

# GEOGRAPHY KNOWLEDGE BOOK


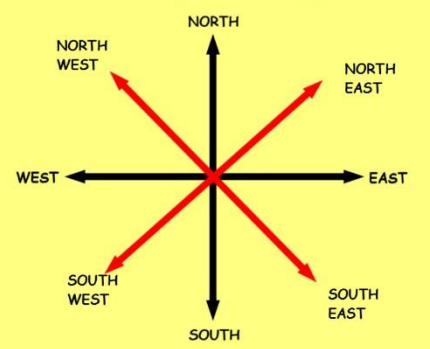
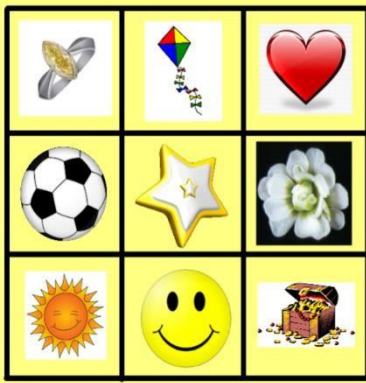


## YEAR 7

**YEAR 7: SKILLS**

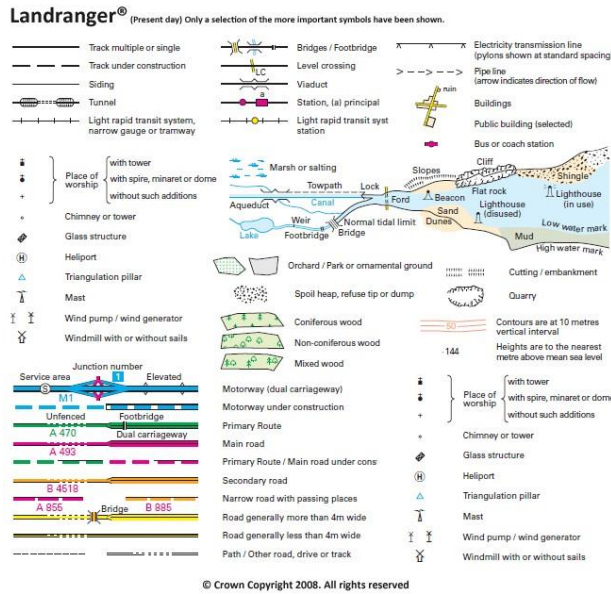
The information here is what all students MUST know. Use this sheet as a checklist to identify what is clear to you, what you need to work on, and what you can tick off once revised. If you have any doubts or questions, please come and see your teacher – we will be very happy to help!

KEY IDEA	IDENTIFY & KNOW
<p><b>1. Three different types of geography</b></p>	<p><b>Human geography-</b> This is the study of humans and their actions. It is the study of where and how people live, for example, the types of jobs people do any the reasons why people migrate from place to place.</p> <p><b>Physical geography-</b> This is the study of the earth’s natural features and natural events. For example, why a volcano erupts or why different parts of the global receive different weather patterns.</p> <p><b>Environmental geography-</b> This is the study of peoples impact on the natural world and how we change our surroundings. For example, human extract large quantities of fossil fuels like coal from the ground and use it to generate power for electricity. This releases greenhouses gasses which trap heat in our atmosphere and warm the earth (process known as global warming).</p>
<p><b>2. Types of maps</b></p>	<p>You need to be aware and able to read a variety of map types. Examples of the two most common are: <b>Atlas maps</b></p> <p>An atlas will usually show you the names of the different countries around the world. These are sometimes known as political maps. Make sure that you are aware of the 7 continents, there locations and some examples of countries than can be found in each continent.</p> <p>Atlas maps are also sometimes used to plot other information such population density or life expectancy. This additional layer of information is often shown using different shades of colour of which the meaning of is displayed in a key. <b>OS maps</b></p> <p>Ordnance survey maps are maps that show detailed information, at different scales (1:25000 and 1:50000 are the most common), of the human and physical features of the UK. In short, they are maps of what you will find in real life in great detail.</p> <p>These are the maps that you will often be asked skill based questions on, for example, 4 and 6 figure grid references.</p>
<p><b>3. Atlas Skills</b></p>	<p>Atlases can contain a huge range of information. You will need to be able to recognise and describe patterns of both human and physical features. You will also need to be able to relate human geography to patterns of physical geography. Example right.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="598 1601 1013 1960"> <p><b>Population Density</b></p> <p>KEY</p> <ul style="list-style-type: none"> <li>river</li> <li>over 200 people per square km (ppsk)</li> <li>10-200 people per square km (ppsk)</li> <li>under 10 people per square km (ppsk)</li> </ul> <p>0 1000 km</p> </div> <div data-bbox="1037 1601 1460 1960"> <p><b>Physical Features</b></p> <p>KEY</p> <ul style="list-style-type: none"> <li>river</li> <li>over 2000 m</li> <li>500-2000 m</li> <li>below 500 m</li> </ul> <p>0 1000 km</p> </div> </div>

KEY IDEA	IDENTIFY & KNOW	
<p><b>4. Lines of longitude and latitude</b></p>	 <p>The map above shows the main lines of longitude and latitude found on a global map. When giving a grid coordinate on a global map, remember that you give the line of latitude reading first, e.g., 50 degrees north, and the line of longitude reading second, e.g., 30 degrees west. This grid reading would therefore look like this 50°N 30°W.</p>	
<p><b>5. Compass directions</b></p>	<p><b>The 8-point compass</b></p> 	<p>You also need to be aware of how to give compass directions. For example, if we were to ask, using the image to the right, what direction is the heart from the star, the answer would be north east. This is because if we travelled from the star to the heart, we would go in a north west direction.</p> <p>Remember to always start at the point where you are described to go <b>'from'</b>.</p> 



## 6. OS Map symbols

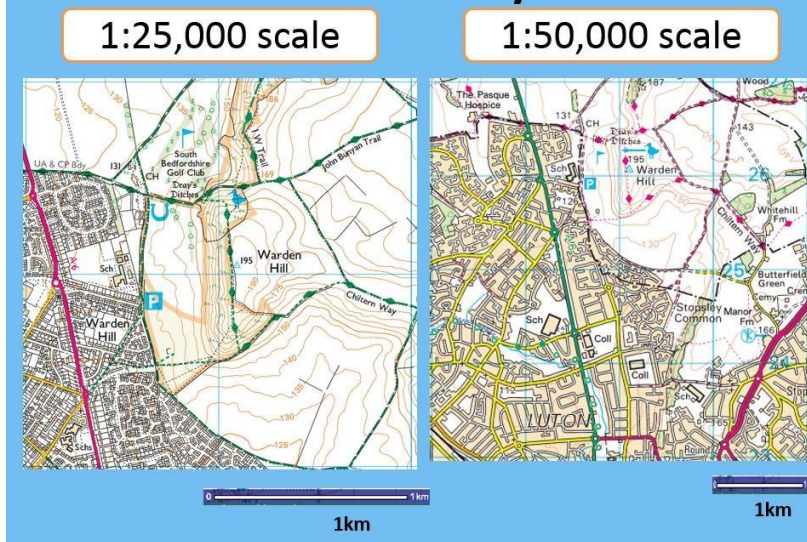


You do not need to remember them of by heart but you do need to know how to use a key on an OS map to read the map symbols. The main symbols are shown to the left.

## KEY IDEA

## IDENTIFY & KNOW

### 7. Using different scales on a map



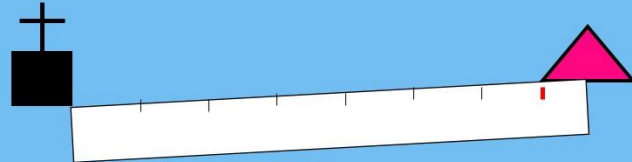
- We use scale to represent real-life distances on a piece of paper – a map.
- For maps to be useful they need to be smaller than real life and ideally fit in a bag!
- Scale is the link between the distance on paper on a map and the distance in real life.
- Scale is like a zoom lens. The more zoomed in you are, the more detail you see about the world.

8.  
Measuring  
distance  
on a map

## Measuring distance on a map

Measuring the straight line distance is easy – we use the scale.

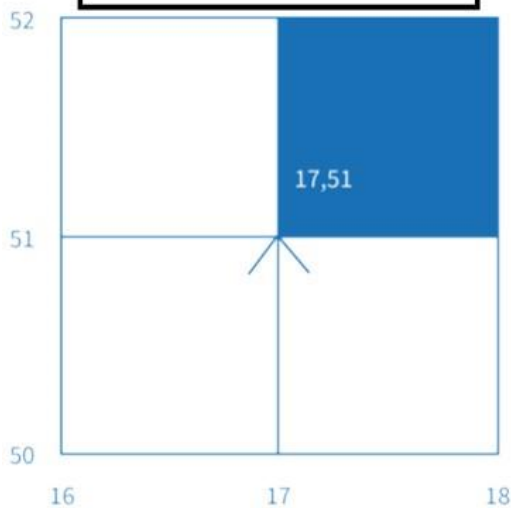
Get a ruler or piece of paper and simply **measure the distance between the two points.**



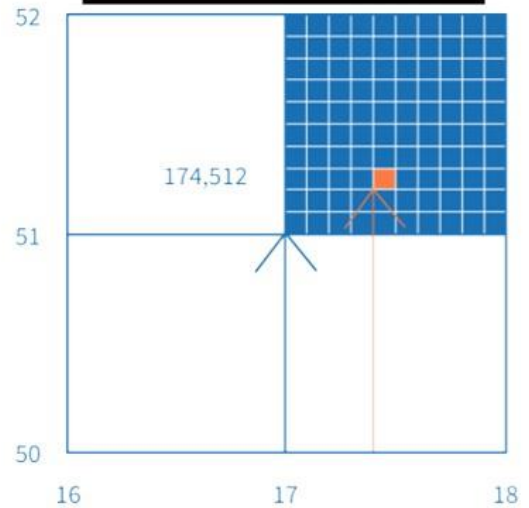
Then, **compare it to the scale on the map** to find out how **far it is in real life.** (*'As the crow flies'*)

9. 4 and 6  
figure grid  
references

### 4-figure grid references



### 6-figure grid references

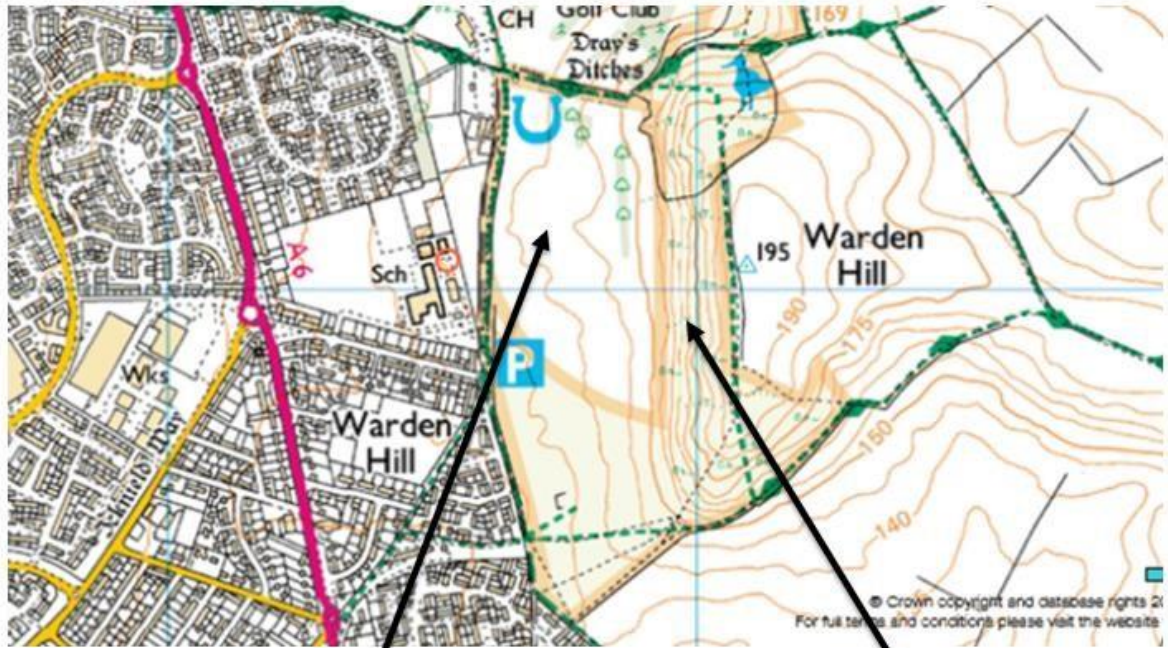


Remember it's along the corridor and up the stairs!



**10.**  
Reading  
contour  
lines

Contour lines show the height of the land on an OS map. They are shown by thin brown lines on OS maps.



If the contour lines are spaced far apart, the land is flat.

If the contour lines are close together, the land will be steep.

## Ordnance Survey (OS) maps do this in THREE ways.

You must remember that all heights are measured above sea level which is 0 metres. Another word for height above sea level is **ALTITUDE**.

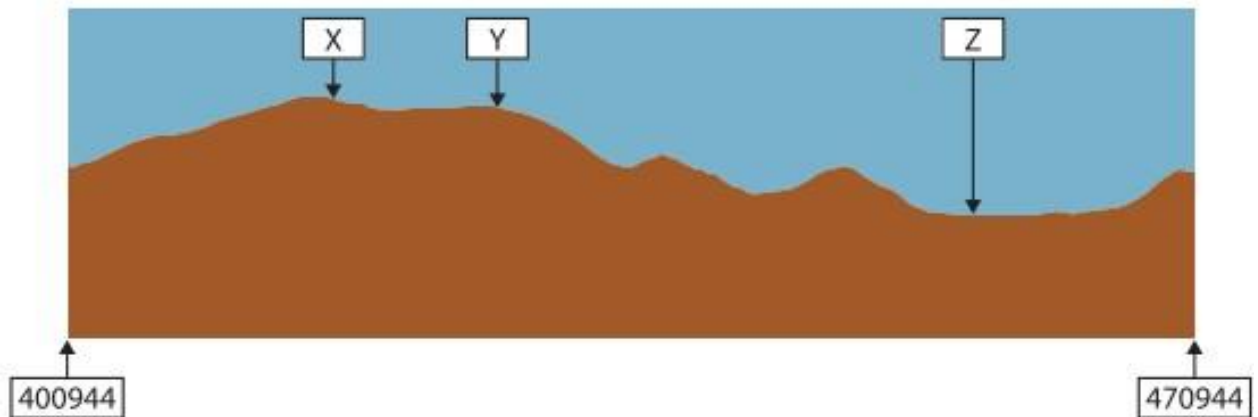
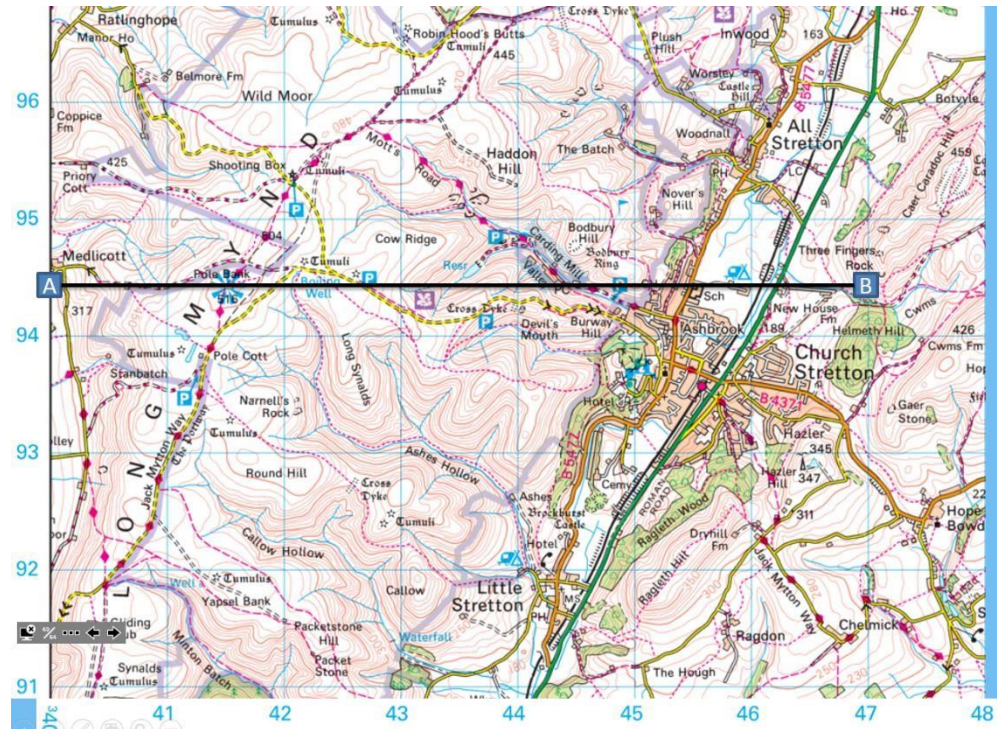
1. **SPOT HEIGHTS**: a spot height is an accurate measurement of the height of the land in metres above sea level. It looks like this; ● 261

2. **TRIANGULATION POINT**: this is a very accurate measurement of the height of the land in metres above sea level, it is usually the **HIGHEST** point in an area. It looks like this; ▲ 189

3. **CONTOUR LINES**: these are thin orange-brown lines drawn to link places that are the same height above sea level. Contour lines are drawn at intervals of 10 metres. They look like this; — 20 —

### 11. Creating cross sections

Remember, a cross section is a view of something cut through from the side, for example, a hill side.



The image above shows a cross section for the points A to B on the map, or between the two 6 figure grid references.

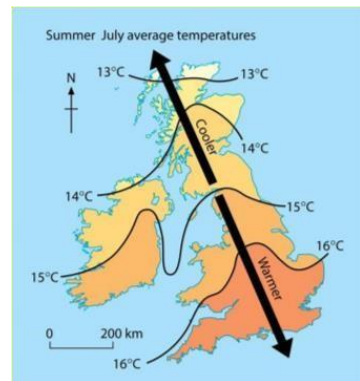
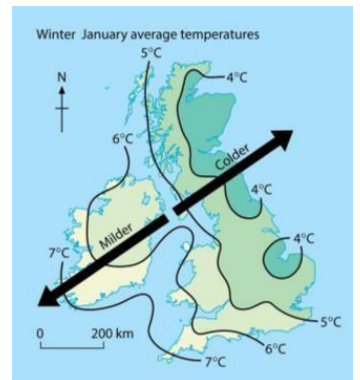
You may then be asked to work out which symbols or features are marked on the different points on the map. To do this, find the two 6 figure grid references you are given on the map. Mark them with an X. Then draw a line between the line (as I have done above). Then fold your cross section image (image above with brown hills) and place it along the cross section line you have drawn. Use a ruler to match the letters to the features or symbols.



## WEATHER & CLIMATE

The information here is what all students MUST know. Use this sheet as a checklist to identify what is clear to you, what you need to work on, and what you can tick off once revised. If you have any doubts or questions, please come and see your teacher – we will be very happy to help!

KEY IDEA	IDENTIFY & KNOW
<p><b>1.</b> <b>Weather</b></p>	<p><b>Weather</b> is the condition of the air around us over a short period of time.</p> <p><b>Meteorology</b> is the study of the weather. Meteorologists measure and record all the features of the weather everyday using expensive equipment in order to provide us with essential <b>weather forecasts</b>. However, we can record the weather ourselves using simple <b>observations of temperature, precipitation, wind speed, wind direction, cloud cover and visibility</b>.</p>
<p><b>2.</b> <b>Climate</b> (e.g. Britain)</p>	<p><b>Climate</b> is the average weather conditions taken over many years.</p> <p>There are seasonal variations in Britain's climate as shown by the maps (right). The maps show that:</p> <ol style="list-style-type: none"> <li>1. Temperatures are higher in summer than in the winter</li> <li>2. Temperatures at any one time are not the same all over Britain</li> <li>3. The pattern of temperature is different in the two seasons</li> </ol> <p>There are many reasons for the temperature variations across Britain:</p> <ol style="list-style-type: none"> <li>1. <b>Wind direction</b> – northerly winds are cold, southerly winds are warm, westerly winds are wet and easterly winds are dry. The direction of the wind is therefore hugely influential.</li> <li>2. <b>Ocean currents</b> - in winter a warm ocean current known as the North Atlantic Drift raises the temperatures in the west</li> <li>3. <b>Latitude</b> - this is the distance from the equator. Generally locations closer to the equator are warmer. This means that in the summer, the sun warms the south more than the north.</li> <li>4. <b>Height (altitude)</b> – temperatures are lowered in hills and mountains by about 1°C for every 100m in height. Britain's uplands in the north and west for this reason, are generally cooler.</li> <li>5. <b>Distance from the sea</b> – the sea keeps coastal locations warm in the winter but cooler in summer. Places inland have warm summers and cooler winters.</li> </ol> <p>In Britain we can expect rainfall all year round. Winter is generally wetter although there are only slight variations seasonally. However, the amount of rainfall varies considerably from place to place with the greatest differences between the east and west. This is due largely to <b>relief rainfall</b> (see below).</p>

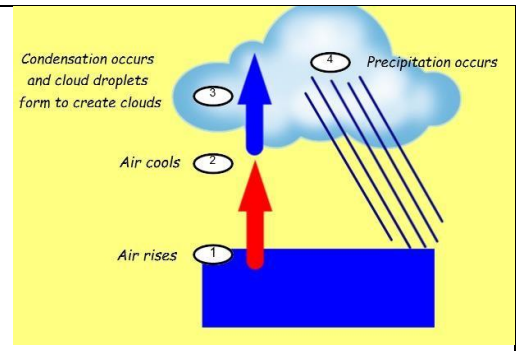




3.  
Rainfall

**How does it rain?**

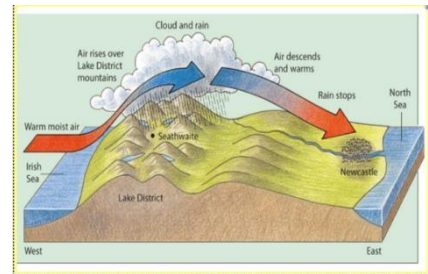
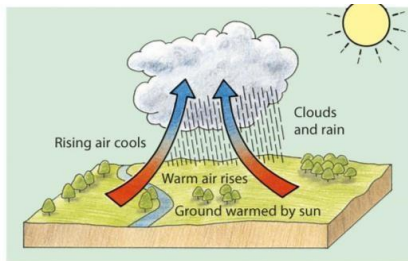
Clouds are made up of small drops of moisture called **cloud droplets**. These are only visible because billions of them crowd together to form clouds. Clouds form where moist air rises, cools and **condenses** to form cloud droplets. A cloud will release rain after these tiny droplets grow thousands of times larger into raindrops which then fall to the ground.



**KEY IDEA IDENTIFY & KNOW**

Air can be forced to rise in three different ways giving three different types of rainfall: **relief**; **convective** and **frontal**.

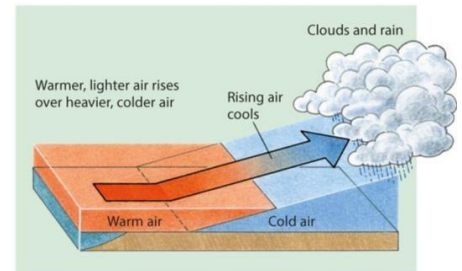
**Relief rainfall** – occurs when moist air is forced to rise over mountains. As it rises, it cools resulting in the rainmaking process described above. This is common in the west of Britain where most of the highland is located.



**Convective rainfall** – occurs when the ground surface is heated by the sun. The air above the ground is warmed up, rises and as it cools down clouds form and rain follows. This is common in the British summertime.

**Frontal rainfall** – occurs when a mass of warm air meets air at a lower

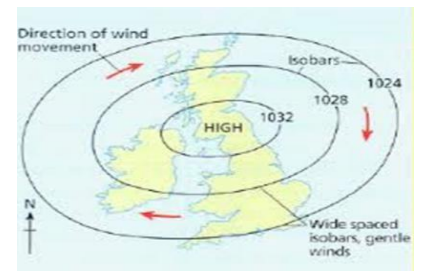
temperature, it rises up and over the colder, heavier air. Once it is made to rise, cloud and rain will follow. The place where the cold and warm air meet is called a front hence the name. This type of rainfall is common all year but especially in winter.



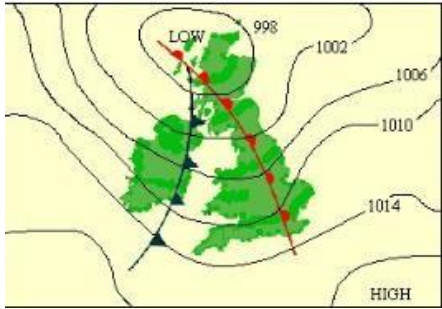
4.  
Anticyclones

The weather we experience is determined by changes in air pressure within the atmosphere. **Air pressure** is the weight of the air pressing down on us from above.

**Anticyclones** are **high pressure** weather systems characterised by sinking air. They usually give good weather. The features associated with anticyclones are as follows:

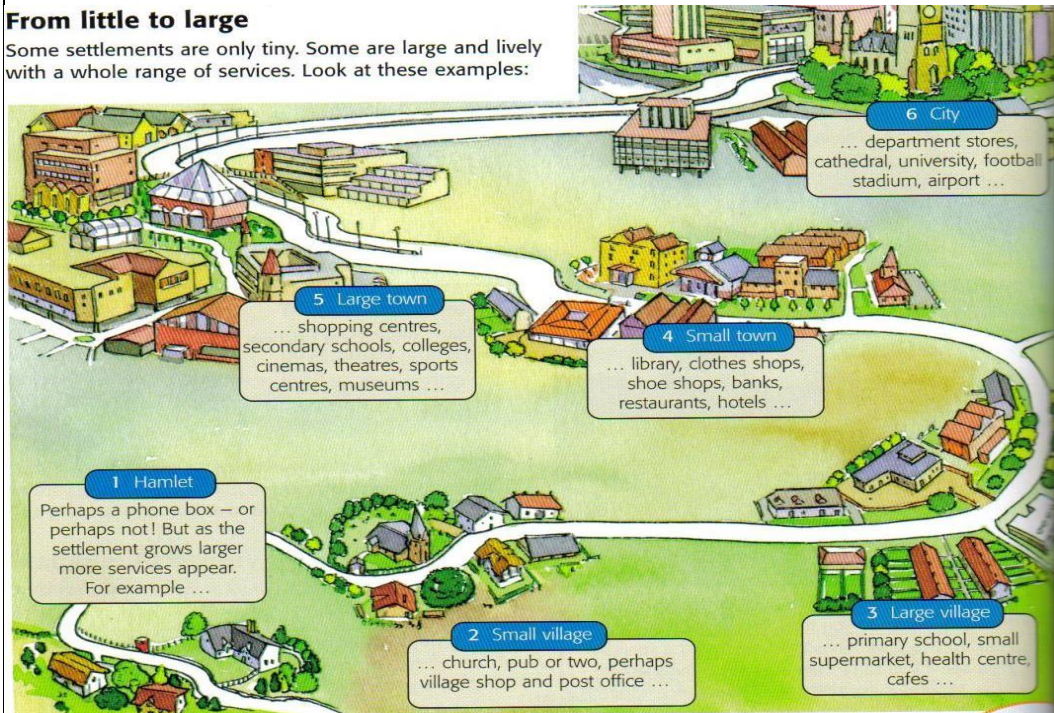


Features	Summer	Winter
<b>Weather</b>	High temperatures, sunny weather (heatwave conditions)	Low temperatures, clear skies, frost and fog
<b>Cloud cover</b>	None	None
<b>Wind speed</b>	Light	Light
<b>Wind direction</b>	Clockwise	Clockwise
<b>Rain</b>	None	None
<b>Duration</b>	Last several days	Last several days
<b>Area affected</b>	Large - usually the whole country	Large - usually the whole country

<p>5. Depressions</p>	<p><b>Depressions</b> are <b>low pressure</b> weather systems characterised by rising air. They usually give poor, unsettled weather. The features associated with a depression are as follows:</p> <table border="1" data-bbox="279 318 1010 658"> <thead> <tr> <th>Features</th> <th>Summer or winter</th> </tr> </thead> <tbody> <tr> <td>Weather</td> <td>Unsettled, stormy conditions wind and rain</td> </tr> <tr> <td>Cloud cover</td> <td>Thick, overcast</td> </tr> <tr> <td>Wind speed</td> <td>Strong</td> </tr> <tr> <td>Wind direction</td> <td>Anti-clockwise</td> </tr> <tr> <td>Rain</td> <td>Heavy to light</td> </tr> <tr> <td>Duration</td> <td>A day or so</td> </tr> <tr> <td>Area affected</td> <td>Small – usually part of the country</td> </tr> </tbody> </table>  <p>Depressions usually form over the Atlantic and generally track from west to east across the country bringing a sequence of weather.</p>	Features	Summer or winter	Weather	Unsettled, stormy conditions wind and rain	Cloud cover	Thick, overcast	Wind speed	Strong	Wind direction	Anti-clockwise	Rain	Heavy to light	Duration	A day or so	Area affected	Small – usually part of the country
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### YEAR 7: URBANISATION

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KEY IDEA	IDENTIFY AND KNOW
<p><b>Different land use types</b></p>	<p><b>Rural</b> – The countryside, where people live on farms and small villages. There may be lots of fields and not much housing</p> <p><b>Urban</b> – An area with a large population, lots of housing. A town or city</p> <p><b>From little to large</b> Some settlements are only tiny. Some are large and lively with a whole range of services. Look at these examples:</p>  <p><b>1 Hamlet</b> Perhaps a phone box – or perhaps not! But as the settlement grows larger more services appear. For example ...</p> <p><b>2 Small village</b> ... church, pub or two, perhaps village shop and post office ...</p> <p><b>3 Large village</b> ... primary school, small supermarket, health centre, cafes ...</p> <p><b>4 Small town</b> ... library, clothes shops, shoe shops, banks, restaurants, hotels ...</p> <p><b>5 Large town</b> ... shopping centres, secondary schools, colleges, cinemas, theatres, sports centres, museums ...</p> <p><b>6 City</b> ... department stores, cathedral, university, football stadium, airport ...</p>

How were the sites for early settlements chosen?

## A very short history of the earth and human settlements!

A. The earth formed . . .	4: 4.5 billion years ago
B. Life on earth in the form of single celled organisms began . . .	1: 3.8 billion years ago
C. Humans (Homo sapiens), as we know them today, evolved and joined the earth . . .	5: 200,000 years ago
D. The first humans were hunter gatherers and ate . . .	3: Fruit, berries and hunted
E. This meant they were always . . .	2: On the move and didn't stay in one place

## Natural site factors

When settlers first chose a location to create a settlement, they made their decision based on the following aspects



**Building materials**  
Needed wood or stone. Useful to be near a wood or rocky hill side.



**Shelter**  
A south facing slope will have more sun and protection from the wind. Trees can also provide protection.



**Protection**  
Good views from the hill top give you warning if you are about to be attacked. It is also easier to defend land if you are uphill of your enemy.



**Water**  
Needed for drinking, cooking and washing. Too much can cause flooding.



**Wood**  
Need for fires to keep warm and to cook on.

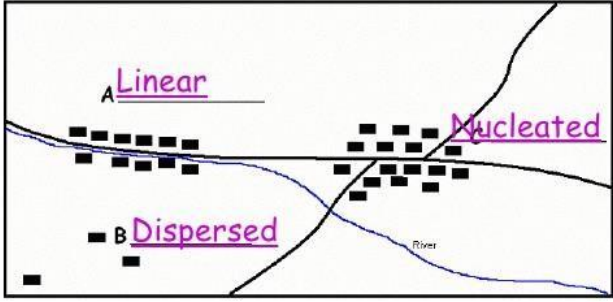


**Rivers**  
Easy to cross either on foot or by a bridge.




**Flat land**  
Easier to build on, grow crops and travel to other towns.



KEY IDEA	IDENTIFY & KNOW								
<p><b>Different settlement patterns</b></p>	<p style="text-align: center;"><u>How is the shape of a settlement classified?</u></p> <div style="text-align: center;">  </div> <p><u>Dispersed:</u> Dispersed settlements have buildings which are spread out, e.g. farmhouse in the middle of fields or a few houses in a mountainous area. They are dispersed because farmers need a lot of land for grazing and growing crops.</p> <p><u>Nucleated:</u> Nucleated settlements have buildings which are close together. They often grew around a road junction or a river crossing.</p> <p><u>Linear:</u> Linear settlements have a long and narrow shape. They often follow roadways, riverbanks, canals or narrow valleys where there is little room to grow outwards.</p>								
<p><b>Why settlements change with time</b></p>	<p>No town or village remains the same for ever. Over a period of time the following may all change;</p> <ol style="list-style-type: none"> <li>1. The <b>shape</b> of a settlement (see above)</li> <li>2. The <b>function</b> of a settlement- This is the main purpose for the settlement, for example, the main types of employment or work that goes on in the settlement, like farming.</li> <li>3. The <b>land use</b> of a settlement- This is how humans choose to use the land, for example, the land may be used for farming or perhaps to build a factory.</li> <li>4. The number (<b>population</b>) and type (<b>demographic</b>) of people that live in a settlement</li> </ol> <p>We often see villages grow in size in terms of both the population and number of buildings. This means that villages are becoming more <b>suburbanised</b>. These villages are therefore now quite similar to the outskirts of larger towns..</p>								
<p><b>The benefits and problems of settlement growth</b></p>	<p>The majority of people in the UK live in urban areas. Many people from other countries have moved to UK towns and cities because they believe there will be many benefits from living and working in cities. Moving there will improve their <b>quality of life</b>. The table below shows the benefits and problems people my find in cities.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;"></th> <th style="width: 40%; text-align: center;"><u>Benefits</u></th> <th style="width: 40%; text-align: center;"><u>Problems</u></th> </tr> </thead> <tbody> <tr> <td></td> <td> <ul style="list-style-type: none"> <li>- There are more houses or flats to buy</li> <li>- There are more jobs</li> <li>- The jobs are often better paid</li> <li>- Food supplies easily available, with many shops giving a great choice in food</li> <li>- There are often good public transport links</li> <li>- There are better services such as shops and hospitals</li> <li>- Urban areas often have better leisure facilities where people can enjoy their free time, e.g., concert halls, restaurants, bars etc.</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>- Traffic causes congestion, accidents, noise and air pollution</li> <li>- Old roads are too narrow for lorries and buses</li> <li>- New roads and houses take up a lot of land and are often built on natural areas that used to provide a habitat for wildlife</li> <li>- Crime, vandalism and litter sometimes make cities dangerous and unpleasant</li> <li>- Land is very expensive to buy, in and near the city centre</li> </ul> </td> </tr> </tbody> </table>				<u>Benefits</u>	<u>Problems</u>		<ul style="list-style-type: none"> <li>- There are more houses or flats to buy</li> <li>- There are more jobs</li> <li>- The jobs are often better paid</li> <li>- Food supplies easily available, with many shops giving a great choice in food</li> <li>- There are often good public transport links</li> <li>- There are better services such as shops and hospitals</li> <li>- Urban areas often have better leisure facilities where people can enjoy their free time, e.g., concert halls, restaurants, bars etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Traffic causes congestion, accidents, noise and air pollution</li> <li>- Old roads are too narrow for lorries and buses</li> <li>- New roads and houses take up a lot of land and are often built on natural areas that used to provide a habitat for wildlife</li> <li>- Crime, vandalism and litter sometimes make cities dangerous and unpleasant</li> <li>- Land is very expensive to buy, in and near the city centre</li> </ul>
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- Old houses and factories need urgent and expensive repairs or are left empty

KEY IDEA	IDENTIFY & KNOW
<p><b>Land use patterns in urban areas</b></p>	<p>As a town develops over time, we tend to find a particular pattern that develops. Although no two towns will have exactly the same pattern of land use, most have similar patterns. When a simple map is drawn to show these similarities it can be called an <b>urban model</b>. The diagram below shows a typical pattern that has developed in many UK towns and cities:</p>  <p>This pattern has developed due to two main reasons:</p> <ol style="list-style-type: none"> <li>1. The oldest part of the town is in the middle. As the town grew, larger buildings were built on the edges</li> <li>2. Land in the city centre is expensive to buy. This is because lots of people want to use the land for different things such as shops or restaurants so they compete for it.</li> </ol>