

# Will my gravestone last?: an investigative graveyard visit

## Introduction

During this activity you will visit a local cemetery and investigate what factors affect how quickly weathering affects the headstones of the graves. The dates on the gravestones can be used to work out how long the rock has been exposed to weathering.

When in the cemetery, do be thoughtful about your behaviour and clothing – there may be people present who are grieving.

## What you will need

### Apparatus

- A hand lens.
- A copy of *Common rock types* or a set of *Building Stones Postcards*.
- A copy of the *Rock identification key*.
- A copy of the *Survey sheet*.
- A sketch map of the site prepared by your teacher on a preliminary visit.

## What to do

Before the visit, look at a map of the cemetery and samples / or photographs of different types of stone so that you can recognise them when you see them.

Think of as many factors as you can that might affect how quickly stone weathers. Some are included in the *Survey sheet* table, but you may be able to think of others. Think also about how you can estimate how much a stone has weathered.

One particular way applies to marble tombs with lead lettering. The lettering is usually cut into the stone; then sheet lead is hammered in and smoothed off flush with the stone surface when it is new and unweathered. Over time, the marble reacts with acidic rain water and is removed as a solution, leaving the lead letters standing out. The further they stand out, the more the stone has weathered. You may even be able to measure how far the letters stand out with a tyre tread depth gauge.

During the visit, survey as many gravestones as you can, filling in the information on the *Survey sheet* as well as any other information that you have decided is useful. If you think a headstone may be made of marble or limestone (both forms of calcium carbonate) ask your teacher to drop a spot of hydrochloric acid on an inconspicuous part of the stone. If it fizzes, then a carbonate is present and the stone probably is marble or limestone. You can use the Key and / or a set of pictures to help you identify other types of stone.

During the follow-up lesson, pool your data with those from other groups and try to draw conclusions about how different factors affect the rate of weathering of stone.

How would you make sure that your gravestone lasts as long as possible?