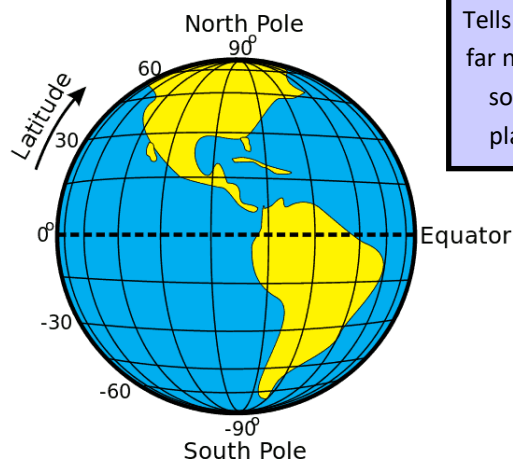


MAPSKILLS

1. Latitude and Longitude

We can use latitude and longitude to pinpoint the location of any place on the earth.

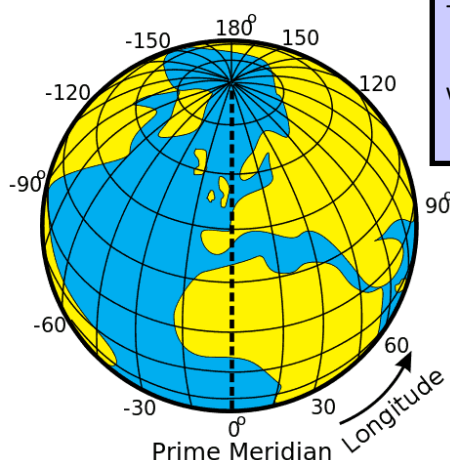
LATITUDE— lines of latitude are parallel to each other, circling the earth in an east-west direction. The 0° line of latitude is the equator. The Tropic of Cancer is 23.5°N and the Tropic of Capricorn is 23.5°S



Tells us how far north or south a place is

LONGITUDE—lines of longitude run from the top of the earth to the bottom meeting at north and south poles (they are also called meridian lines).

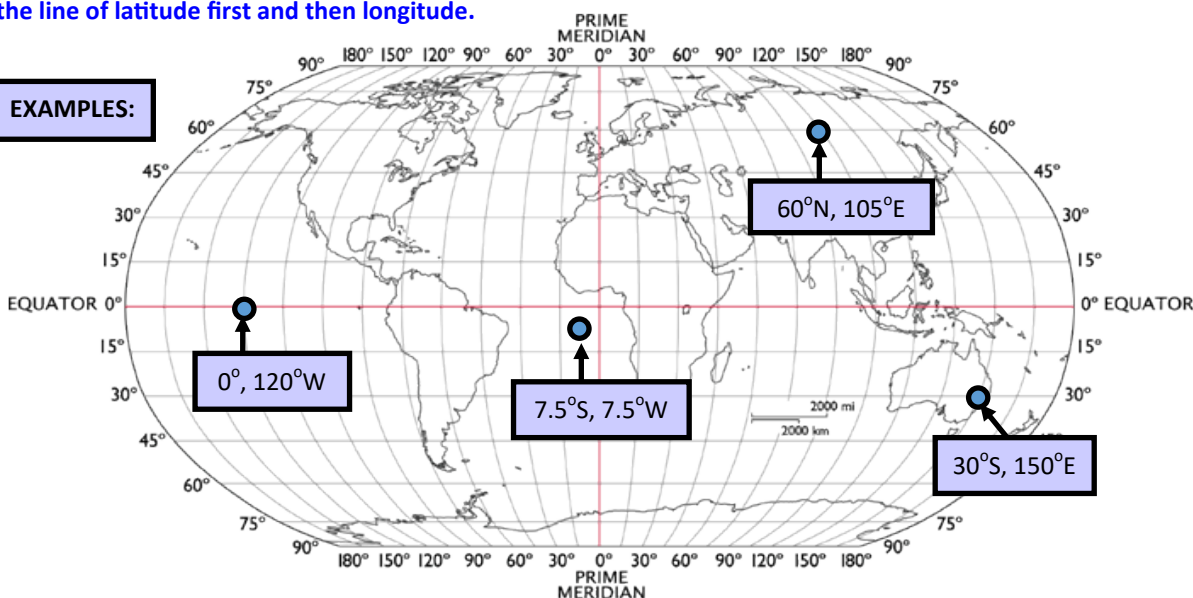
The 0° line of Longitude is known as the Greenwich Meridian and runs through Greenwich in London.



Tells us how far east or west a place is

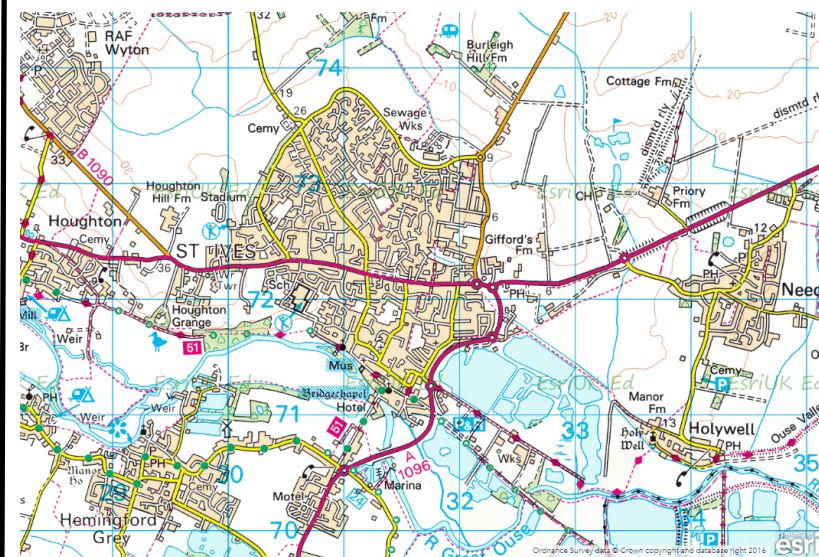
Source: [Image: Djexplo – Wikimedia Commons, CC BY 2.0](#)

When giving the latitude and longitude of a place—always given the line of latitude first and then longitude.



2. Ordnance Survey Maps

The Ordnance Survey (OS) is the national mapping agency for Great Britain. Ordnance Survey maps are detailed maps of Great Britain, showing the physical landscape and detailing features such as villages, towns, rivers, roads etc.



There are a number of skills you need to learn to be able to interpret OS maps.

3. Scale

Scale enables you to calculate the exact distance between two places on a map. The scale of a map is how much you would have to enlarge your map to get to the actual size of the area you are looking at.

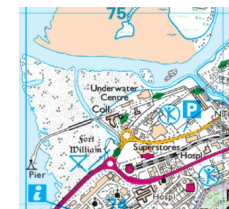
1:25,000 and 1:50,000 are common OS map scales.

1. **1:25,000**—this means that every 1cm on the map = 25,000cm in real life.

i.e. this is the same as **4cm to 1km**

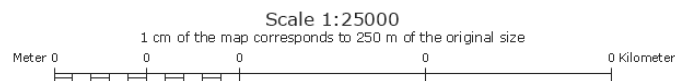
2. **1:50,000**—this means that every 1cm on the map = 50,000cm in real life.

i.e. this is the same as **2cm to 1km**



4. Calculating Distance on an OS map.

All Ordnance Survey maps have a scale bar to be used to help measure distance.



1. Measuring STRAIGHT LINE DISTANCES:

Measures the direct distance between two points.



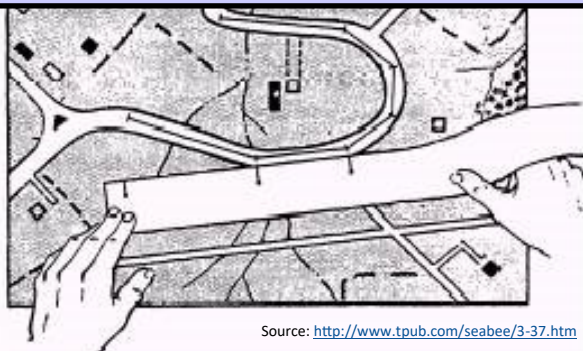
- Mark the positions of the two places on the edge of a piece of paper
- Place **this edge** under the scale bar and read off the correct number of whole and part kilometres (remember to start at 0!)

2. Measuring CURVED (ACTUAL) DISTANCES:

- Choose a straight edged piece of paper, mark one of the places on the edge and gradually work along the route, using a pen to pivot the paper and keep it in place to follow the route until meet the second place (mark this with a pen). You can then use the scale bar to work out the distance.



Always remember to give units (e.g. km) when giving distance!



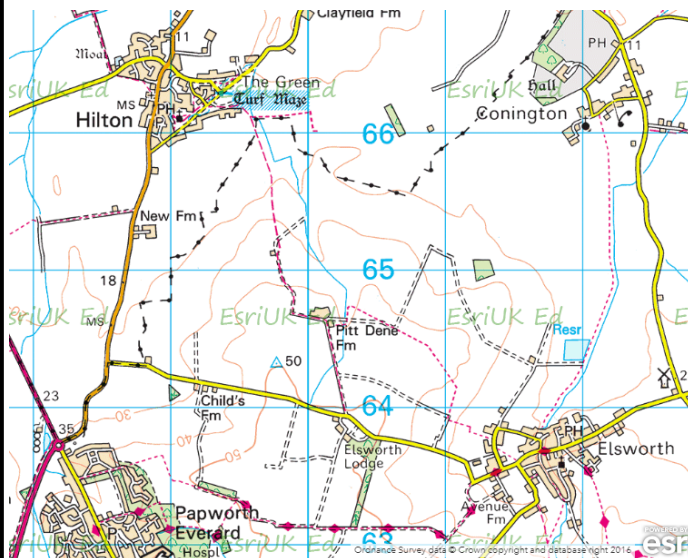
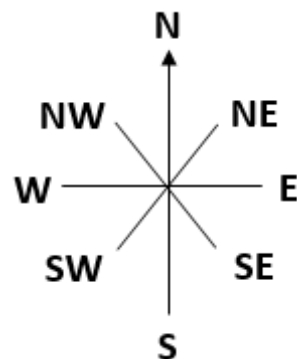
Source: <http://www.tpub.com/seabee/3-37.htm>

5. Directions

Ordnance Survey maps will all have a north arrow marked on.

You must be able to describe the position of places in relation to other places using direction.

You should be able to use an 8 point compass. Some of you may even be able to use a 16 point compass for increased accuracy. For example if a place is between N and NE it is NNE.



In the map above— what direction would you travel..

- ?
- from Conington to Hilton?
 - from Elsworth to Hilton?
 - from Papworth Everard to Hilton?
 - from Papworth Everard to Conington?

6. Using a key

As there is a lot of information on OS maps, symbols, lines and icons are used to help mark things on a map.

Each Ordnance Survey map will have a **key**—this will help you identify what each symbol actually means and therefore help you interpret the landscape you are looking at.

Although OS maps have a key, you should try and learn some of the most often used symbols. Some examples are below.

Church with a Tower	
Church with a spire	
Campsite / Caravan site	
Golf Course	
Bus Stop	
Picnic site	
Public House	
Car Park	
Viewpoint	
Site of Battle	
Coniferous Woodland	
Non-coniferous woodland	
Tourist information	
Public Phone	

7. Grid Reference—4 and 6 figure

Ordnance survey maps are divided into grid squares. These can be used to help pin-point the location of a place.

Vertical lines are called **EASTINGS** with numbers increasing towards the east and horizontal lines are called **NORTHINGS** with numbers increasing towards the north.

Always give the EASTING and then the NORTHING figure

You need to be able to use and give both FOUR and SIX figure grid references.

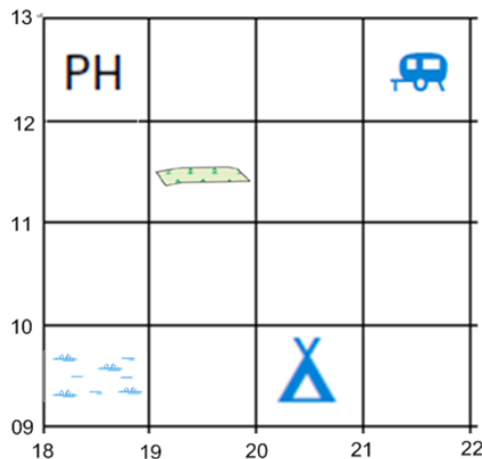
1. FOUR FIGURE GRID REFERENCES

How would you give the four figure grid reference of the square with the marsh in?

Give the number of the line to the left of the square which is **18**

Give the number of the line to the bottom of the square which is **09**

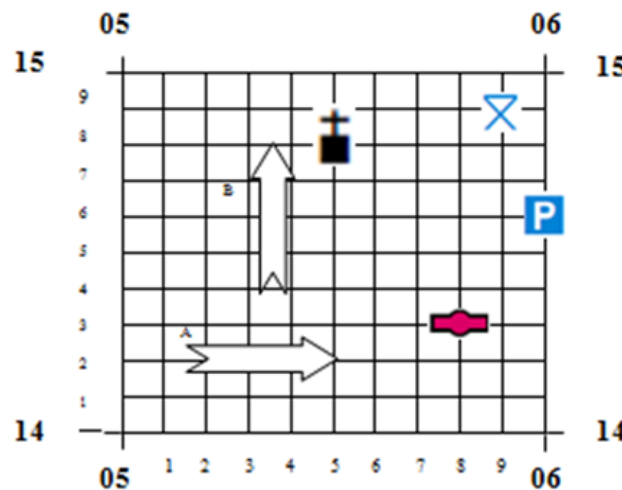
So the marsh is in grid square **1809**



- So what is the 4 figure grid reference for:-
- (i) Campsite _____
 - (ii) Pub _____
 - (iii) Woodland _____
 - (iv) caravan site _____

2. SIX FIGURE GRID REFERENCES

Six figure grid references are simply an extension of four figure grid references. The four figure grid reference tells us which grid square to look in, a six figure grid reference tells us precisely where within that grid square to look.



How would we give the six-figure grid reference for the church with a spire, located within this grid square?

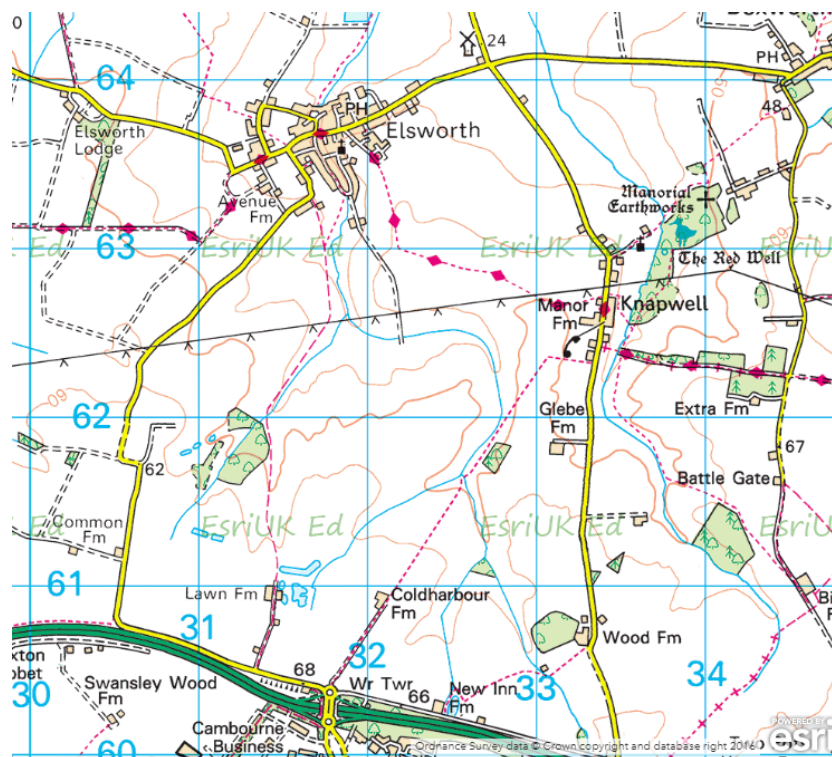
1. Firstly - what is the 4 figure grid reference for this square? (remember give the number of the line to the left and then number of the line immediately below the square **0514**)

2. You need to imagine that the square is divided into tenths (along the bottom and up the side).

Go 'along the corridor' (follow arrow A), how many tenths along the square is the church? **5**, add this number to the first two figures of your four figure grid reference. **0 5 5**

Now go 'up the stairs' (follow arrow B), how many tenths up the square is the church? **8**, add this number to the second two figures of your four figure grid reference **1 4 8**

Now put the two halves together to give the six figure grid reference for the church with the tower which should be written **055 148**.



- So – can you give the 6 figure grid reference for (i) The Bus Station (ii) The Picnic Site? (iii) The car park?

NOW PRACTICE USING THE OS MAP OPPOSITE

What is the four figure grid reference for:

1. Avenue Farm (Elsworth)?
2. Wood Farm?
3. Elsworth Lodge?
4. Manor Farm (Knapwell)?

What is the six figure grid reference for:

1. Church with tower—Elsworth?
2. Lawn Farm?

8. Height and Relief of Land

Ordnance Survey maps can be used to tell us about the **height** and **relief** of land.

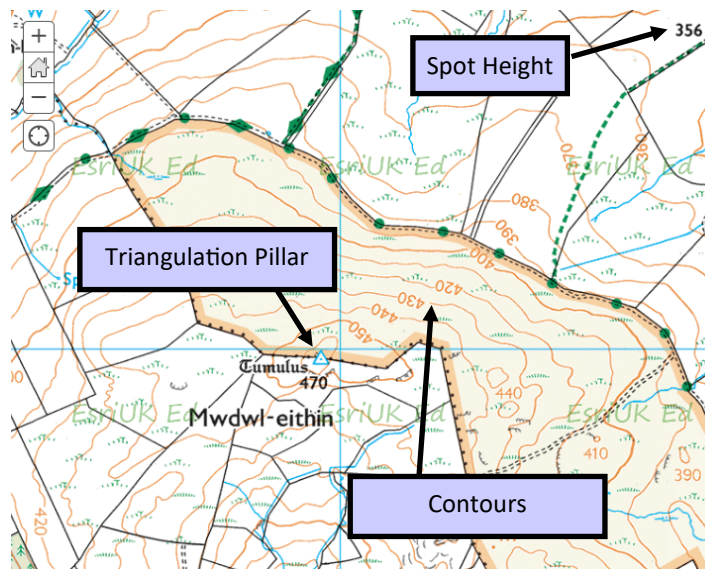
The **height of land** is how high above sea level the land is (measured in **metres above sea level**). The **relief** of the land refers to the **shape of land** in relation to its lowest and highest points.

On Ordnance Survey maps, **contour lines**, **spot heights** and **triangulation pillars** can be used to give information about the height and relief of an area of land.

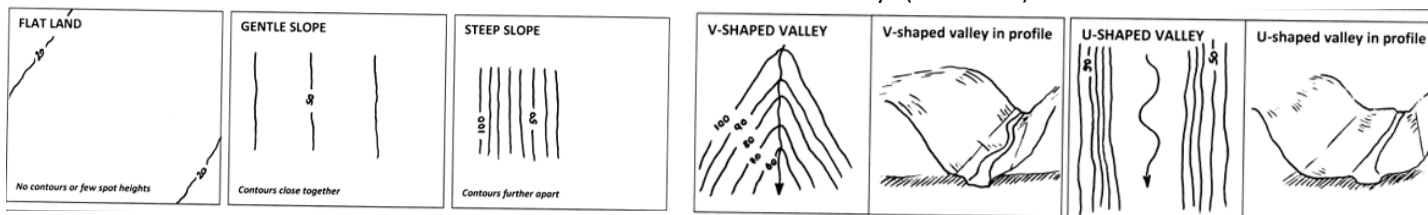
Contour lines are lines that join places of equal height and are often in 5 or 10 m intervals.

The closer together the contours, the steeper the slope—it shows the height of the land increases or decreases quickly.

The further apart the contours are the more gentle the slope. Where contours are very far apart it may be flat.



Contour patterns can tell us about landscape features such as hills and valleys (see below).



APPLYING YOUR KNOWLEDGE...

? Make sure you try some of the questions throughout this KO.

1. What is meant by 1:25,000 on an OS map?
2. What is the difference between height and relief on an OS map?
3. What will a slope be like where contours are close together?
4. What are the 0° lines of latitude & longitude?
5. Define what is meant by a contour line.

Now Challenge yourself even further!

1. Using the St Ives OS map extract on the next page try pick a walking route between St Ives and Holywell, describe your journey and what you would see on the way (try and work out the distance as well).
2. Test yourself on Grid references and calculating distances using the OS map to help you (you could pair up—each create questions and then test each other!)

Some ideas for finding out more...

There are some advanced map reading guides from the Ordnance Survey here <https://getoutside.ordnancesurvey.co.uk/guides/map-reading-skills-advanced-guides/>

OTHER RESOURCES

Mapzone—Interactive Games <https://www.ordnancesurvey.co.uk/mapzone/games>

Map Reading videos with Steve Backshall and Ordnance Survey <https://tinyurl.com/mapreadingvideos>

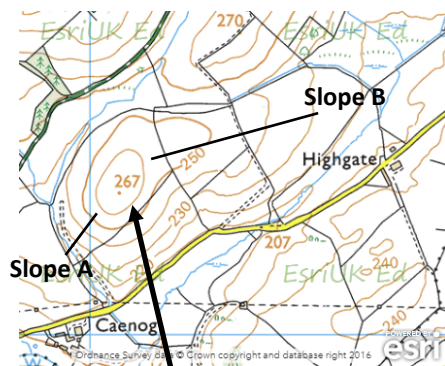
OS Mapskills—BBC Bitesize <https://www.bbc.co.uk/bitesize/guides/z6j6fg8/revision/1>

Ordnance Survey OS Explorer Symbol Flashcards <https://tinyurl.com/OSSymbolflashcards>

KS3 Schoology

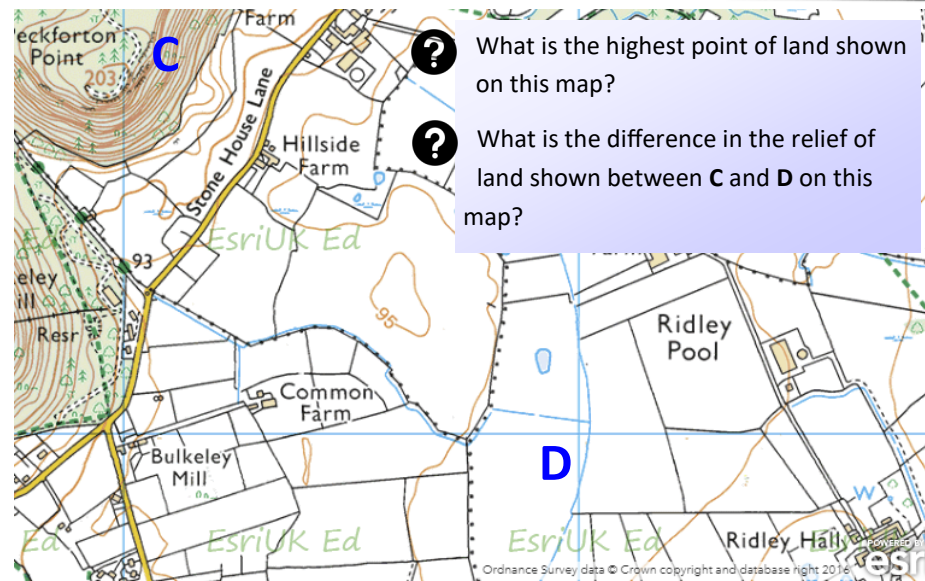


SCAN ME



? What is this landscape feature?

? What is the difference between Slope A and Slope B?



? What is the highest point of land shown on this map?

? What is the difference in the relief of land shown between C and D on this map?

Ordnance Survey Extract - St Ives and surrounding area

