to explore, challenge or consolidate the ideas raised through the Concept Cartoon(s).
- \* Provide time for learners to share their ideas.
- \* Have they changed their minds and why?

To learn more about Concept Cartoons and how they are used, visit:



[www.millgatehouse.co.uk](http://www.millgatehouse.co.uk)



Twitter: @MillgateHouseEd

When printing out the Concept Cartoons please select the landscape setting on your printer options

Copying of this material is permitted only within the purchasing institution.

Millgate House Education cannot accept any responsibility for any disruption to, or loss of, data which may occur when using this material.

# 4.10 Acid rain



Why don't the hills dissolve in the acid rain?

The rain is too cold to dissolve the rock

If the hills are made of chalk they will dissolve

?

The rock is too hard to dissolve

**What do YOU think?**

## Follow up

It isn't easy to investigate whether hills dissolve in acid rain. However lots of old buildings are made from the same rocks as the hills. Can you examine old buildings, such as churches, that are made from rock? Are there any signs of damage to the rock? How might the rock get damaged? Is the rock used for building always the same type, or are different rocks used? Can you find out whether samples of rock are damaged by acids? Can you find out whether acid rain has any other effects?

**Safety note:** testing using acids requires adult supervision.

## Ideas

There are lots of different types of rock, and many of these will react with an acid and dissolve. Even very dilute acids can react with some rocks, especially limestone, chalk and marble. More concentrated acids can react with some rocks quickly. Rain is usually acidic. The acidity varies according to factors like industrial pollution and the wind direction. Some hills are reacting with and dissolving in acid rain, but this is usually too slow for us to notice it happening. What do you think are the causes of acid rain?

For more information about Concept Cartoons visit <http://www.millgatehouse.co.uk/science/ccscd>