

## **Earth History**

**On a toilet roll**

**D or P 15 min**

This activity is to give students a perspective of geological time. Hopefully they will be reminded of it when they go to the toilet. Waitrose toilet rolls tell one the length of tissue and the number of sheets. If the whole length of the roll  $L$  equals the age of the earth then 1 million years =  $L/4600$  and if  $N$  equals the number of sheets per roll, each sheet represents  $4600/N$  million years. At present these figures are 7.52mm and 16.48 m.a. Five sheets takes one back to the dinosaurs and there are still 273 sheets to go. Students should do the calculations and then mark on the paper of the toilet roll the start of the Cambrian, first dinosaurs and the arrival of man.



**On a till roll 2.25m long**

**A P 15 min**

A strip of till roll is used to represent the length of geological time starting 4,500 million year ago. 1mm represents 2 million years. Students mark lines across the tape to represent the following: earth formed 4500 m.a., earliest known forms of life 3000 m.a., atmosphere became rich in oxygen 1600 m.a., first animals with shells 570 m.a., first fish 400 m.a., first land plants 350 m.a., first mammals and first dinosaurs 200 m.a., last dinosaurs 65 m.a., humans appeared 2 m.a. Students will need tape measures.

**On a classroom wall**

**G**

Students draw lines and mark all the events listed above on a piece of paper 4.5m long. In this case 1mm represents 1 million years.

### In a field

G

Find a stretch of playing field or grass area 45m long. Place small stakes at all the points listed above using a scale of 1cm = 1 million years. Make labels to go on the stakes. In this case it is also possible to put on other information such as the beginning and end of the geological periods. You will need a long tape measure and stakes and labels.

### History of the earth in a year

A I 30 min

Put all the events listed above on a year planning sheet. Each day = 12.3 million years and one million years = about 2 hours.

### History of the earth in a day

A I 30 min

This must be done as a line representing 24 hours because clock faces are only half a day. Put on the events listed above. 1 million years is represented by 19.2 seconds.

### Phanerozoic History

G

To make a wall display use a sheet of paper 4.6m long such as a piece of wall lining paper. Use a scale of 1mm=1 million years. Students find out and put on the beginnings and endings of all the geological periods and a simple statement about the environment during each period, the ranges of each of the fossil groups, the latitude of the British Isles for each period and when major mountain building occurred.

### Stratigraphy of a rubbish tip

Pa I F 15 min

Students are given a cross section of a rubbish tip and the time ranges of different sorts of nails, tin cans and bottles. They must work out when the different parts of the tip were formed. This uses the same principles that geologists use to work out the history of the filling of a sedimentary basin.

### Stratigraphic History

A P F 15 min

Students are given a geological cross section and a variety of rock samples.

Students must match the rock samples to the beds and must then work out a geological history for the section.