

# Geography

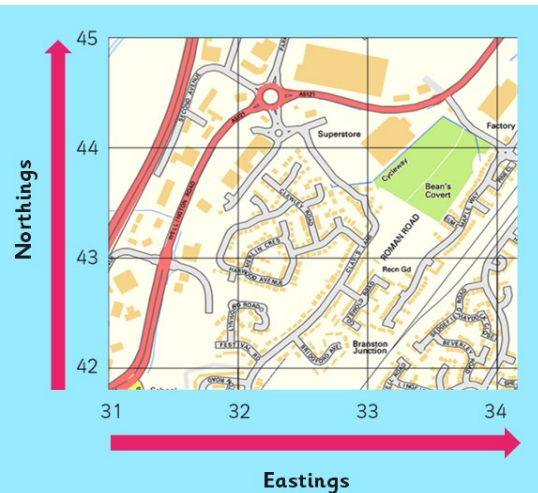
## Grid references

A grid of squares helps the map-reader to locate a place. The vertical lines are called **eastings**. They are numbered - the numbers increase to the east. The horizontal lines are called **northings** as the numbers increase in an northerly direction.

Things to remember:

- When you give a grid reference, always give the easting first: **"Along the corridor and up the stairs"**.

**Four-figure grid references** can be used to pinpoint a location to within a square. To find the number of the square:



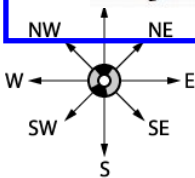
For example:

The superstore is located at the grid reference:

## Direction

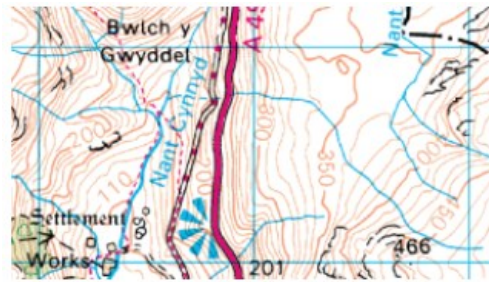
Try to remember the main compass points by using a mnemonic, eg

Naughty Elephants Squirt Water - North East South West



## Contours

These are lines drawn on maps that join places of the same height. They are usually an orange or brown colour. Some contour lines have their height above or below sea level written on them. It is possible to use them to see the shape of the land - if contour lines are close together the slope is steep, if they are far apart the slope is gentle. Contour lines are usually drawn at 10 metre intervals on a 1:50,000 scale map and at 5 metre intervals on a 1:25,000 scale map.



## Scale

Using a variety of OS maps, we will investigate how the scale of a map changes. We will calculate the distance between places using the scale.



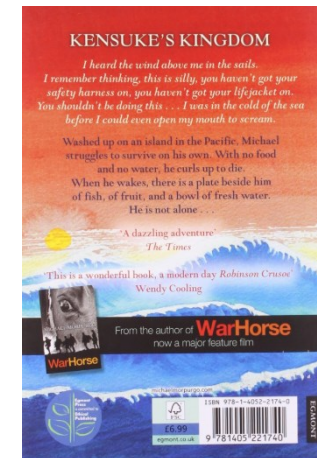
1:250 000 OS Road Map

# Alchemy Island

## English

We will be reading several travel brochures and on line hotel guides to look at how companies persuade tourists to visit their hotels. Once we are confident, we will write a brochure for our own hotel that we developed for Alchemy Island- ensuring that we use persuasive language! You might want to have a look at some other travel brochures and places you would like to visit.

Additionally, we will be reading a variety of fantasy story settings- looking at how author's make their setting magical and inviting!



Have you ever wondered what it might be like to marooned on a desert island? We will be following the adventures of Michael

# Key vocabulary

- Accurate** – being sure to measure the true value
- Condense / condensation** – when a gas turns into a liquid
- Dissolve** – a solid mixes with a liquid to become a solution
- Distillation** – the process of evaporating and then condensing a liquid
- Evaporate / evaporation** – when a liquid turns into a gas
- Fair** – free from bias
- Filter** – an implement with microscopic holes to let a liquid through
- Freeze** – when a liquid turns into a solid by being made colder
- Insoluble** – a solid that will not dissolve
- Irreversible change** – when a material is changed and cannot be changed back to its original state
- Liquid** – a material in liquid form fills the container it is in
- Melt** – when a solid turns into a liquid by being warmed up
- Mixture** – where different materials are combined
- Pure** – a material that can't be separated using physical means
- Reliable** – can be trusted
- Reversible change** – when a material is changed, but can be changed back to its original state
- Saturated solution** – a solution (liquid) into which no more solute (solid) will dissolve
- Separation** – to return a mixture into its different materials
- Sieve** – an implement with small holes to allow a fine powder through
- Solid** – a material in solid form has a rigid structure
- Soluble** – a solid that will dissolve
- Solute** – the solid that has dissolved in a liquid
- Solution** – the mixture of a dissolved solid in a liquid
- Solvent** – the liquid into which the solid has dissolved



Solute



+

Solvent

=



Solution

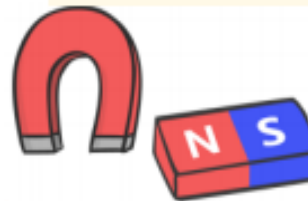


## Magnetism

Use this process to separate magnetic materials from non-magnetic materials.

A magnet is used to attract any magnetic materials and remove them from the mixture.

You could separate a mixture of copper nails and iron nails using this process.



### Evaporation and Condensation

- This process is best used to separate solutions - mixtures in which a solid has dissolved in a liquid.
- As the solid has dissolved in the liquid, filtering would not separate the two materials. The solid particles would go through the filter paper along with the liquid.
- When the solution is evaporated, either through boiling or by being left in a warm place, the liquid will turn into gas and leave the solid behind.
- If the gas is then condensed on a cool surface, the liquid can be recovered and collected too. Examples of mixtures to separate with this process include salt and water or sugar and water.

### Filtering

This process should be used to separate a mixture of an insoluble solid and a liquid. A funnel is lined with filter paper and placed over a beaker. The mixture is poured slowly into the filter paper.

Insoluble solids will not have dissolved in the liquid. The solid particles will not be able to get through the tiny holes in the filter paper, and will be caught in it.

The liquid particles will go through the filter paper into the beaker below.

This process could be used to separate a mixture of sand and water.

### Sieving

Use this process to separate a mixture of different sized solids.

The mixture is poured into a sieve held over a bowl.

The smaller particles will get through it into the bowl and the larger particles will be caught in the sieve.

Mixtures you could separate using this process include raisins and flour, or rice and pasta.