

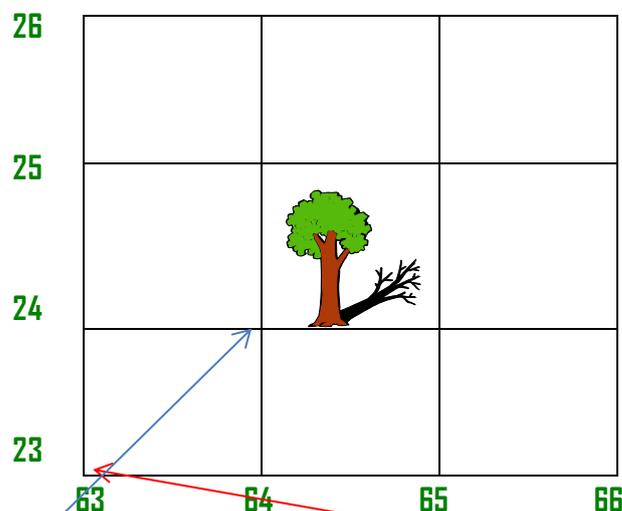
**Grid References:** In the Badger Group, we use grid references to record the position of badger setts across the county.

It is important that we can record them accurately, so that we can watch them and make sure that they are protected.

Badger setts are never easy to find in the summer, when the vegetation is high. Without a good map reference, we might never find them!

We usually use GPS (Global Positioning System) to find setts easily.

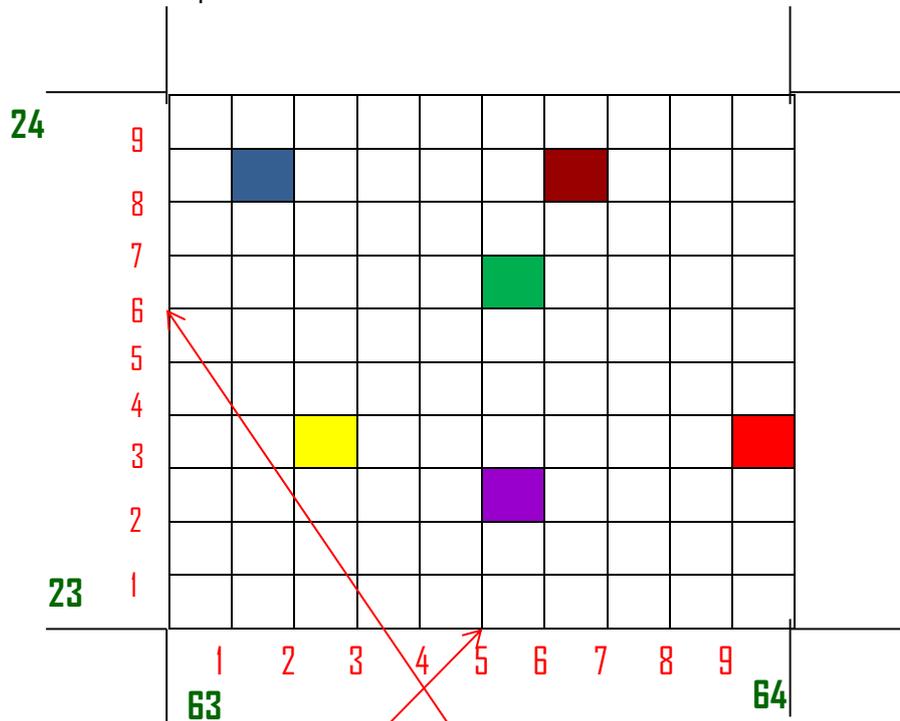
Here are some squares from a map. They have numbers up the side and along the bottom.



A grid system is a square grid with grid lines numbered from the bottom left of the map. The grid numbers on the east-west (horizontal) axis are called Eastings, and the grid numbers on the north-south (vertical) axis are called Northings. Grid references are made up of an even number of digits. Eastings are given before Northings. In a 4 figure grid reference 6323, the Easting bit is 63 and the Northing bit is 23. (Each square is 1 square km. on the ground.)

**Can you give the four figure grid reference for the tree in the diagram?**

If we want to be more accurate, we can work out a six figure grid reference. We can split the squares into 100 smaller squares.



Now we can give a 6 figure grid reference. We still have **63** and **23**. Now we can count along the bottom line to find the third figure. Then we move up the side to find the last figure. So we can add them to 63 and 23. **Can you work out the six figure grid reference for the green square?**

**63\_\_23\_\_** (Each of these squares is 100sq.metres on the ground.)

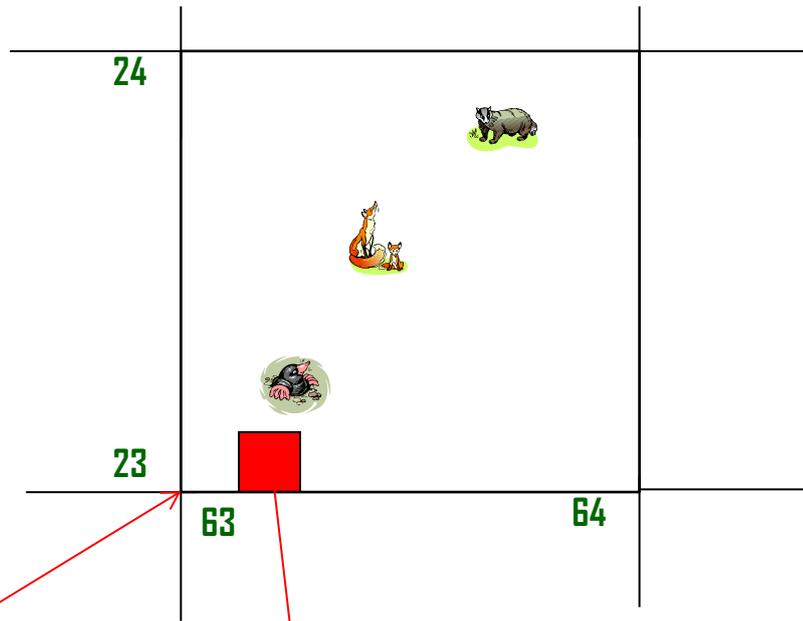
**Now find out the six figure grid references for the other coloured squares.**

**Red..... Blue ..... Yellow ..... Purple ..... Brown .....**

But, of course, on an OS map, (find out what OS stands for), there are no small lines. You just have to imagine them. Not easy! **Look at the square on the page below and try to work out the grid references for the badger, mole, and foxes.**



**If you're not sure which way to go, remember the saying; "Along the passage and up the stairs."**



If a 4 figure grid reference will give you the position of the bottom left hand corner of a 1km, square, (**6323**) and a 6 figure grid reference will give you a 100m, square, (**631231**) how big a square would you get with:

an 8 figure grid reference, ..... a 10 figure grid reference .....



In each case the first half of the digits is for the first coordinate and the second half for the other. The most common form is the *six figure grid reference*, with three digits in each coordinate to determine a 100 m square. (Grid references are often be written with or without spaces, e.g. also **NZ631231**.)

So what is the NZ bit? (You'll see these on OS maps.)

To find the first letter, the grid over the country is divided into squares of size 500 km by 500 km. There are four of these areas in Great Britain: S, T, N and H.

For the second letter, each 500 km square is subdivided into 25 squares of size 100 km by 100 km, each with a letter code from A to Z, (leaving out I), and starting with A in the north-west corner to Z in the south-east corner.

The letters that cover the County Durham area are NZ. **See if you can spot them on the map below.**

**If you don't live in the NZ area, can you find your own area's number codes?**

Now go to the website shown below. It is the site of the *UK Grid Reference Finder*.

<http://www.ukgr.dreamhosters.com>

With this website, you can zoom into any site in Britain and check out a grid reference for it. *We can't give you grid references for badger setts for security reasons, but we'll ask you to find the references for some prominent places within the County of Durham.*

**Zoom into the City of Durham. (You can do this as either a map, or as aerial view.) Can you find a grid reference for **Durham Cathedral**?**

**Now follow the A690 north east towards the coast. Find Houghton-le-Spring. Go into 'aerial view'. Enter the postcode of **DH4 6PU**. This will take you to an aerial view of Durham Wildlife Trust's headquarters at **Rainton Meadows Nature Reserve**. Can you find its grid reference? Can you find its latitude and longitude? (You can have an 'aerial wander' around the reserve.)**

**Go back into 'road view'. Go back and write in the 'location' box – **Barnard Castle**.**

**From the Market Place, turn into Newgate. Follow Newgate southeast until you see a strange loop on the northerly side of the road.**

**Go into 'aerial view'. Just *before* the loop, you have found the famous Bowes Museum. (You'll see the ornate gardens and large buildings.) (Look it up on a web search.) What is its grid reference? Can you find its postcode?**



Newgate

We hope you've enjoyed this wander around with grid references.

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