



What's our place in the world?

Booklet Two: From Muhammed Al-Idrisi to The Ordnance Survey, Baghdad to Banbury



Geography has been studied since the time of Ancient Greece. It takes an interdisciplinary approach to understanding the world around us, in all of its human and natural complexity.



Trade makes places wealthier, and trade routes has shaped the world we live in by connecting places over long distances. We all live by exchange.



Settlements are complex and challenging to study, shaped by their site and situation. There is a hierarchy to settlement sizes, the services they provide, and the development that goes on inside them.

Lesson 10: Islamic Explorers

By the 12th Century, Europe had entered the Dark Ages and almost all the knowledge of Geography and cartography had been lost.

In this lesson we will learn that:

- To the South and East, the Islamic Empire had entered its Golden Age of Science and the discipline of Geography was still being studied.
- The explorers of the Islamic Empires increased our knowledge of regions and cities across the world.



When Muhammed al-Idrisi met King Roger II

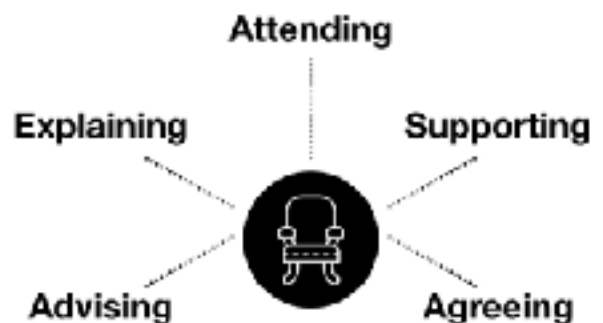
1 Muhammed al-Idrisi was a Muslim and a
 2 North African. Muhammed al-Idrisi was
 3 born in the city of Ceuta. Ceuta is a
 4 coastal city in Northern Africa next to the
 5 Mediterranean Sea. Ceuta is in the
 6 modern country of Morocco, North-West
 7 of the Atlas Mountains.

8 Muhammed al-Idrisi was very interested in
 9 different places. Whilst in his twenties,
 11 Muhammed al-Idrisi travelled to many
 12 parts of Europe including Portugal, the
 13 Pyrenees, and even as far North as the
 14 English city of York.

15 Muhammed al-Idrisi finished his travels by
 16 visiting the city of Palermo. The city of
 17 Palermo is on the island of Sicily, in the
 18 modern country of Italy. It was in Palermo,
 19 that Muhammed al-Idrisi met the King of

20 Sicily, King Roger II. Muhammed al-Idrisi
 21 was invited to settle in the city of Palermo,
 22 and become a guest at King Roger II's
 23 court.

24 As a member of the court of King Roger II,
 25 Muhammed al-Idrisi had a number of
 26 expectations and responsibilities.



Ancient Greece

Islamic Empire

Age of Discovery

Digital Age

27 Muhammed al-Idrisi was a Geographer,
28 and was very interested in the study of
29 cartography. Muhammed al-Idrisi had the
30 opportunity to study the maps of
31 Eratosthenes and Claudius Ptolemy.
32 Whilst there were no copies in Europe
33 during the dark ages, there were copies of
34 these maps in the Islamic Empire.

35 King Roger II of Sicily gave Muhammed
36 al-Idrisi the task of creating the most
37 accurate map of the world that had ever
38 been made. King Roger II was a keen
39 geographer and cartographer.

40 The court of King Roger II of Sicily was
41 known for being tolerant and enlightened.
42 King Roger II wanted to know more about
43 the world around him, however he was not
44 able to leave Sicily for long periods of
45 time.

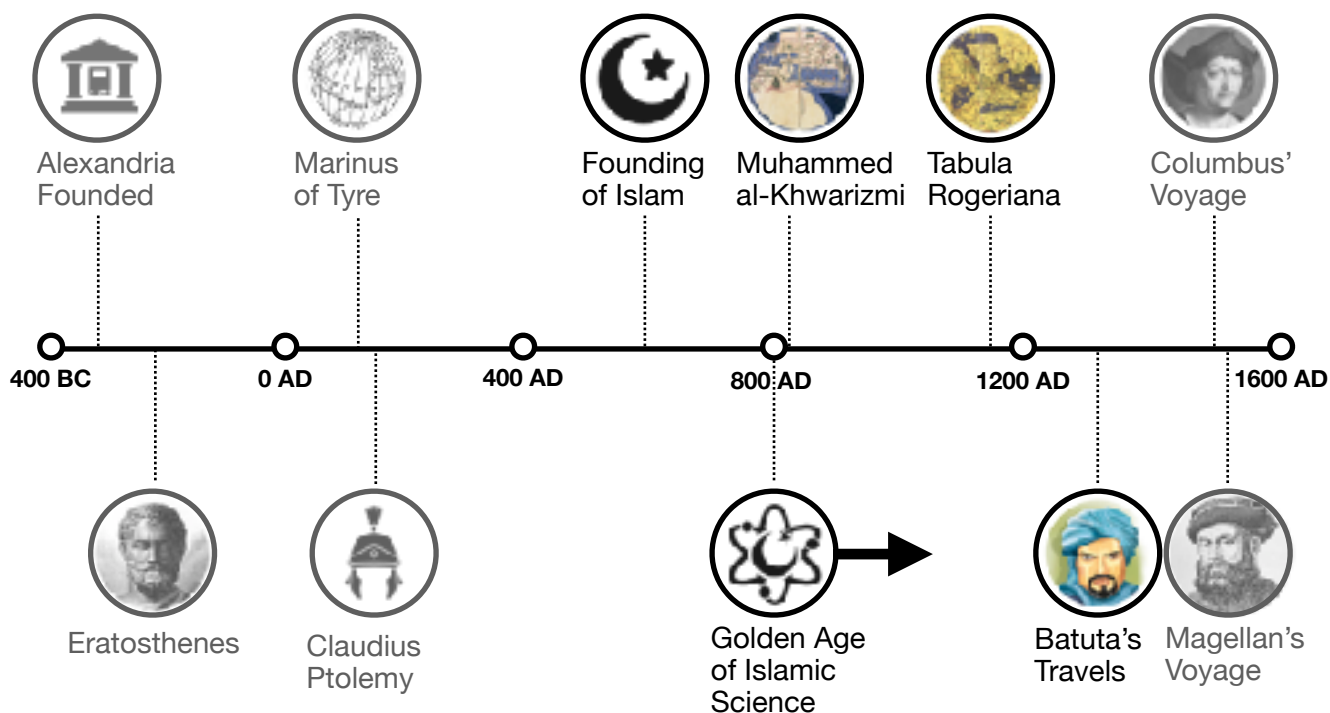
46 Muhammed al-Idrisi based his map on the
47 same rules of longitude and latitude that
48 Eratosthenes had developed more than
49 1000 years before him.

50 Muhammed al-Idrisi worked on the map
51 for fifteen years. Muhammed al-Idrisi used
52 information gathered by Muhammed al-
53 Khwarizmi, who was the Chief Librarian of
54 the House of Wisdom in Baghdad.

55 Muhammed al-Khwarizmi had a significant
56 impact on Geography and Mathematics.
57 Like Eratosthenes, Muhammed al-
58 Khwarizmi studied many disciplines.
59 Muhammed al-Khwarizmi is credited with
60 discovering both algebra and algorithms.
61 As students, you will study both of these
62 in your Maths and Computer Science
63 lessons.





64 The map made by Muhammed al-Idrisi
65 was made as a gift for King Roger II. The
66 latin name for the map is the Tabula
67 Rogeriana, which translates to English as
68 ‘The Map of Roger’.

69 In Arabic, the map is called the Nuzhat al-
70 mushtāq fi'khtirāq al-āfāq (نزهة المشتاق في
71 اختراق الآفاق) which translates to English as
72 “the book of pleasant journeys into
73 faraway lands.”



The tales of Ibn Batuta's travels

1. Match the word to the symbol and it's example sentence neatly, in pencil with a ruler

Scholar		She told him what to write
Explorer		She sailed all the way around the Earth
Dictated		They went somewhere no-one had been before
Circumnavigation		He read and studied harder than anyone

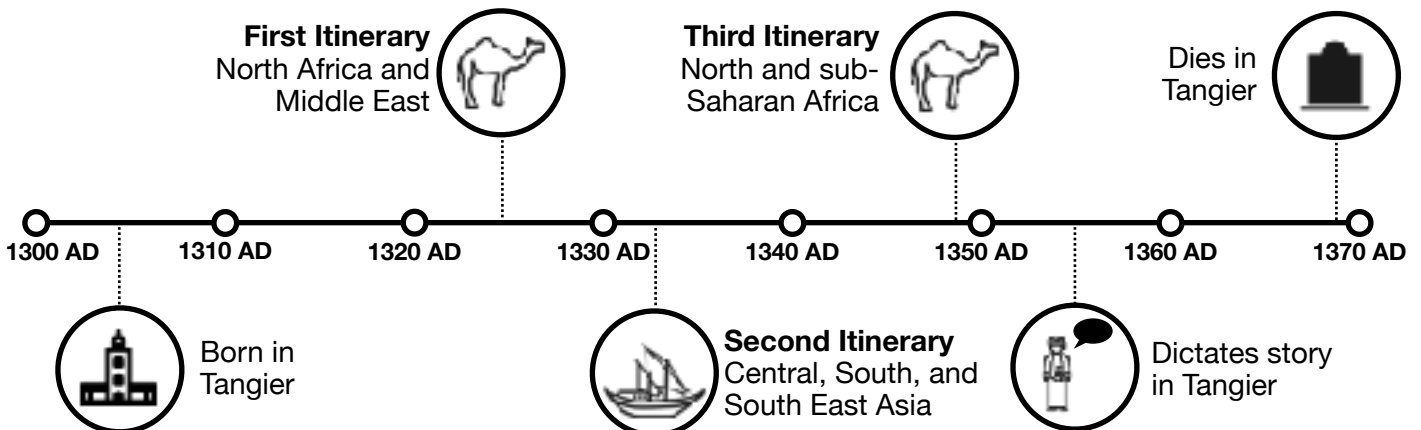


Book illustration by Léon Benett published in 1878 showing Ibn Battūṭah (right) and his guide in Egypt

1 Like Muhammed al-Idrisi, Ibn Batuta was a Muslim
 2 and a North African from the modern country of
 3 Morocco. Ibn Batuta was a scholar and an explorer.
 4 Ibn Batuta travelled widely. For over thirty years Ibn
 5 Batuta travelled most of the Islamic world and many
 6 non-Islam lands, including Central Asia, Southeast
 7 Asia, South Asia, and China.

8 Near the end of his life, Ibn Batuta dictated the story
 9 of his travels. In Arabic, this book is called Tuḥfat an-
 11 Nuḏḏār fī Gharā'ib al-Amṣār wa 'Ajā'ib al-Asfār (تحفة
 12 النظار في غرائب الأمصار وعجائب الأسفار) which translates to
 13 English as "A Gift to Those Who Contemplate the
 14 Wonders of Cities and the Marvels of Travelling"

15 At the time of his death, Ibn Batuta was likely the
 16 most well travelled person in History. Ibn Batuta
 17 would continue to be the most travelled person in
 18 history for another two hundred years until Ferdinand
 19 Magellan sailed all the way around the Earth,
 20 completing the first circumnavigation.





2. Apply your learning, label the cities and regions

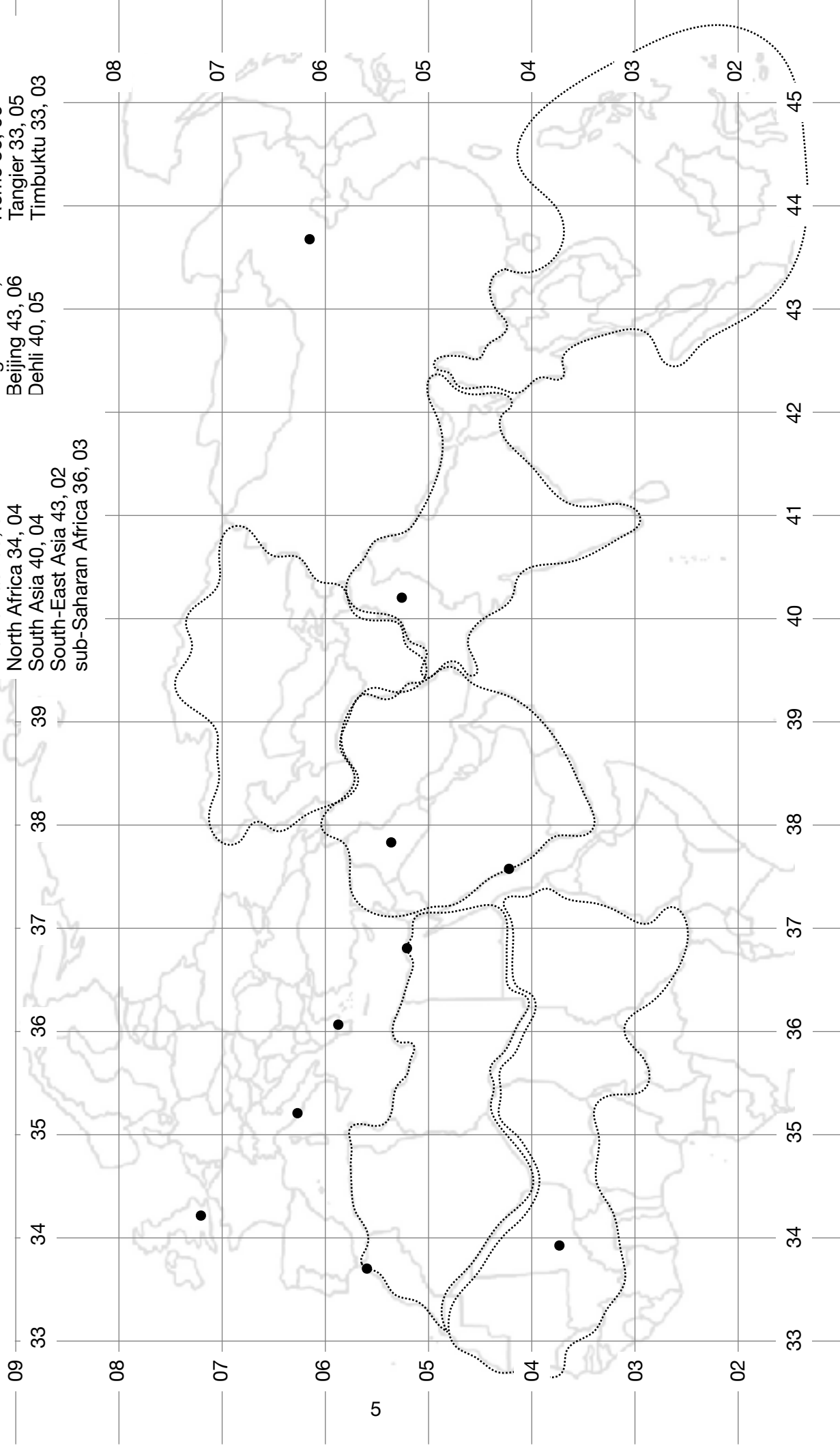
Use your knowledge of grid reference to correctly label the map

Cities

Alexandria 36, 05
Athens 36, 04
Baghdad 37, 05
Beijing 43, 06
Dehli 40, 05
London 34, 07
Mecca 37, 04
Rome 35, 06
Tangier 33, 05
Timbuktu 33, 03

Region and Countries

Central Asia 39, 06
China 43, 05
Middle East 38, 04
North Africa 34, 04
South Asia 40, 04
South-East Asia 43, 02
sub-Saharan Africa 36, 03





Let's review. Check what you've learnt with the questions below.

3. Which religion did Muhammed al-Irisi and Ibn Batuta follow?	
4. Which region are Muhammed al-Idrisi and Ibn Batuta from?	
5. Which modern country were Muhammed al-Idrisi and Ibn Batuta born in?	
6. Who was the King of Sicily when Muhammed al-Idrisi lived in Palermo?	
7. How did Ibn Batuta write his story?	

8. What is a scholar ?	
9. What does it mean when something is dictated ?	
10. What is a circumnavigation ?	
11. What does the word explorer mean?	





Lesson 11: Site and Situation

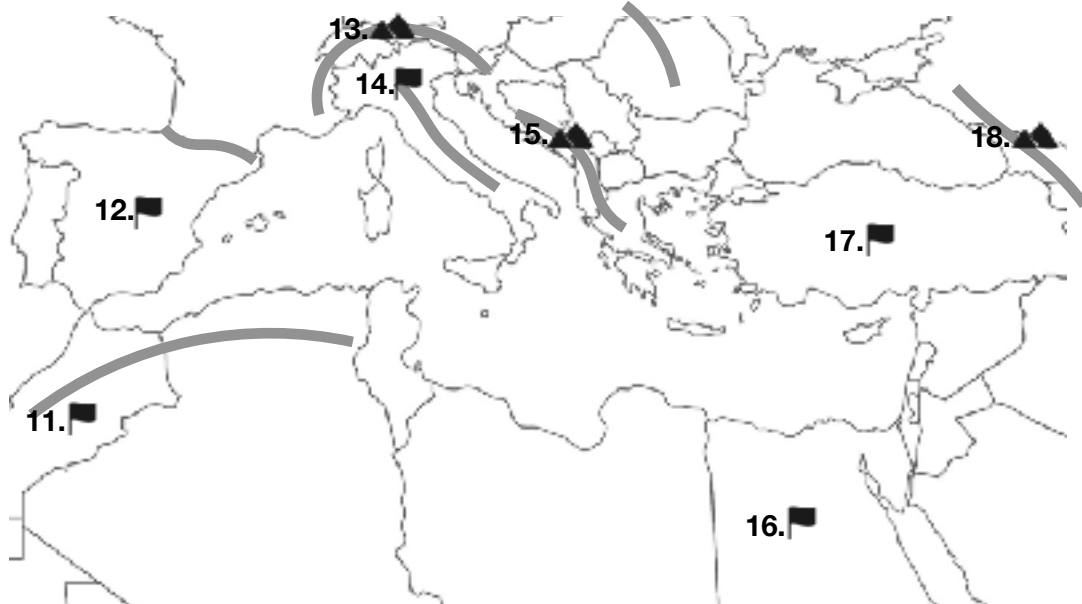
 **Retrieval Practice: Let's check what you can remember:**

1. Are lines of latitude horizontal or vertical?		6. Which hemisphere is the tropic of Capricorn in?	
2. What is the name of the country Beijing is in?		7. What shape is the Earth?	
3. What is the name of the region Baghdad is in?		8. Which is the longest line of latitude?	
4. How many degrees is the tilt of the Earth?		9. What is the name of the Ocean to the West of the Mediterranean?	
5. Are lines of longitude horizontal or vertical?		10. On which day of the year is the sun directly overhead of the Tropic of Cancer?	

 **Retrieval Practice: Name these Countries and Mountain Ranges**

- 11. 
- 12. 
- 13. 
- 14. 

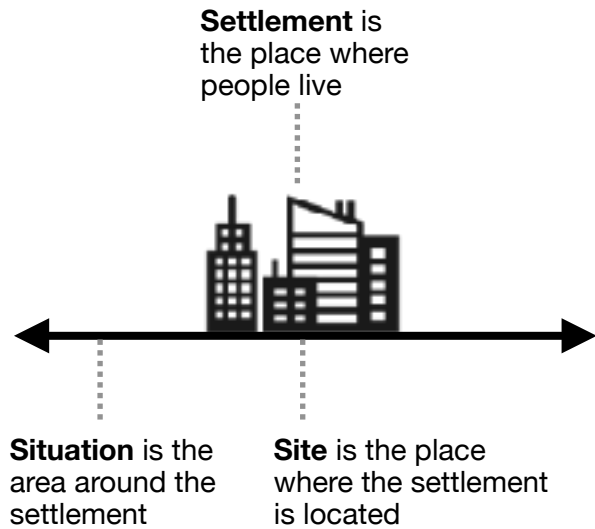
- 15. 
- 16. 
- 17. 
- 18. 



We have learnt about the contribution of Islamic Geographers to the quality of maps, and the travels of Ibn Batuta. Ibn Batuta wrote about the site and situation of every city he visited.

In this lesson we'll learn what:

- Site and Situation mean.
- Site and situation factors are influencing Banbury's growth.



- 1 The book that Ibn Batuta dictated
- 2 describes the site and situation of every
- 3 city he visited. Ibn Batuta was very
- 4 interested in the places where cities were
- 5 built, and the land that surrounded them.
- 6 As students studying the discipline of
- 7 Geography, we are trying to understand
- 8 the world around us. Part of that, is
- 9 understanding why people live where they
- 10 do. Like Ibn Batuta, we need to look at the
- 11 site and situation of cities.

- 13 Settlements don't start as cities.
- 14 Settlements normally start as small
- 15 villages, which slowly get bigger and
- 16 bigger. There are reasons why some
- 17 villages grow into cities, and other villages
- 18 don't grow at all. Many of these reasons
- 19 are because of the site and situation of the
- 20 settlement.
- 21 Read through the sentences below, and
- 22 neatly match up with the start of the
- 23 sentence with the finish, using a ruler.

	19. Flat land which...
	20. Local raw materials...
	21. A local water supply...
	22. Dry land so that...
	23. A site that can easily be defended...
	24. Good farm land so...
	25. Transport links like a...

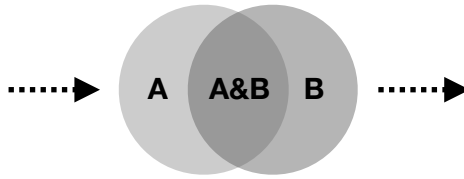
A...like wood or stone to build houses with.
B...like the top of a hill or the bend in a river.
C...place to build a bridge across a river.
D...is easier and cheaper to build on.
E...that there'll be enough food for everyone.
F...for drinking, washing, cooking, and transport.
G...there's no risk of being flooded

24 Now that we have begun to understand
 25 the factors that decide where settlements
 26 are, we can begin to think about the site
 27 and situation. Organise the ideas in
 28 questions 19-25 into the Venn Diagram

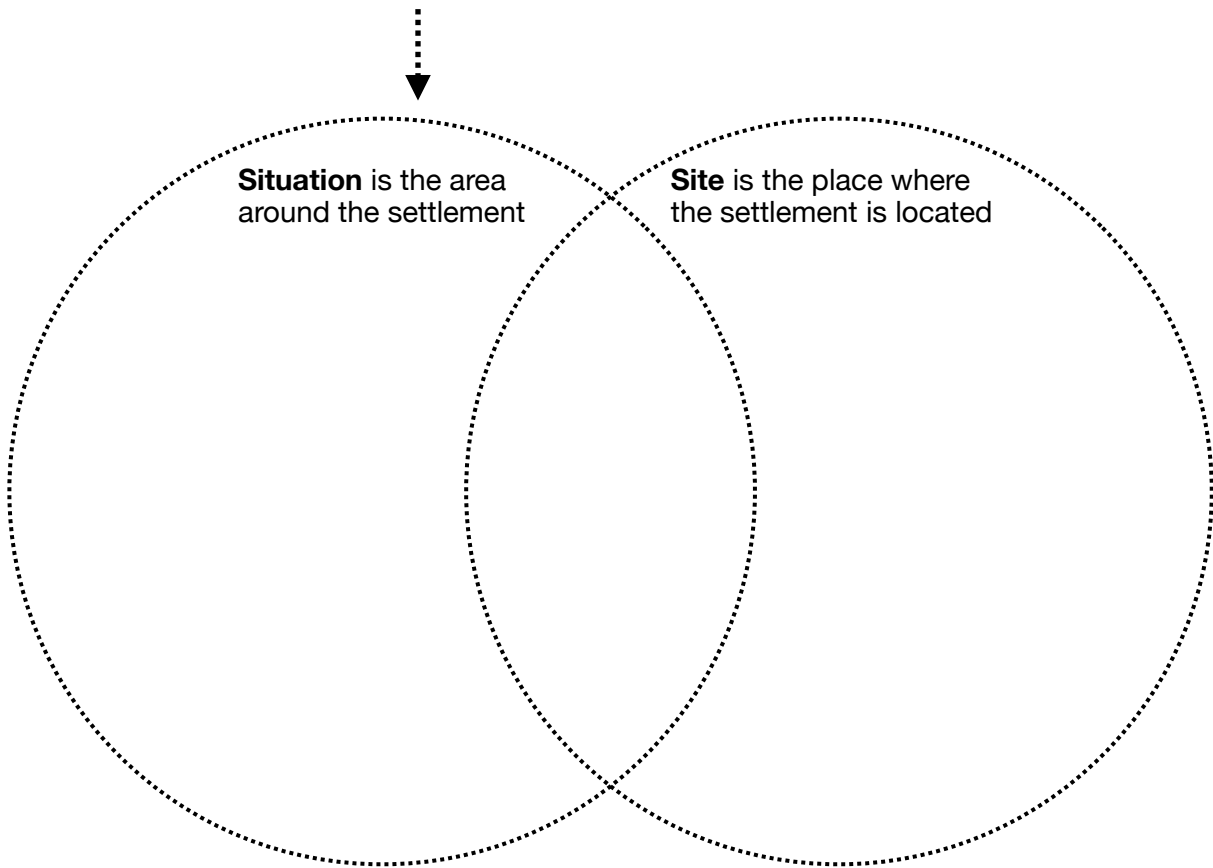
29 below. This will help us to explain why
 30 some villages move up the settlement
 31 hierarchy and become cities, and other
 32 settlements never get any larger than the
 33 isolated dwellings they start as.

Venn Diagram

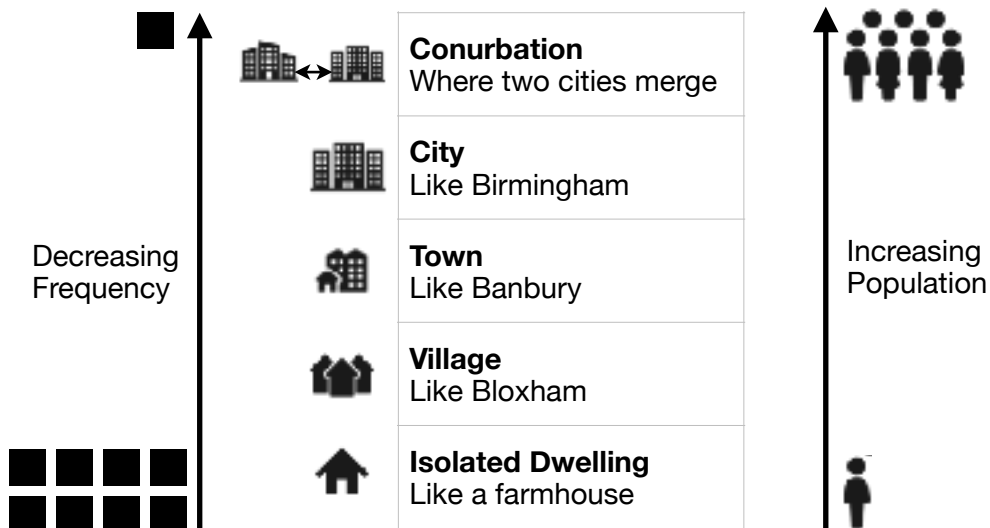
Invented by
 John Venn
 in 1880



Shows which factors are only do with
A, which are only to do with **B**, and
 which are to do with both **A & B**.



Settlement Hierarchy





Flat Land



Raw Materials



Water Supply



Dry Land



Defense



Farm Land

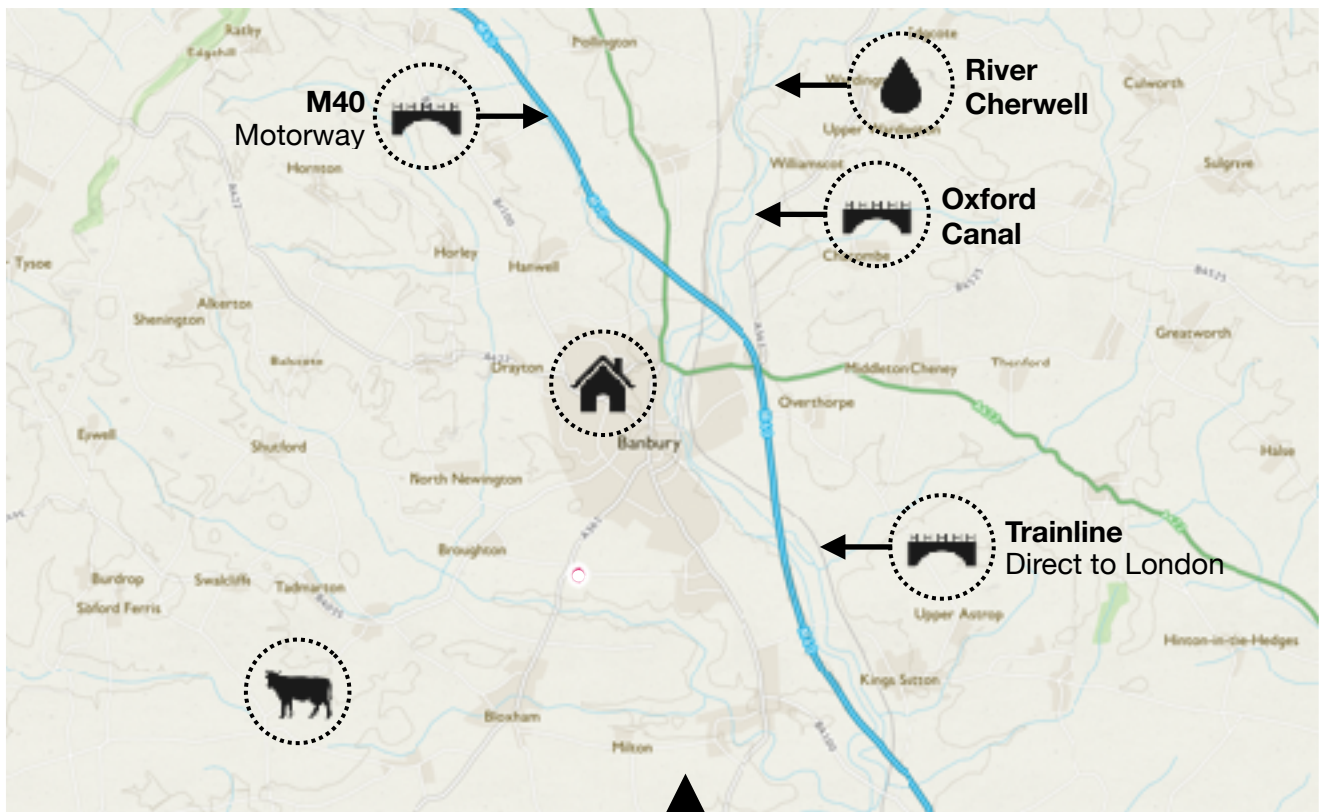


Transport

24 There are challenges when trying to
 25 identify the site and situation factors that
 26 caused a settlement in the U.K. to be
 27 founded. The situation of many U.K.
 28 settlements has changed a lot over the
 29 years. Forests, that made great raw
 30 materials, may have been completely cut
 31 down. Transports links have been built
 32 now, which weren't there when the

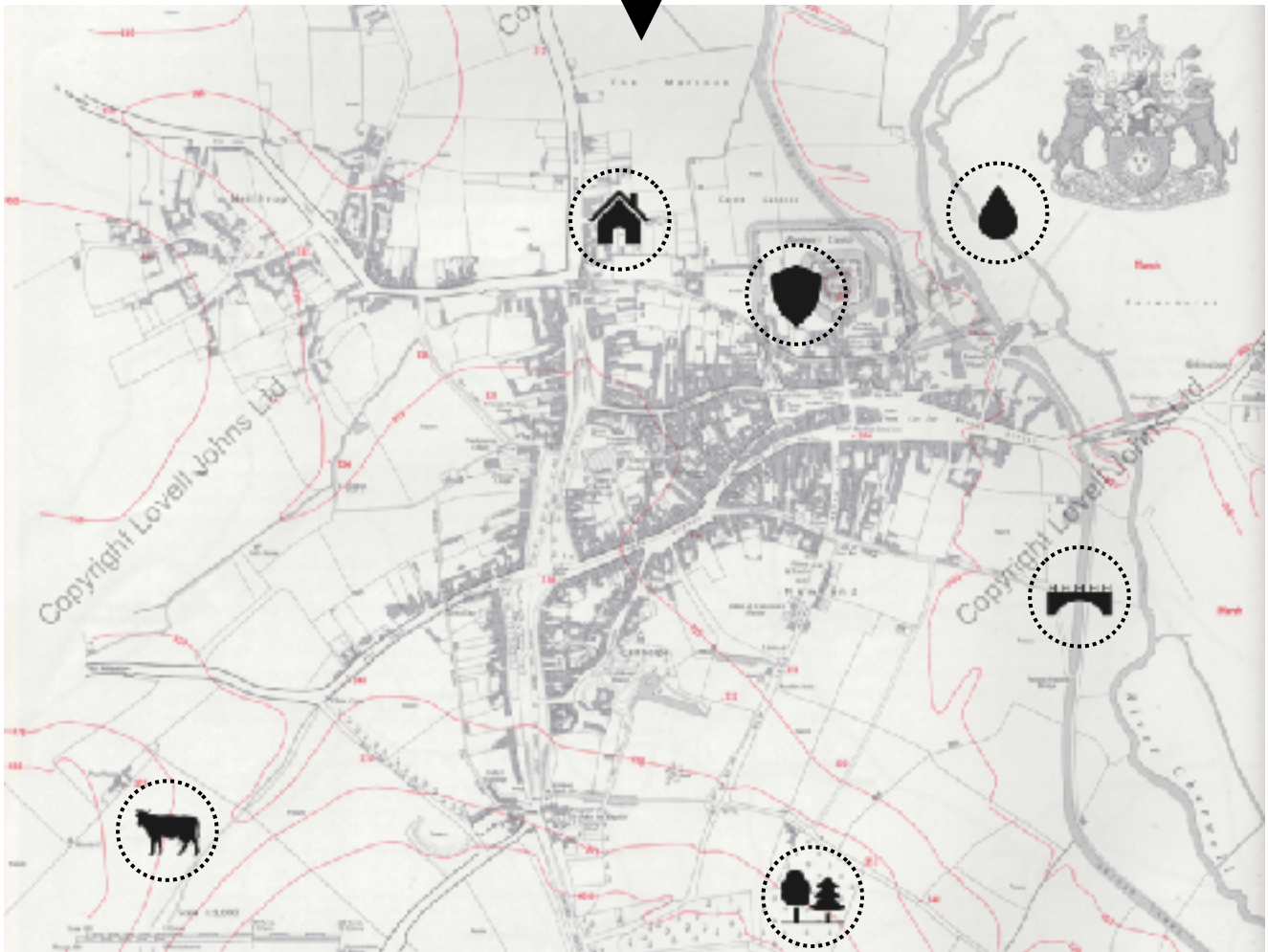
33 settlement was first founded. Being on top
 34 of a hill for defence, is less important now
 35 than it was 2000 years ago.

36 In the U.K., it is often easier to assess the
 37 site and situation and explain why
 38 settlements moved up through the
 39 settlement hierarchy.



26. Describe which locational factors you can identify in this map of Banbury's situation in 2016

27. Describe which locational factors you can identify in this map of Banbury's site in 1800



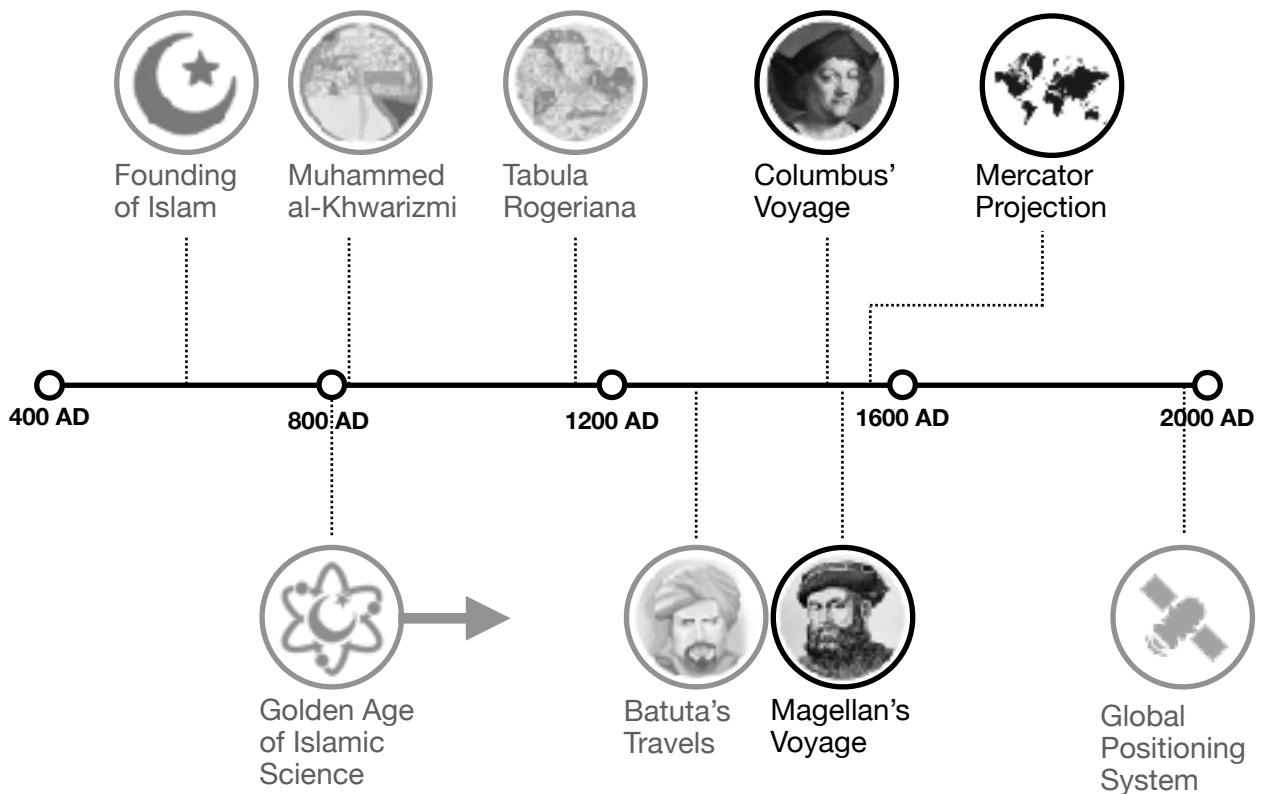
28. Describe which locational factors aren't in either Banbury's site map, or situation map.

Lesson 11: Columbus & Magellan



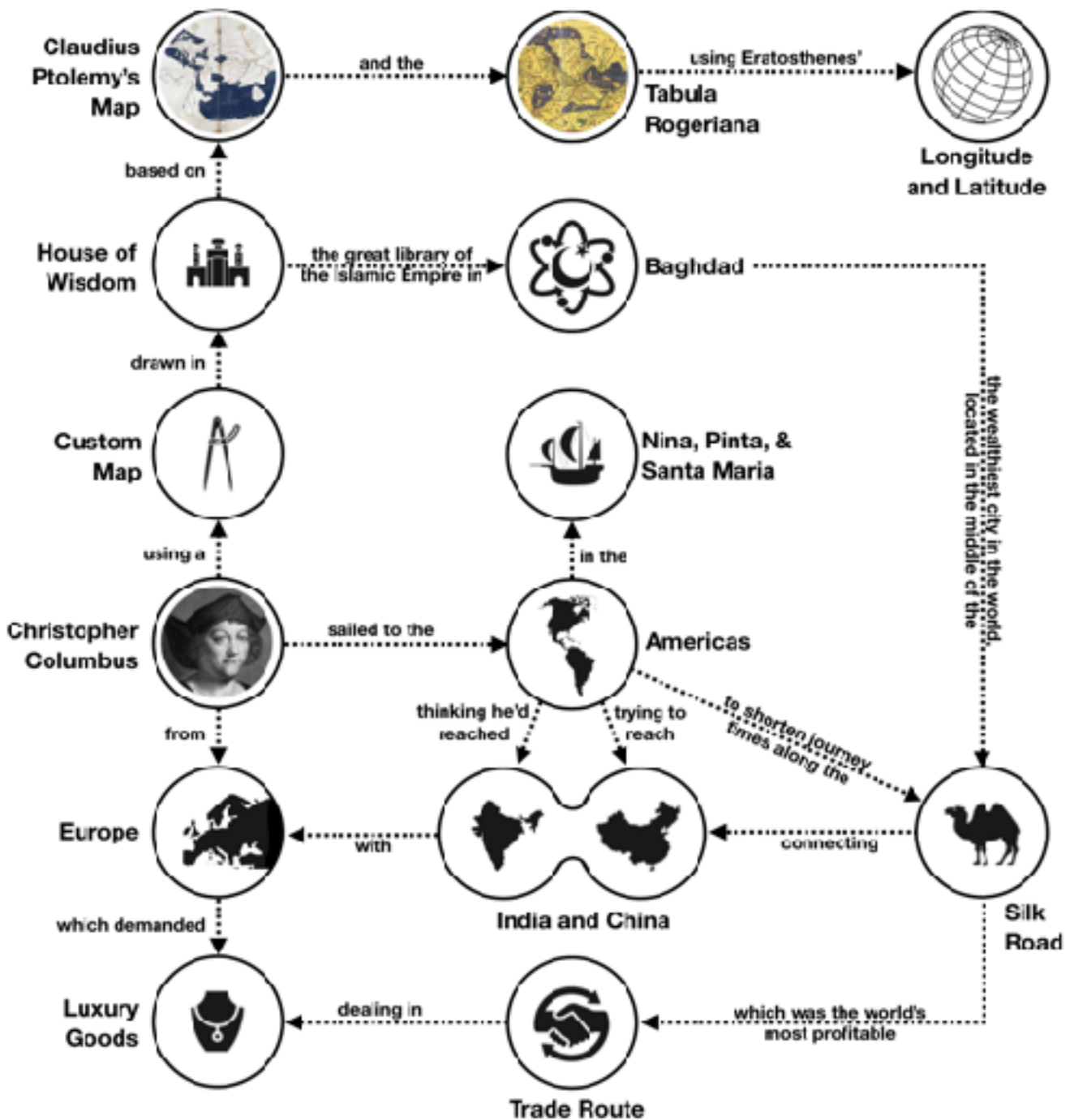
Retrieval Practice: Let's check what you can remember:

29. What does the word site mean?		33. Which hemisphere is the Tropic of Cancer in?	
30. What does the word situation mean?		34. What is solar radiation ?	
31. What does the word hemi mean?		35. What season is it in the Northern hemisphere when it's Spring in the Southern hemisphere?	
32. Are lines of longitude horizontal or vertical?		36. What is the angle of the Earth's tilt?	



You have probably heard of Christopher Columbus sailing to the 'New World' of America. In this lesson we'll learn:

- How the Islamic Empire's cartography influenced Columbus.
- How the silk route motivated Columbus' voyage.
- That Columbus' believed he'd reached India, instead of America.





Let's check for Understanding: Answer these questions

37. Which continent was Christopher Columbus from?	
38. Which continent did Christopher Columbus sail to?	
39. Which country did Christopher Columbus think he'd sailed to?	
40. Which country was Christopher Columbus trying to sail to?	

41. What were the names of the three boats that made the voyage?	
42. Christopher Columbus had a custom made map, where was it drawn?	
43. Which trade route was Christopher Columbus attempting to shorten?	
44. Which places did this trade route connect?	



Columbus and the Silk Road



1 There had been peace across the Middle
 2 East, Central Asia, Southern Asia, and
 3 South-East Asia for hundreds of years
 4 when Columbus set sail. This peace made
 5 it possible for people from across Asia to
 6 trade with each other.

7 Silk from China, and spices from India,
 8 were sold to wealthy families in Europe.
 9 These trade routes connected people

10 from across the world. These trade routes
 11 allowed the Farnese family to buy the
 12 oldest statue of Atlas that still exists.

13 These trade routes were known as the Silk
 14 Road. The trade routes were known as the
 15 Silk Road because traders bought Silk in
 16 China and transported it all the way to
 17 Europe for sale.

18 Trading along the Silk Road made many
 19 people very rich. Every city in the middle
 20 of a trade route becomes wealthier. The
 21 city of Baghdad was in the middle of the
 22 Silk Road. Baghdad became the richest
 23 city in the world.

24 Because it became the wealthiest city in
 25 the world, many people moved to live in
 26 Baghdad. Baghdad became the largest
 27 and most populated city in the world.

29 The journey from China to Europe took
 30 along the Silk Road took two years.
 31 Christopher Columbus believed that it
 32 would be quicker to sail from Europe to
 33 China across the Atlantic.



Columbus incorrectly thought that the distance he'd need to sail was around 3700km, this is because he believed that...



...each degree of latitude on the map was 56 Roman miles



Each degree was 56 Arabic miles, longer than Roman miles



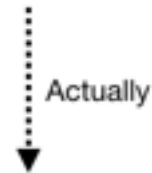
...Claudius Ptolemy was correct and Asia covered half the Earth



Asia is smaller, and only covers one-third of the Earth



...Japan was larger, further East, and closer to the Equator



Japan is smaller, further North, and further West



The distance was closer to 20,000km, without discovering America, Columbus and his crew would have starved to death before reaching China.



Let's check for Understanding: Answer these questions

45. What was the name of the trade route connecting Europe to China and India?		49. Why was Columbus trying to sail to China?	
46. How long did it take people to travel along the trade route?		50. How far did Columbus think he had to Sail?	
47. What was the name of the city in the middle fo the trade route?		51. How far did Columbus actually have to Sail?	
48. How did the Trade Route affect the city in the middle of it?		52. Why wouldn't Columbus have survived sailing to China?	



Columbus, Vespucci, Magellan and the Pacific

1 After Columbus returned, many more
 2 sailors set out to voyage to the New
 3 World. Columbus spent the remainder of
 4 his life arguing that he'd reached India.
 5 Columbus was wrong, but we can still see
 6 the effect of his misunderstandings today.

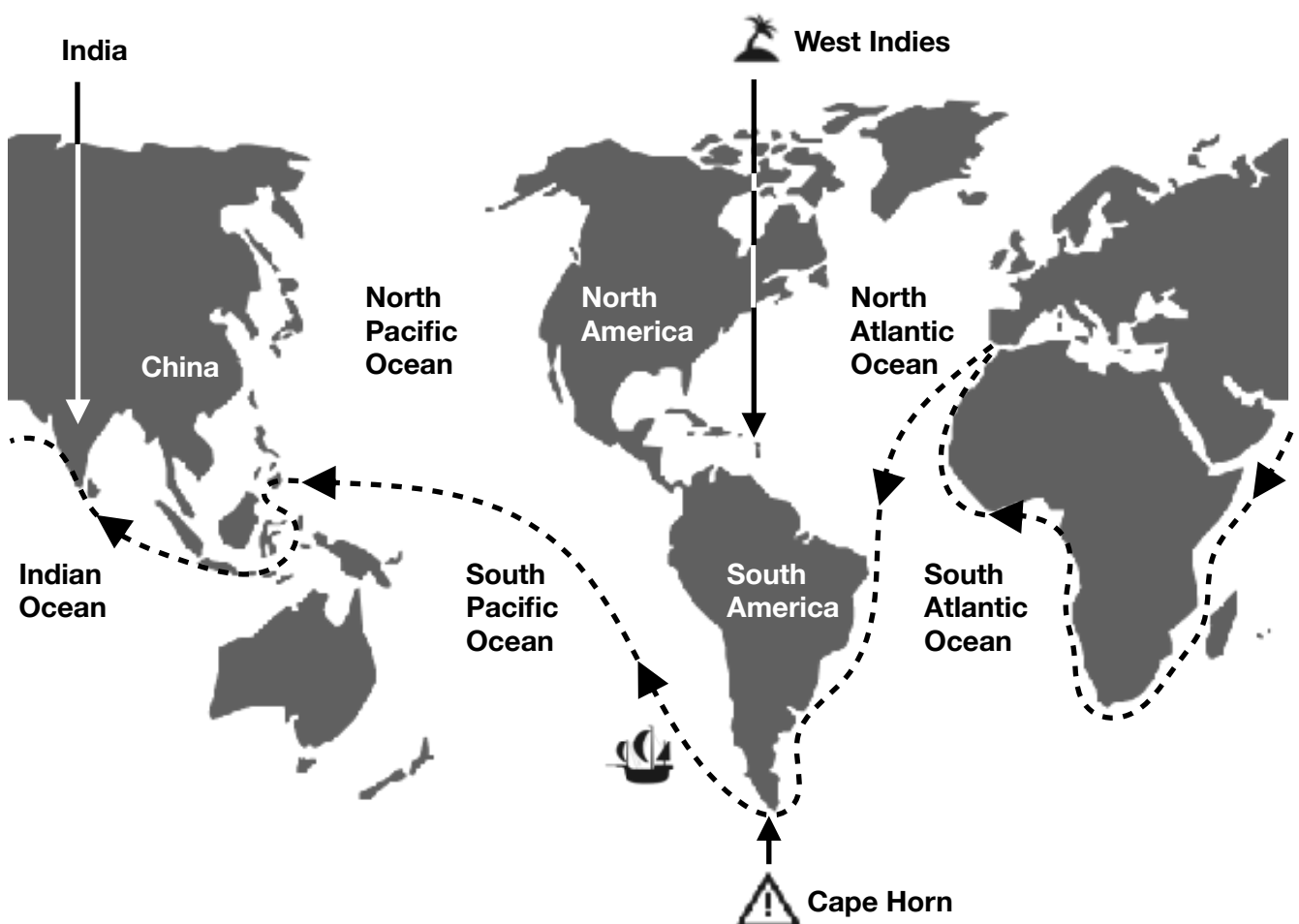
7 Columbus referred to the people he'd met
 8 there as Indians. We still use the name
 9 Indians to refer to the native people of
 10 North America today. Columbus named
 11 the islands he sailed to, the 'West Indies'.
 12 He named the islands the West Indies
 13 because he'd sailed West, and believed
 14 he'd arrived in India. These islands are still
 15 called the West Indies today.

16 A Spanish cartographer called Amerigo
 17 Vespucci argued with Columbus. Vespucci

18 believed that the islands of the 'West
 19 Indies' were part of a new, separate, and
 20 unexplored land. The new land was
 21 named America after Amerigo Vespucci.

22 Ferdinand Magellan was the first person
 23 to sail to India by sea. Magellan's voyage
 24 to India changed the Silk Road just like
 25 Columbus imagined.

26 Ferdinand Magellan's voyage was long,
 27 and hard. Magellan was the first person to
 29 sail around the dangerous Cape Horn.
 30 Sailing around the Cape Horn nearly
 31 destroyed the ship and killed everyone on
 32 board. When Magellan entered the calm
 33 ocean on the other side he named it the
 34 *Pacifico*, which means 'peaceful'. We still
 35 call it the Pacific Ocean today.



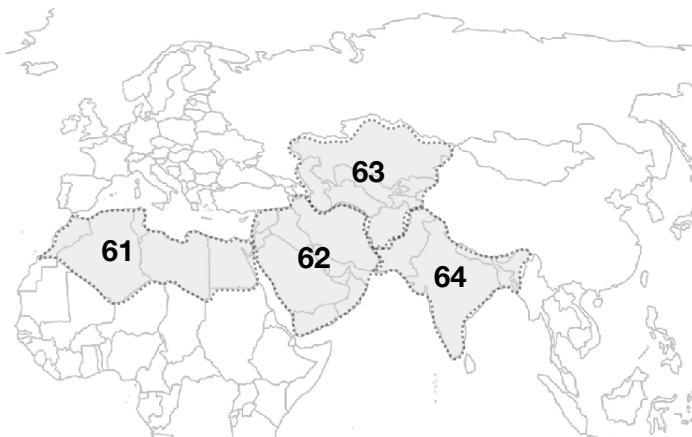
Lesson 12: The Mercator Projection



Retrieval Practice: Let's check what you can remember:

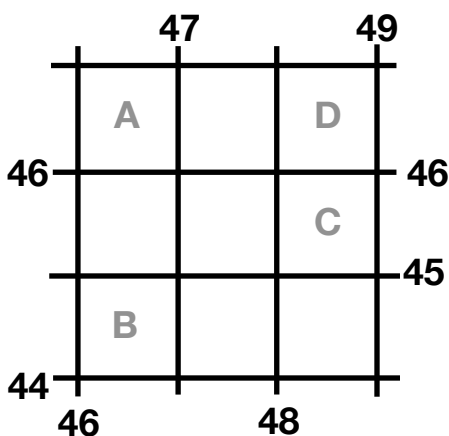
53. What does the word site mean?	
54. What does the word situation mean?	
55. Who sailed to America in the Nina, Pinta, and Santa Maria?	
56. Which country did Christopher Columbus think he'd sailed to?	

57. Which country was Christopher Columbus trying to sail to?	
58. Which ocean was named for being peaceful?	
59. Which has a higher population, a city or a conurbation?	
60. Which has a higher frequency, a town or a village?	



Name each of the regions shown in the map opposite in this grid

61	
62	
63	
64	



65. Add the grid references of the letters opposite in the grid below

A	46, 46
B	
C	
D	








As more and more people made the transatlantic voyage they demanded more accurate maps.

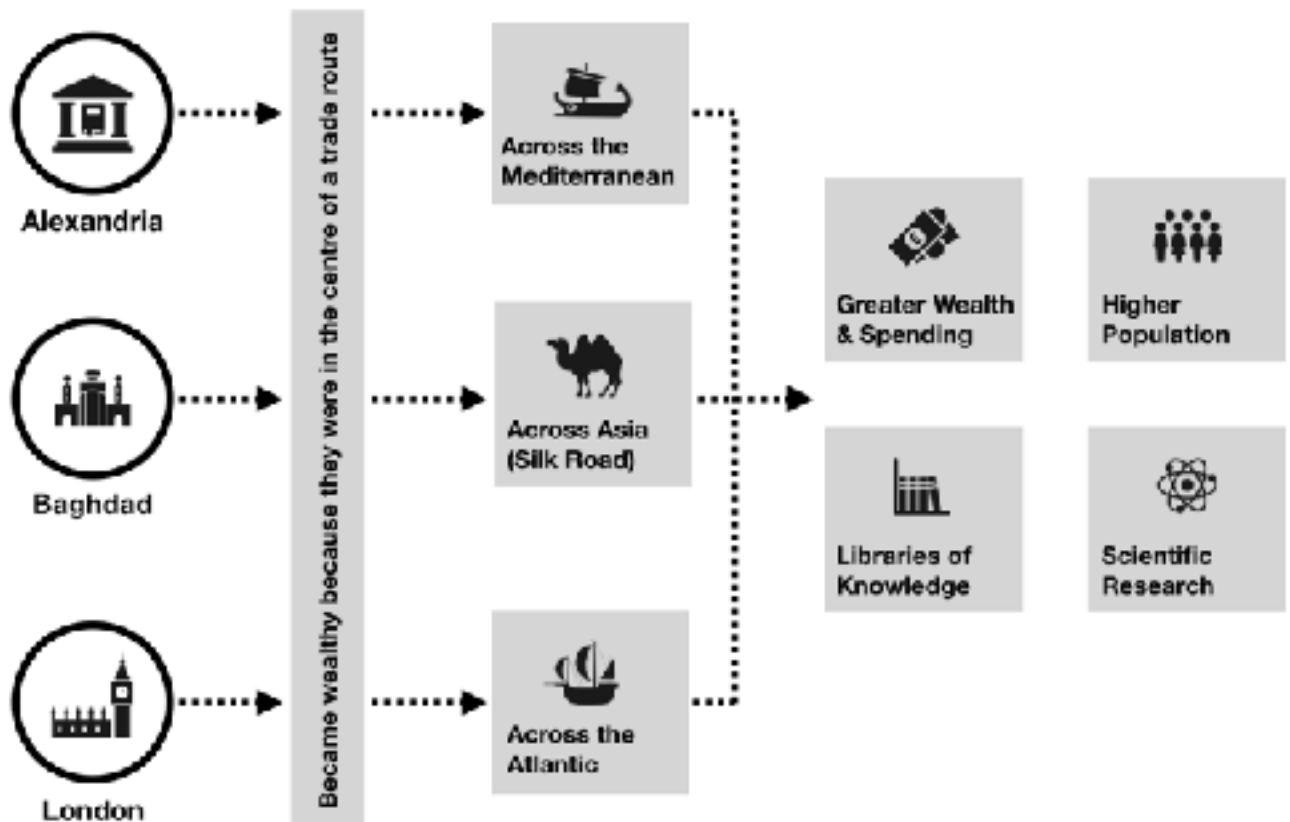
In this lesson, we'll learn about:

- The relationship between cartography and trade routes
- How Tissot's Indicatrix show the inaccuracies in maps
- Why there are conflicts about the types of map that we see



66. Match the word to the symbol and its example sentence neatly, in pencil with a ruler

Transatlantic		I love maps, I want to make them when I'm older.
Cartography		Slowly we had more and more money
Crossing		I travelled from one side of the Atlantic Ocean to the other.
Enlightenment		It's shaped like a rugby ball.
Wealthier		The shape and appearance is all wrong.
Elliptical		We know so much that we didn't know before.
Distorted		Getting there means we'll have to go over the mountains.





Why Maps became more accurate, but can never be perfect.

1 The discovery of the New World led to
2 improvements in cartography. The
3 improvements in cartography made it
4 safer and more comfortable to sail across
5 the Atlantic Ocean. Travelling from one
6 side of the Atlantic Ocean to the other is
7 known as a transatlantic crossing.

8 The transatlantic trade contributed to the
9 golden age of science in Europe. This
10 golden age of science in Europe was
11 known as the Age of Enlightenment. We
12 use the word 'enlightened' to mean that
13 you now know something that you didn't
14 know before. We often draw lightbulbs
15 above people's heads when they have
16 ideas. The lightbulb shows that they know
17 something they didn't know before, and
18 have become 'enlightened'.

19 The maps made during the Age of
20 Enlightenment were better than those that
21 had been made before. Transatlantic
22 crossings needed more accurate maps.

23 We have learnt about improvements in
24 cartography in Ancient Greece and in the
25 Islamic Empire. Both Ancient Greece and
26 the Islamic Empire were in the middle of a
27 trade route. Every city in the centre of a
28 trade route becomes wealthier. With the
29 new transatlantic trade routes, London,
30 and other European cities, also became
31 wealthier.

32 As the cities became wealthier, more
33 money was spent on libraries and on
34 scientific research. The improvements in
35 libraries and scientific research are what
36 led to improvements in cartography. The
37 Age of Enlightenment in Europe led to
38 the Mercator Projection, just like the Great
39 Library of Alexandria led Eratosthenes to
40 latitude and longitude.

41 No map is perfect. Every map has
42 problems. The problem is that maps are
43 flat, and the Earth is elliptical. It is
44 impossible to show an ellipsis on a flat
45 sheet of paper perfectly.

46 Cartographers have to choose which they
47 want to show accurately; the location,
48 shape, or size. Whichever one they
49 choose, the other two are distorted.

Maps can only do one of three



Let's check for Understanding: Answer these questions

67. What happens to cities in the middle of trade routes?	
68. What word do we use to describe the golden age of science in Europe?	
69. Which crossings meant that routes needed to be more accurate?	

70. What shape is the Earth?	
71. Which three things do cartographers have to choose between?	
72. What happens to the two things cartographers don't show accurately?	



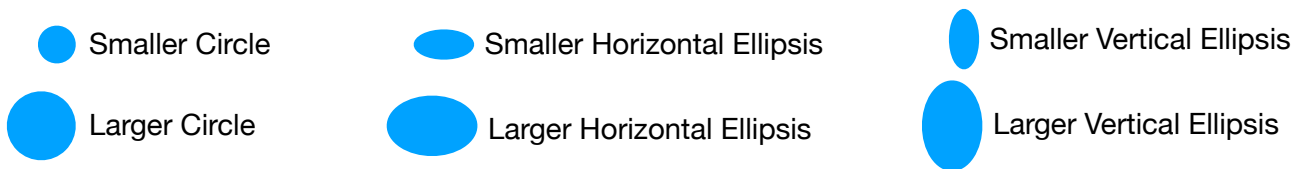
The Mercator Projection and Tissot's Indicatrix

1 The map designed by Geraldus Mercator
 2 is called the Mercator Projection. We use
 3 the word projection because it is trying to
 4 project an elliptical shape on a flat sheet
 5 of paper. The Mercator Projection is the
 6 most famous map projection in the world.
 7 The Mercator Projection shows location
 8 accurately but distorts size and shape.

9 The Mercator Projection is very useful for
 10 sailing. Geraldus Mercator designed it for
 11 ships making the transatlantic crossing.
 12 By showing the location of places
 13 accurately, the Mercator map distorts the
 14 size and shape of places.

15 We can use Tissot's Indicatrix to see how
 16 distorted the size and shape of places are
 17 on a map projection. Tissot's Indicatrix
 18 was invented by a French mathematician,
 19 Nicolas Auguste Tissot, to show the
 20 distortion in map projections.

21 Tissot's Indicatrix are circles shown on the
 22 map projection. The shape of the circles
 23 change to show how much the size and
 24 shape has been distorted by the map
 25 projection. The circles can become bigger
 26 or smaller, or even elliptical, to show how
 27 the map projection has distorted the size
 28 and shape of places, like below:



The Mercator Projection

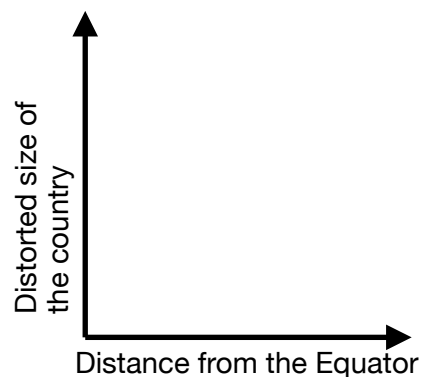


Tissot's Indicatrix shown on the Mercator Projection



73. Which of the three options does the Mercator Projection show accurately?	
74. Who would find the Mercator Projection very useful?	
75. Do the Tissot's Indicatrix increase, or decrease, further from the Equator?	

76. Draw the relationship between the size of the Tissot's Indicatrix and distance from the Equator.





The country of **Greenland**, an island in the Northern Hemisphere near the **Arctic**



The continent of **Africa**, an island of 54 countries around the **Equator**

77. Does distortion increase with distance from the Equator on Mercator Projections?	
78. Will the Mercator Projection make Greenland look relatively larger?	

79. Will the Mercator Projection make the continent of Africa look relatively smaller?	
80. Measure height of Greenland and Africa on the Mercator Projection, which is projected as longer?	

29 The country of Greenland is smaller than
 30 the fifty-four countries in the continent of
 31 Africa. The area of Greenland is 2 million
 32 square kilometres. The area of Africa is 30
 33 million square kilometres. The fifty-four
 34 countries in the continent of Africa are 14
 35 times larger than Greenland. However, on
 36 the Mercator Map, Greenland looks larger.

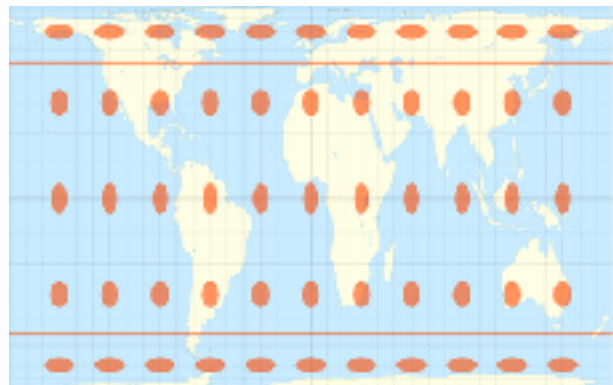
37 The fact that Greenland looks more
 38 substantial on a Mercator Projection has
 39 led to many people having
 40 misunderstandings about the size of the
 41 continent of Africa. Many people believe
 42 that the continent of Africa is smaller than

43 it is. Many people believe this because, on
 44 a Mercator Projection, the Tissot's
 45 Indicatrix are smaller nearer to the Equator.

46 The Mercator Projection is the most
 47 famous map projection in the world. As it is
 48 the most famous, the Mercator Projection
 49 is the most commonly used. This means
 50 that people see the Mercator Projection
 51 more than they see any other type of
 52 projection. To help challenge the
 53 misunderstandings about the size of
 54 countries that the Mercator Projection
 55 creates, James Gall and Arno Peters
 56 created the Gall-Peters Projection.

The Gall-Peter's Projection

Tissot's Indicatrix shown on the Gall-Peter's Projection



81. Examine the Tissot's Indicatrix on the Gall-Peters Projection, which of the three cartographic options has been chosen?	
---	--

82. Which two cartographic options doesn't the Gall-Peters project accurately?	
--	--

57 Although the Gall-Peters projection shows
58 the size of countries correctly, it distorts
59 the shape and location of countries.

60 Cartographers have continued to try and
61 create maps which project the Earth
62 accurately on a global scale. The
63 Robinson projection is an example of a
64 compromise map. The Robinson
65 projection doesn't show shape, size, or
66 location accurately. By not showing any
67 one of the three factors accurately, it
68 reduces the distortion of the other two.

69 The Robinson Map only distorts each of the
70 three factors a little, so it can be
71 considered *reasonably* accurate.

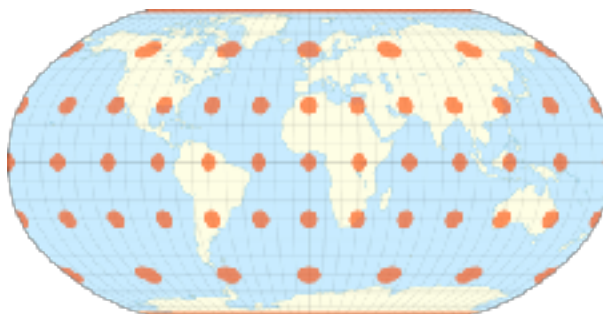
72

73 Another example of cartographers trying to
74 solve the problem of projecting an ellipsoid
75 onto a flat sheet of paper is the
76 Watermann-Butterfly Projection. The
77 Watermann-Butterfly projection divides the
78 Earth into eight triangular shapes reduces
79 the distortion on shape of showing size
80 accurately.

The Robinson Projection



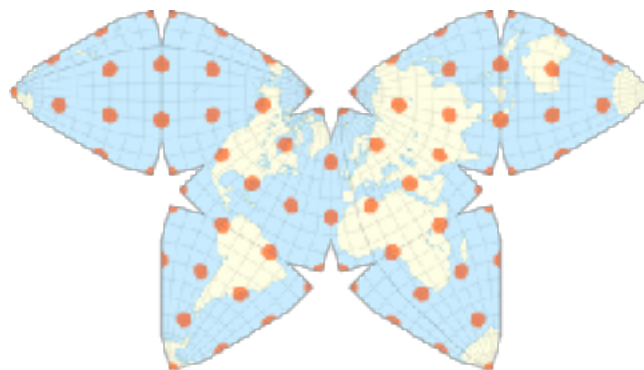
Tissot's Indicatrix shown on the Robinson Projection



The Watermann-Butterfly Projection



Tissot's Indicatrix shown on the Watermann-Butterfly Projection



Speak like a Geographer

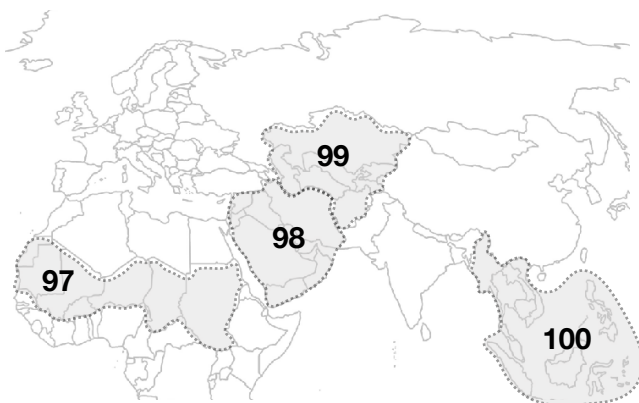
Which Map Projection do you think is best?

Lesson 13: The United Kingdom

 **Retrieval Practice: Let's check what you can remember:**

83. What is name of the most famous map projection?	
84. What does the most famous map projection show accurately?	
85. What does the most famous map projection distort?	
86. Which country does the most famous map projection project larger than the continent of Africa?	
87. Which trade route was Christopher Columbus trying to short cut?	
88. Which country did Columbus think he'd sailed to?	
89. Which country was Columbus trying to sail to?	

90. Which sea was named for being in the middle of the land?	
91. Which ocean was named for where a titan was punished to stand?	
92. Which ocean was named for being peaceful?	
93. Which city was home to the Great Library and Eratosthenes?	
94. Which city was home to the House of Wisdom and al-Khwarizmi?	
95. If someone makes a transatlantic crossing, which ocean have they crossed?	
96. If someone makes a transpacific crossing, which ocean have they crossed?	



Name each of the regions shown in the map opposite in this grid

97	
98	
99	
100	

The Age of Discovery was a time of greater unification within Great Britain. The four countries of England, Northern Ireland, Scotland, and Wales became closer.

In this lesson, we'll learn:

- The four countries of the United Kingdom and the Act of Union that unites them.
- How different the four countries are inter terms of area and population
- The major mountain ranges of the United Kingdom



Apply your learning, label the cities and countries

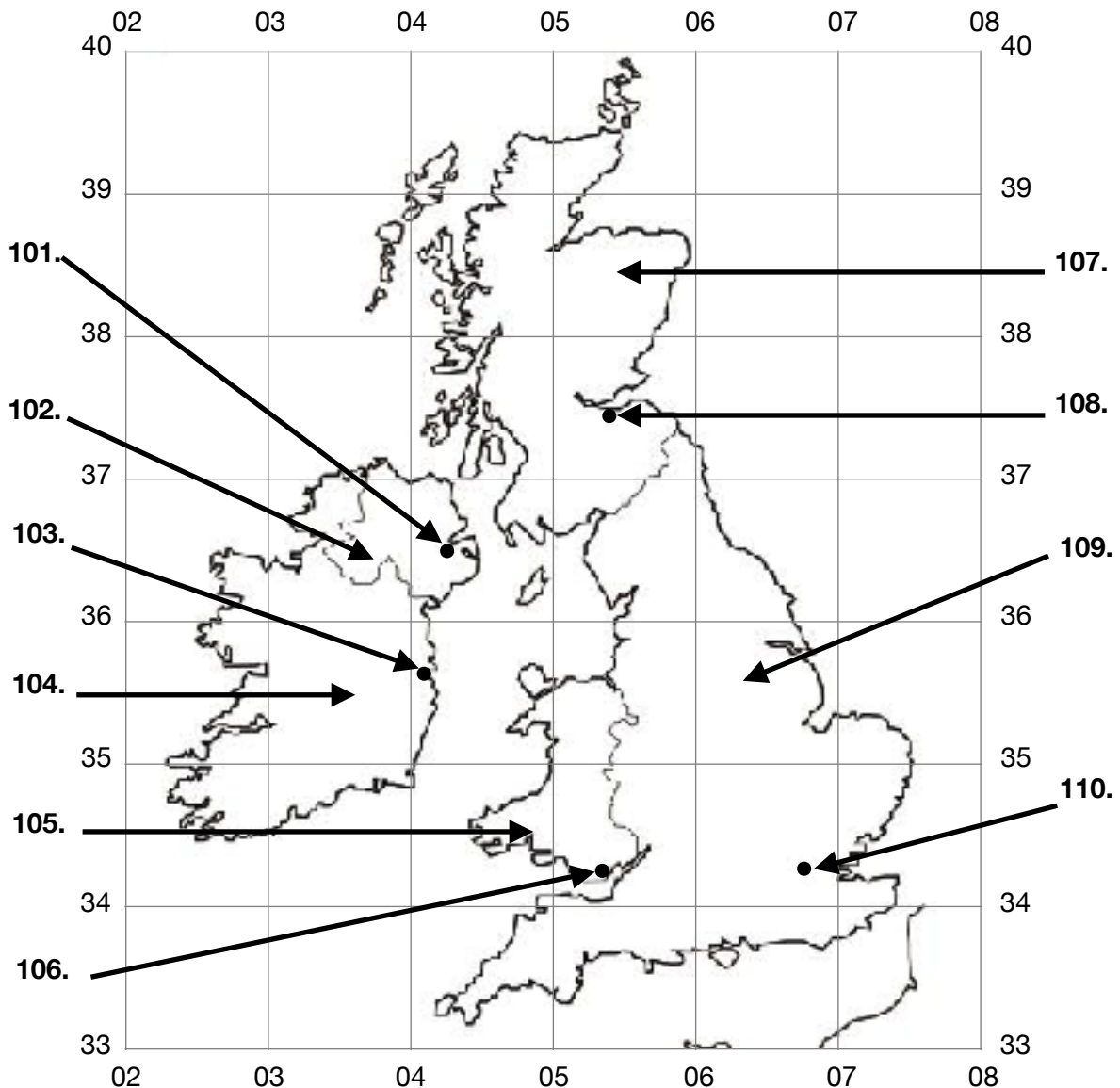
Use your knowledge of grid reference to correctly label the map below

Countries

06, 35 England
 03, 36 Northern Ireland
 05, 38 Scotland
 03, 35 The Republic of Ireland
 04, 34 Wales

Capitals

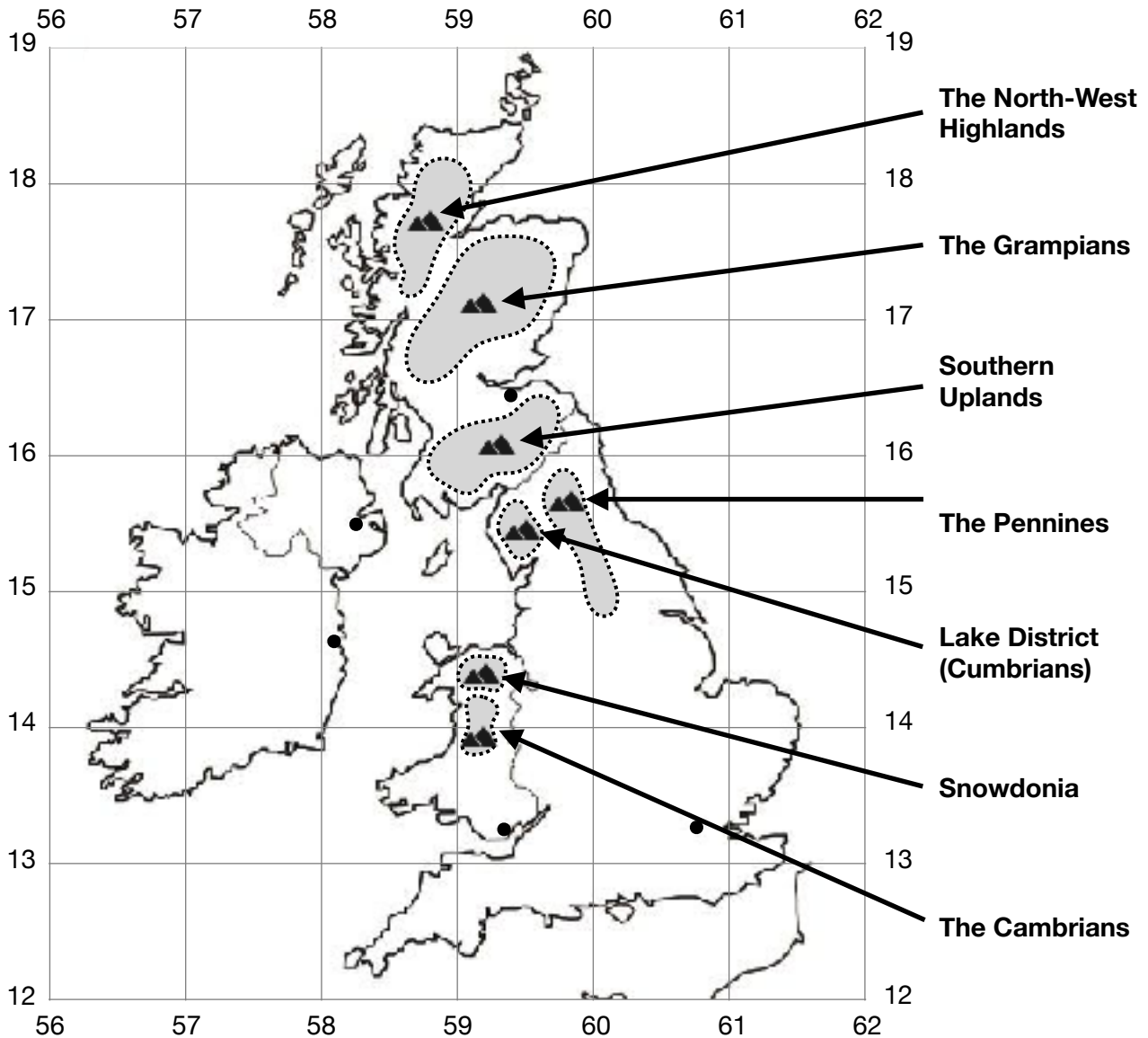
04, 36 Belfast
 05, 34 Cardiff
 04, 35 Dublin
 05, 37 Edinburgh
 06, 34 London





Mountain Ranges of Great Britain

Use the map below, and your knowledge of grid references, to answer the questions underneath.



111. Name the two mountain ranges in Wales	
112. Name the three mountain ranges in Scotland	
113. Name the most northern mountain range in the U.K.	
114. Name the most southern mountain range in the U.K.	

115. Name the most Eastern mountain range in the U.K.	
116. Name the two mountain ranges in England	
117. Which country are the Grampians in?	
118. Which country are the Pennines in?	



Current statistical information about The United Kingdom

Use the information below to answer the questions on the opposite page



Belfast



1.871 million



14,130 km²



Slieve Donard, 850m



£43.4 billion



Edinburgh



5.425 million



80,077 km²



Ben Nevis, 1345m



£154.9 billion



London



55.6 million



130,395 km²



Scafell Pike, 978m



£1790 billion



Cardiff



3.125 million



20,735 km²



Snowdon, 1085m



£70.6 billion



The United Kingdom

The four countries of England, Northern Ireland, Scotland, and Wales make up the United Kingdom of Great Britain and Northern Ireland.



Gross Domestic Product

One of the ways to measuring the wealth of a country is by calculating the gross domestic product. The gross domestic product is the total of the all the things that are sold, and all of the work that is done, in a country, in a single year.

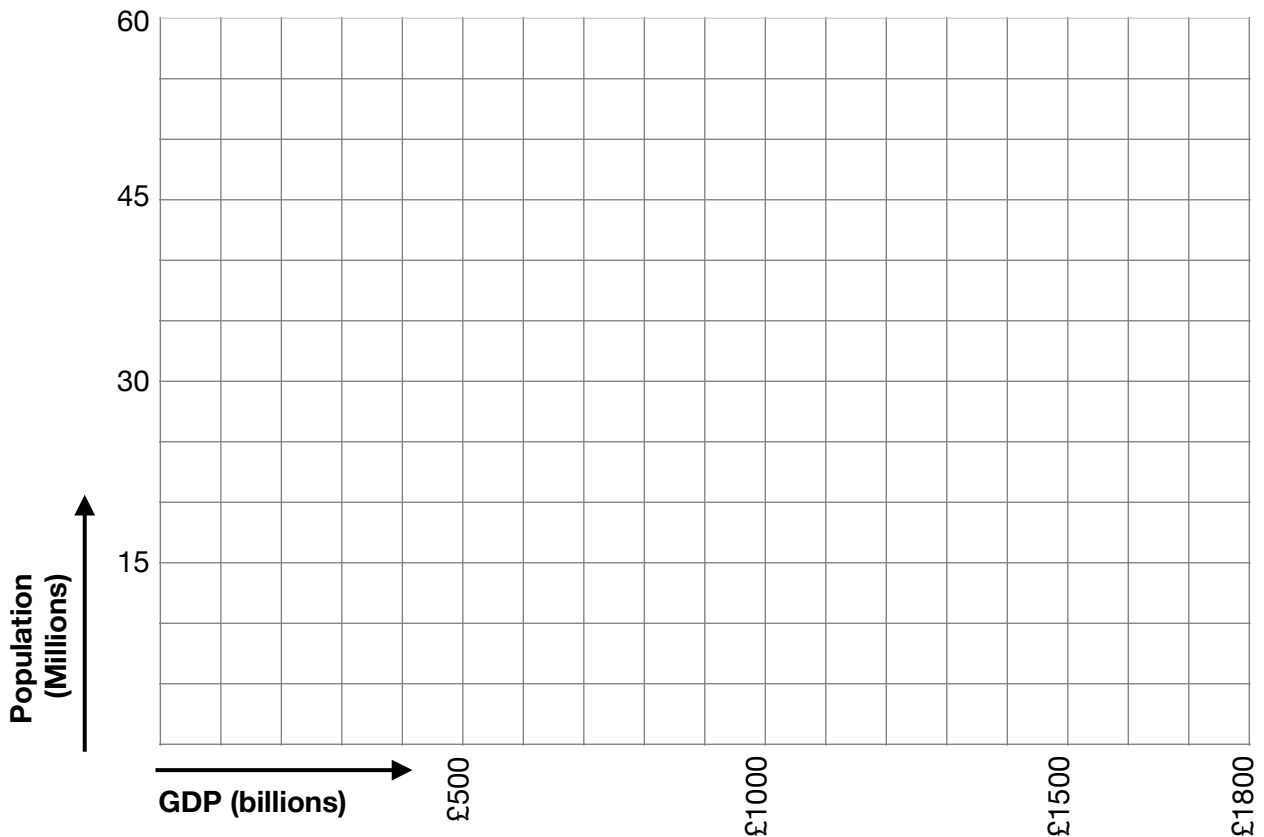
119. What's the name of the capital of Scotland?	
120. Which country is Belfast the capital of?	
121. Which country is Snowdon in?	
122. What's the name of the highest mountain in Northern Ireland?	

123. Which country has the largest area?	
124. Which country has the highest mountain?	
125. Which country has the highest gross domestic product?	
126. Which country has the smallest population?	

127. Rank the four countries of the United Kingdom in order of gross domestic product	First:	Second:	Third:	Fourth:
---	--------	---------	--------	---------

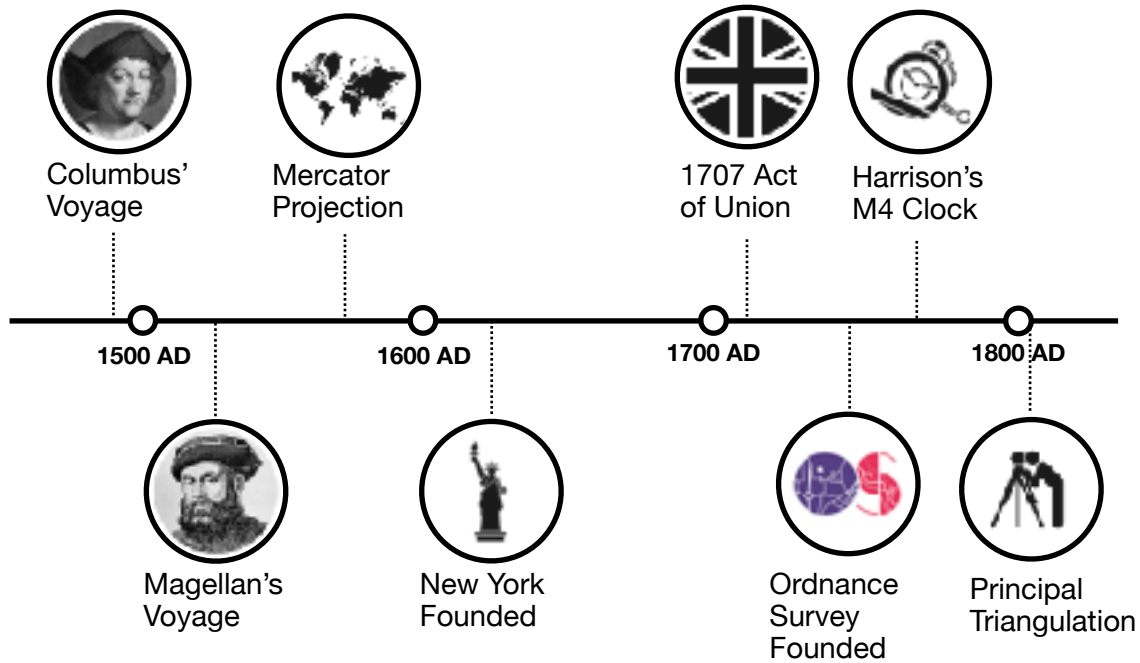
128. Rank the four countries of the United Kingdom in order of size of population.	First:	Second:	Third:	Fourth:
--	--------	---------	--------	---------

129. Plot the gross domestic product and the population of each of the four countries below:





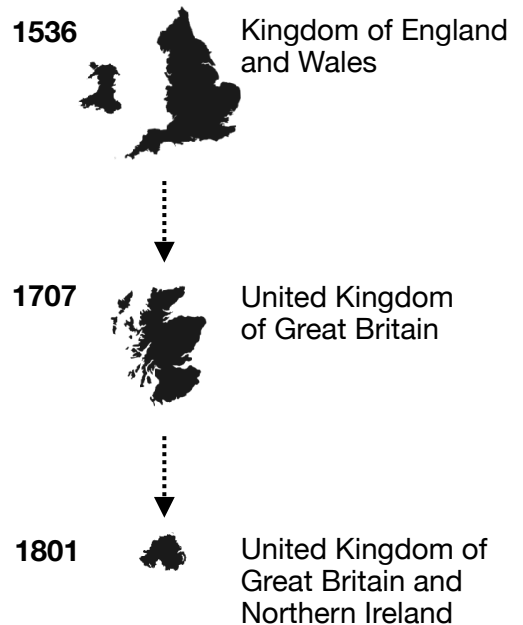
The Act of the Union



1 The joining of England and Scotland happened in
 2 1707. The joining of Scotland and England created
 3 the United Kingdom of Great Britain. The joining of
 4 Scotland and England is called the 1707 Act of
 5 Union.

6 Wales and England had already been joined together
 7 for 400 years when England and Scotland joined
 8 together. The Act of Union meant that England,
 9 Wales, and Scotland were now joined together.

10 The joining of Scotland and England is called Act of
 11 Union because it united the countries to create the
 12 United Kingdom. In 1801, Northern Ireland joined the
 13 Act of Union, and the United Kingdom of Great
 14 Britain became the United Kingdom of Great Britain
 15 and Northern Ireland.



130. What year was the Act of Union?	
131. Which two countries had been united since 1536?	
132. Which two countries were united in 1707?	

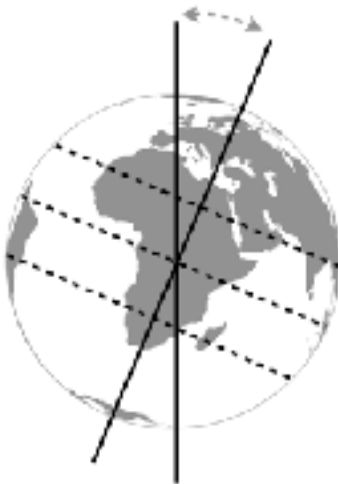
133. Which country joined the United Kingdom in 1801?	
134. What was the name of union in 1707?	
135. What is the name of the union now?	

Lesson 14: The Ordnance Survey



Retrieval Practice: Let's check what you can remember:

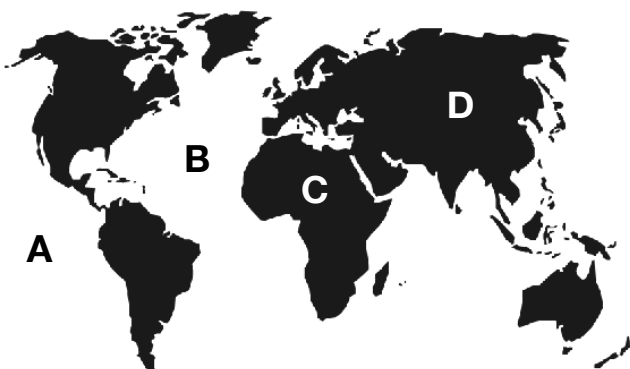
Answer all the questions on this page from memory.



136. What is the angle of tilt of the Earth?	
137. Name the point 90° South	
138. Name the Northern Tropic	
139. Name the Southern Tropic	
140. How many degrees of latitude are there between the Tropics and the Equator ?	

141. What does the word hemi mean?	
142. What is solar radiation ?	
143. What is a circumnavigation ?	
144. What does the word explorer mean?	

145. Who first wrote down the word Geography?	
146. What are the mountains of Northern Africa called?	
147. What are the mountains between France and Spain called?	
148. What are the mountains along the spine of Italy called?	



149. Name Ocean A	
150. Name Ocean B	
151. Name Continent C	
152. Name Continent D	

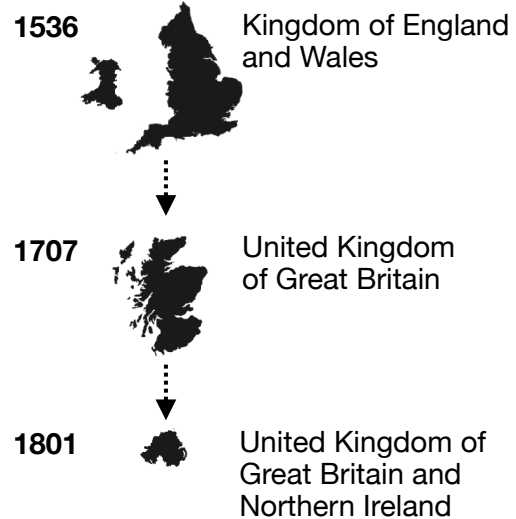


The Jacobite Uprising and the Ordnance Survey

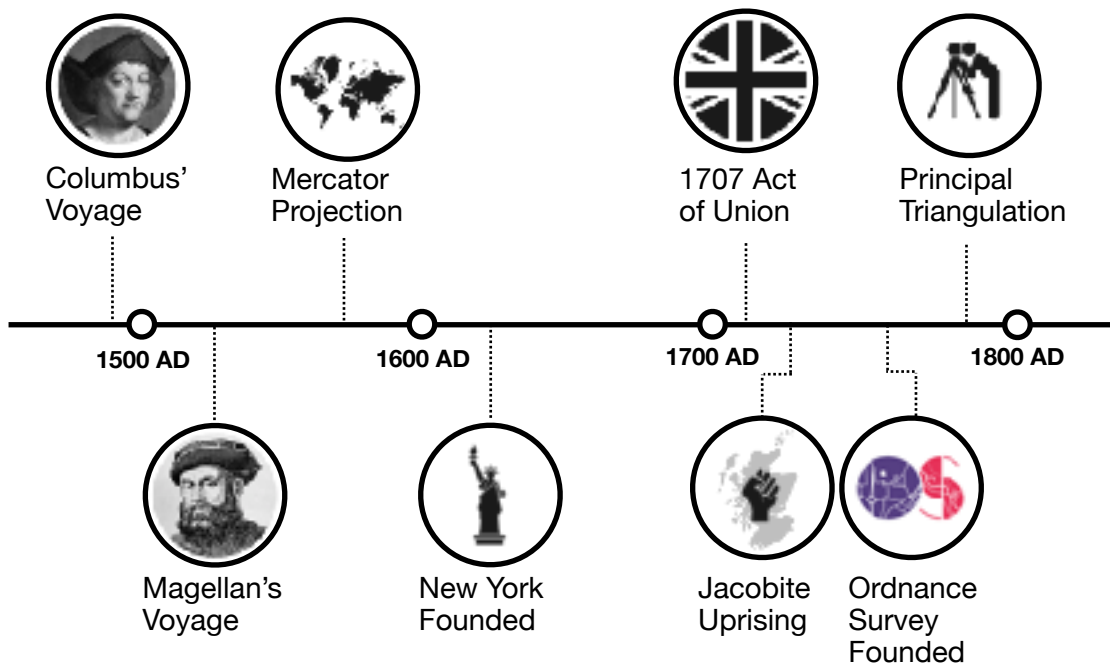
The Act of Union united Scotland with England and Wales, but not everyone was happy about it.

In this lesson, we'll learn:

- How an unsuccessful revolution led to the Ordnance Survey being founded.
- How to communicate more accurate locations by using six-figure grid references.



Disagreed		We have to do whatever the King orders us to do
Survey		If they catch her, she'll be arrested for what she's done.
Replace		Instead of this, we should use that.
Highlands		They didn't think the same person should have one
Arrested		The mountains there are beautiful
The King		We asked a lot of questions and wrote down the answers





The Jacobites

The British Army

13 After the Battle of Culloden, the leaders of
14 the Jacobite rebellion hid in the North-West
15 Highlands. The leaders of the British Army
16 wanted to find the leaders of the Jacobite
17 rebellion so they could be arrested. The
18 leaders of the British Army wanted to put the
19 leaders of the Jacobite Army on trial for the
20 crime of rebellion.

21 The leaders of the British Army quickly
22 learned that they didn't have a good map of
23 the North-West Highlands. The leaders of
24 the Jacob rebellion were able to hide and
25 avoid being arrested.

26 In 1747, Lieutenant-Colonel David Watson
27 proposed making a map of the North-West
28 Highlands so that the leaders of the Jacobite
29 rebellion could be found and arrested. King
30 George II responded by ordering Watson to
31 make the map. Lieutenant-Colonel David
32 Watson turned to William Roy for assistance.

33 William Roy was a Scottish engineer with a
34 love of cartography. William Roy was
36 responsible for most of the work of
37 surveying the land. A survey is where you
38 measure the land and make a record of
39 where everything is. The map of the North-
40 West Highlands became known as Roy's
41 Map of Scotland. William Roy is credited
42 with creating a map that allowed the British
43 Army to successfully locate and arrest many
44 of the defeated Jacobite leaders because of
45 the accuracy of the map he created.

1 George II was the King of Great Britain.
2 The Jacobites were a group of people who
3 wanted to replace King George II. Many of
4 the Jacobites disagreed with the Act of
5 Union. The Jacobites who disagreed with
6 the Act of Union wanted Scotland to be
7 separate from England and Wales.

8 Most of the Jacobites were from the
9 North-West Highlands and the Grampians.
10 After starting their rebellion, the Jacobites
11 won some of the early battles but were
12 defeated the Battle of Culloden.



Part of 'Roy's Map of Scotland'

46 With the Jacobite rebellion over, King
47 George II was concerned that the French
48 would invade. King George II was so
49 impressed with the map of the North-West
50 Highlands that he ordered William Roy to
51 create another map. This new map
52 needed to show where cannons could be
53 put on the south coast of England.

54 The word ordnance is used to describe
55 firing cannonballs and other types of
56 ammunition. This new map involved a
57 survey of the best places to put cannons.
58 This became known as the ordnance
59 survey. The name ordnance survey was
60 later given to the organisation William Roy
61 founded; an organisation that went on to
62 survey the whole of Great Britain.

📍 What the Ordnance Survey reveals about our place in the world

63 Once King George II was confident
 64 that the south coast was safe from
 65 invasion, he ordered William Roy to
 66 continue his work and survey the rest
 67 of Great Britain. This survey became
 68 known as the principal triangulation,
 69 and it revealed a lot about the names
 70 of places. Great Britain has been
 71 invaded many times before 1066,
 72 and each group of invaders named
 73 settlements.



It was founded by Romans

if it ended with...

...chester

...cester



It was founded by Vikings

if it ended with... ...which meant

...by Homestead/village

...thorpe farms

...toft House/plot of land

...tofts



It was founded by Anglo-Saxons

if it ended with... ...which meant

...barrow Wood

...bury Fortified place

...ford Shallow river crossing

...ham Village

...ley/leigh/lee Forest clearing

...ton/tun Enclosed village/farm/manor

...wick/wich Farm



74 For example, Bloxham was founded by
 75 Anglo-Saxons in 450AD. We can work
 76 this out because it ends with ham. The
 77 traditional meaning of the word ham
 78 was village.

79 The town of Cirencester was founded
 80 as a Roman fort in 43AD, we can work
 81 this out because it ends in cester.

82 The city of Rugby was founded by
 83 Vikings in 793 AD, and it means the
 84 place where deer are found.



Deliberate Practice: Let's see who founded our local settlements.

Complete the table below to show the place name, meaning, and founders, or settlements local to Banbury.

	Place Name	Meaning	Founders	Grid Reference
1	Bloxham	Village	Anglo-Saxon	4335
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Giving more accurate locations

85 We have learned how to
 86 communicate locations using four-
 87 figure grid references. They are called
 88 four-figure grid references because
 89 there are four numbers which
 90 communicate which grid square.
 91 Each four-figure grid square is an
 92 1km² area. When William Roy was
 93 telling King George II where to put
 94 cannons in case of a French invasion,
 95 he needed to be more accurate than
 96 a 1km² area.

97 William Roy began using six-figure
 98 grid references. They are called six
 99 figure grid references because there
 100 are six numbers which communicate
 101 which part of a grid square.

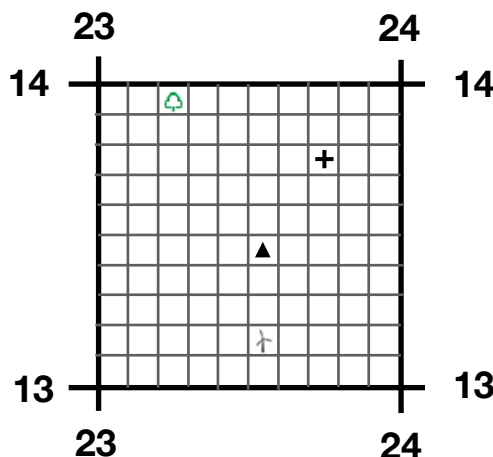
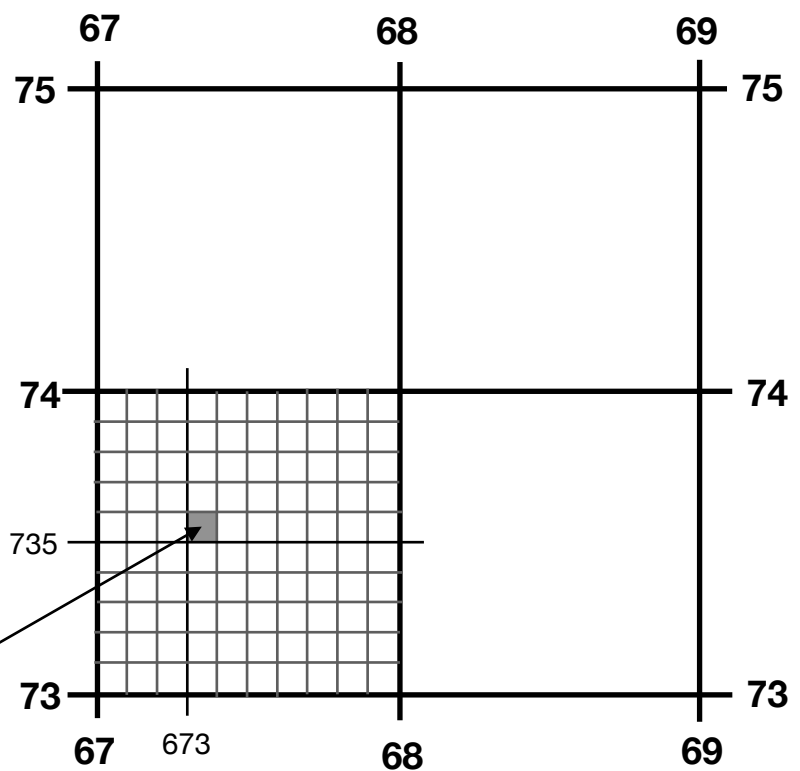
102 A four-figure grid reference is
 103 accurate to a 1km² area, a six-figure
 104 grid reference is accurate to a 100m²
 105 area. We often use six-figure grid
 106 references in Geography to be more
 107 accurate and precise.

1 The first two numbers at the start, and after the comma, are the same as they would be in a four-figure grid reference

↓ ↓ ↓ ↓
673, 735


2 The last of the three numbers make it a six-figure grid reference and show where in the grid square is being communicated


3 We need to imagine that each grid square is divided into 100 smaller squares with imaginary lines. Like with four-figure grid references we go x, then y.





We Do: Let's do these four together

Use this as an opportunity to check you understand, so you can try the next set independently

153. 

154. 

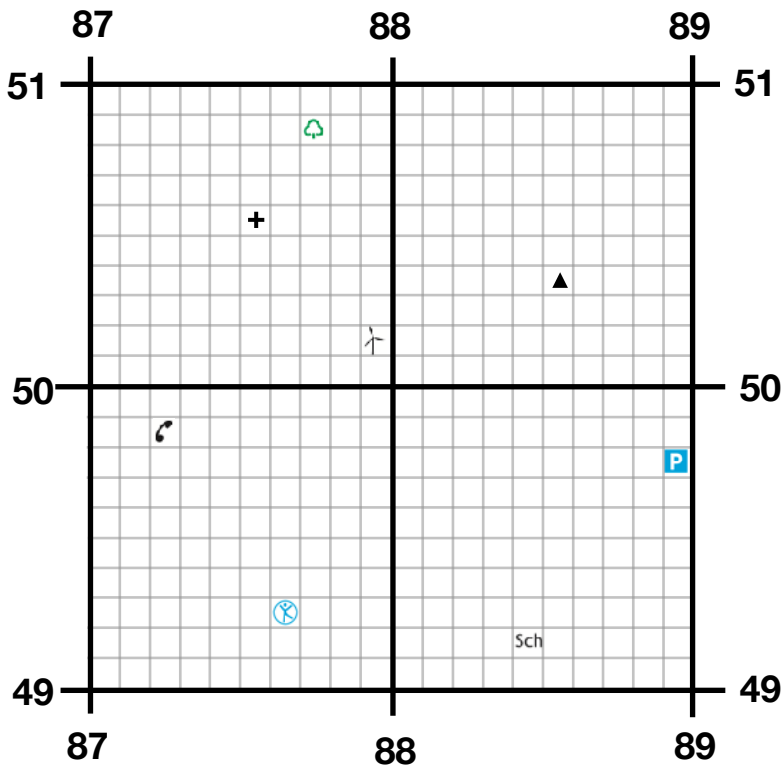
155. 

156. 



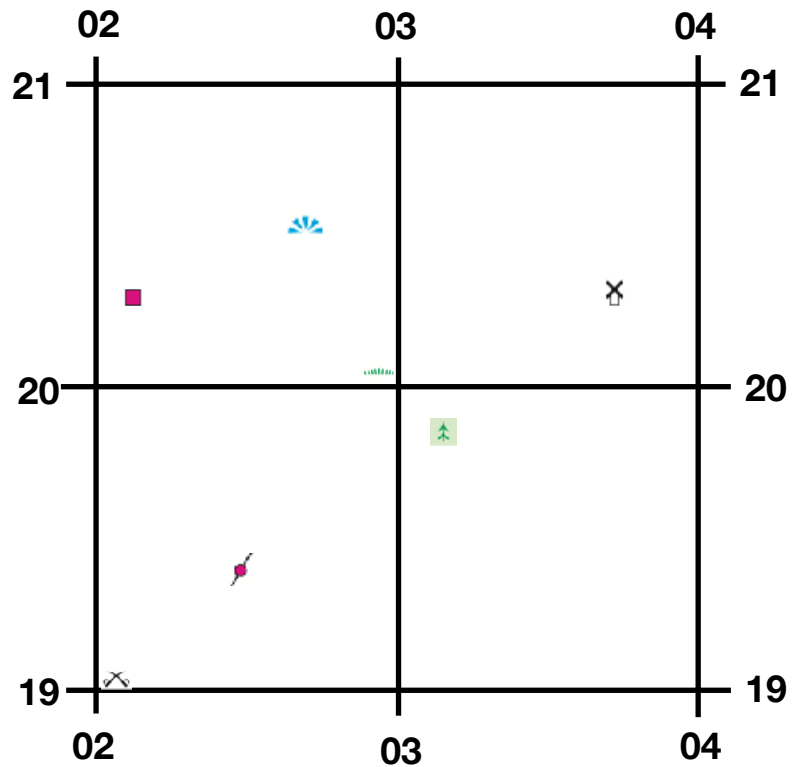
Deliberate Practice: Six-Figure Grid References

Work through each of these examples independently to practice six-figure grid references.



- 157.
- 158.
- 159.
- 160.
- 161.
- 162.
- 163.
- 164. Sch

- 165.
- 166.
- 167.
- 168.
- 169.
- 170.
- 171.



Lesson 15: The Principal Triangulation

We have learnt about the principal triangulation that William Roy carried out. Today, you are going to try and repeat the principal triangulation to understand what it was like for William Roy and the ordnance survey team.



In this lesson you'll need to use a **protractor** and work in a team.



Person **A** uses the **protractor** to **measure** the **angle**



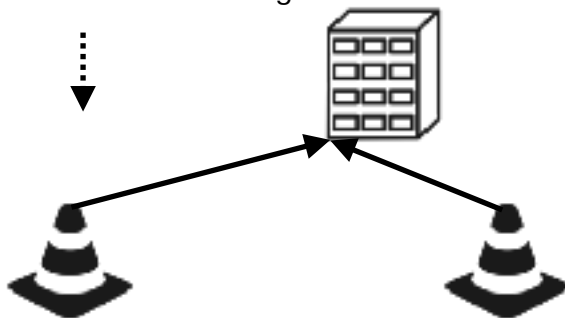
Person **A** tells the **angle** to person **B**



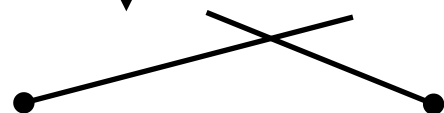
Person **B** **draws** the **angle** on the **clipboard**



Person **A** **measures** the **angle** from one of the **cones** to the corner of a building. Then **measures** the **angle** from the other **cone** to the same corner of the same building.



Person **B** **draws** a line on the same angle from the **dot** on the sheet on the **clipboard**. The **draws** the other **angle** from the other **dot**. The corner of the building is where the two lines intersect.



Ancient Greece

Islamic Empire

Age of Discovery

Digital Age

Lesson 16: The Growth of Banbury



Retrieval Practice: Let's check what you can remember:

Write whether the mountain range is found in England, Scotland, or Wales.

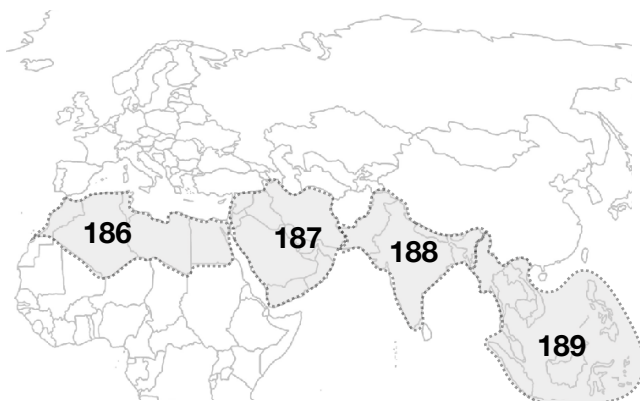
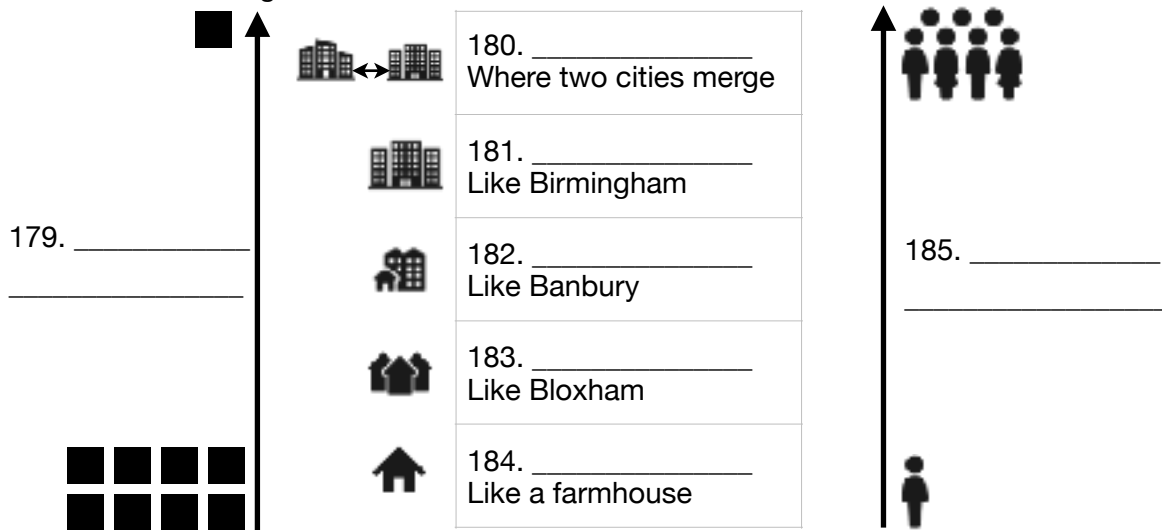
172. The Cambrians	
173. The Grampians	
174. The Pennines	
175. The North-West Highlands	

176. The Lake District (Cumbrians)	
177. Snowdonia	
178. Southern Uplands	



Settlement Hierarchy

Fill in the missing words from this model



World Regions

Name each of the regions shown in the map opposite in this grid

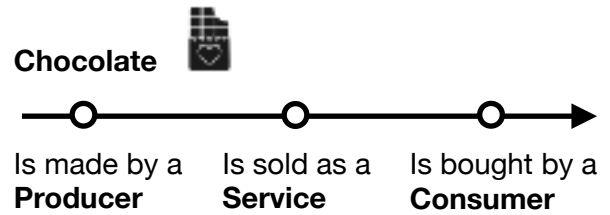
186	
187	
188	
189	

We have studied the ideas of site and situation, and how they lead to Banbury growing.

In this lesson we'll learn about:

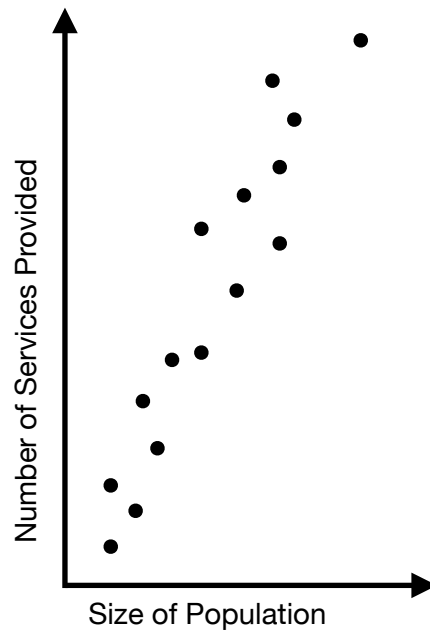
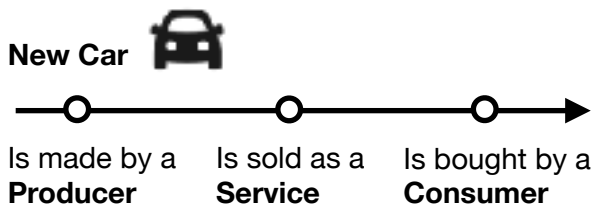
- The difference between higher and lower order services.
- The relationship between the order of services and settlement size
- What a sphere of influence is, and how it connects to the order of services and settlement size

1 Let's imagine that you want to buy some
 2 chocolate. The good news is that
 3 chocolate is sold in lots of places. There
 4 is a high probability that you can buy
 5 chocolate near to where you live. As
 6 Geographers, we have language to
 7 describe this. We call the shop selling
 8 the chocolate a service. We call the
 9 person who wants to buy the chocolate
 10 a consumer.



11 There is a high probability that a service
 12 selling chocolate is located in a village.
 13 It is certain that a service selling
 14 chocolate is located in a town, city, or
 15 conurbation. There is a low probability a
 16 service selling chocolate would be
 17 located next to an isolated dwelling.

18 Next, let's imagine that you wanted to
 19 buy a new car. We would use the same
 20 language to name the producer, a
 21 service, and a consumer.



22 There is a low probability that a service
 23 selling new cars is located in a village or
 24 in a town. There is a higher probability a
 25 service selling new cars would be
 26 located in a city, and it is certain that a
 27 service selling new cars would be
 28 located in a conurbation.

29 There is an increased probability of a
 30 service being located in a larger
 31 settlement. This means that, the more
 32 people living there, the more services
 33 there will be.

34 We can think of the relationship between
 35 the number of services, and the size of a
 36 settlement as a graph. The graph above
 37 shows the relationship between settlement
 38 size and the number of services provided.
 39 We word used for the type of relationship
 40 in the graph is a positive correlation. A
 41 positive correlation means that as the
 42 population size increases, the number of
 43 services provided increases as well.
 44 Settlements with high population provide
 45 more services.

46 A service providing new cars is only
47 available in a settlement with a high
48 population. However, a service selling
49 chocolate is available in a settlement
50 with a lower population. This describes
51 the order of services.

52 Services available in settlements with a
53 lower population are known as lower-order
54 services. Services that are only available in
55 settlements with a higher population are
56 known as higher-order services.



190. Deliberate Practice: Categorise these services

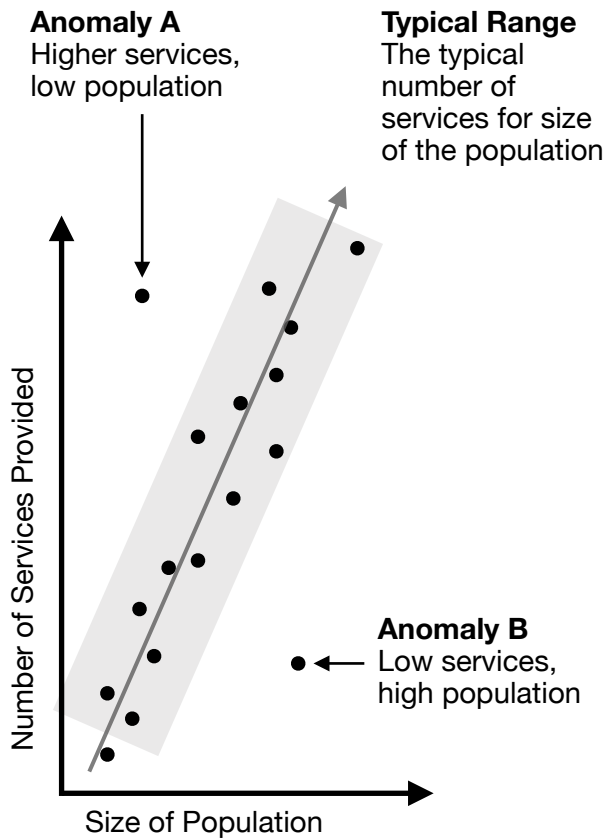
As well as the correct column, show whether the services are higher-order or lower-order

Post Office, Newsagents, Doctors Surgery, Veterinarian, Bank, Solicitors Office, Estate Agents, Hair Dresser, Nail Salon, Takeaway, Nightclub, Football Stadium, Museum, Gym, Five-Star Restaurant, Place of Worship, Independent Coffee Shop, Theme Park, Swimming Pool, Sports Track, Department Store, Clothes Shop, Mechanics, Cinema, Theatre, Arcade, Historic Monument, University, Primary School, Secondary School, College, Retirement Home, Dog Groomers, Hospital, Markets, Shopping Centres.





Typical Ranges and Anomalies in Services and Population



The word anomaly
anomaly ← is abbreviated from
↑ the word 'normal'.

The prefix **a** makes it an
antonym, like the word **atheist**.
An anomaly is not normal.

57 The graph shows the positive correlation
58 between the number of services provided
59 and population size. Nearly every
60 settlement is within the typical range.
61 Settlements in the typical range are
62 settlements that offer the number of
63 services we would expect, for the size of
64 the population.

65 Some settlements provide a high number
66 of services with a low population. Other
67 settlements offer a low number of
68 settlements with a high level of population.
69 Settlements outside of the normal range
70 are called anomalies.



Sphere of Influence

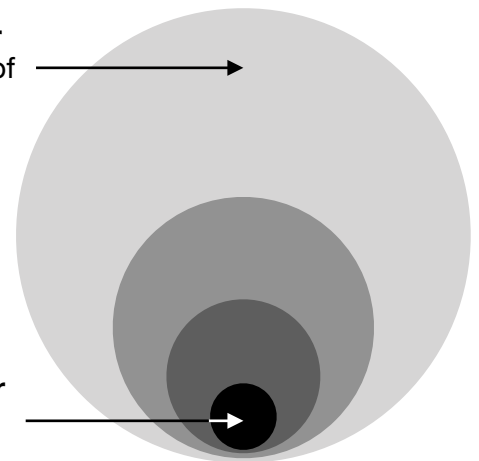
71 The Sphere of Influence is a theory. A
72 theory is way of explaining why something
73 happens. The sphere of influence is a way
74 of explaining the number of services
75 provided in a place.

76 The word sphere is used incorrectly, the
77 word circle should be used instead. A
78 sphere is a 3D circle, and a circle is a 2D
79 sphere. The sphere of influence theory
80 only works in 2D.

81 The sphere of influence is a way of
82 explaining how far people will travel for a
83 service that is provided. We know that
84 lower-order services are provided with
85 higher frequency. We know that higher-
86 order services are provided with lower
87 frequency. People are unlikely to travel for
88 several hours to buy a bar a chocolate or
89 go to primary school. Both the chocolate
90 bar and the primary school are lower order

Higher-Order
High Sphere
of Influence

Lower-Order
Low Sphere
of Influence

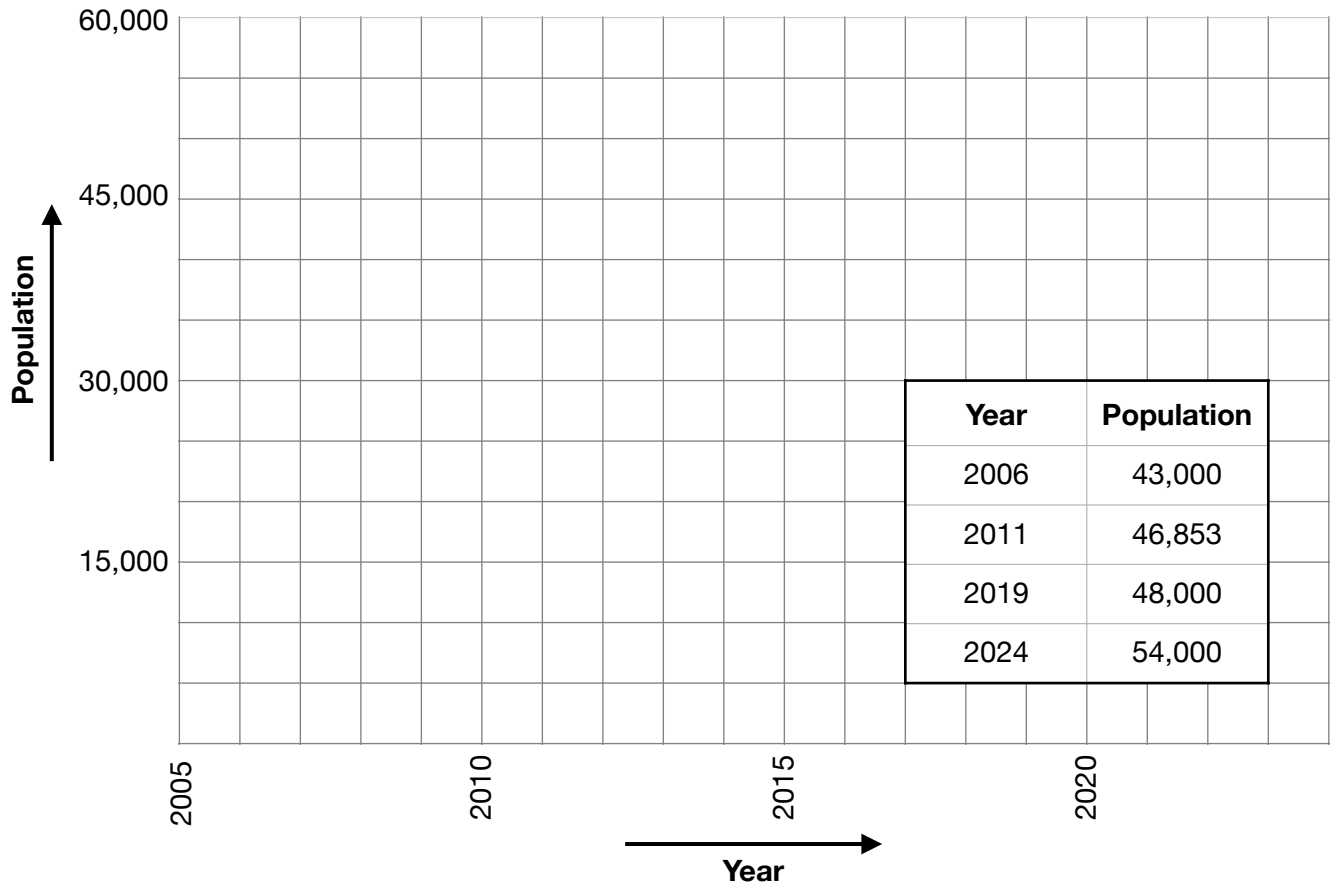


91 services because of the their frequency.
92 For a higher-order service like a university,
93 many people move from one part of a
94 country to live in another part.

95 The sphere of influence theory explains
96 that the university, and the place the
97 university is located, have a higher
98 influence.



196. Plot the growth of the Banbury on the graph below.



Let's check for Understanding: Answer these questions

197. What word do we use to describe someone who makes a product?		201. Is a service selling new cars lower-order or higher-order?	
198. What word do we use to describe the product being sold?		202. Do lower-order or higher-order services have a higher sphere of influence?	
199. What word do we use to describe someone buying the product?		203. Would cities or conurbations have a higher sphere of influence?	
200. Is a service selling chocolate lower-order or higher-order?		204. What word describes settlements outside the typical range of providing services?	

115 Banbury is an anomaly. Banbury is not in
 116 the typical range for the number of
 117 services provided for the size of the
 118 population. Banbury has fewer services
 119 than a town with a population of nearly
 120 50,000 residents.

121 Banbury's sphere of influence is larger
 122 than a typical town of nearly 50,000
 123 residents. Banbury's sphere of influence is
 124 larger because of the number of villages
 125 that also use the services provided by
 126 Banbury.

Lesson 17: Housing Developments

We have learnt that Banbury is an anomaly as it doesn't provide as many services as a settlement of 50,000 residents should. We have learnt that Banbury needs to build more houses.

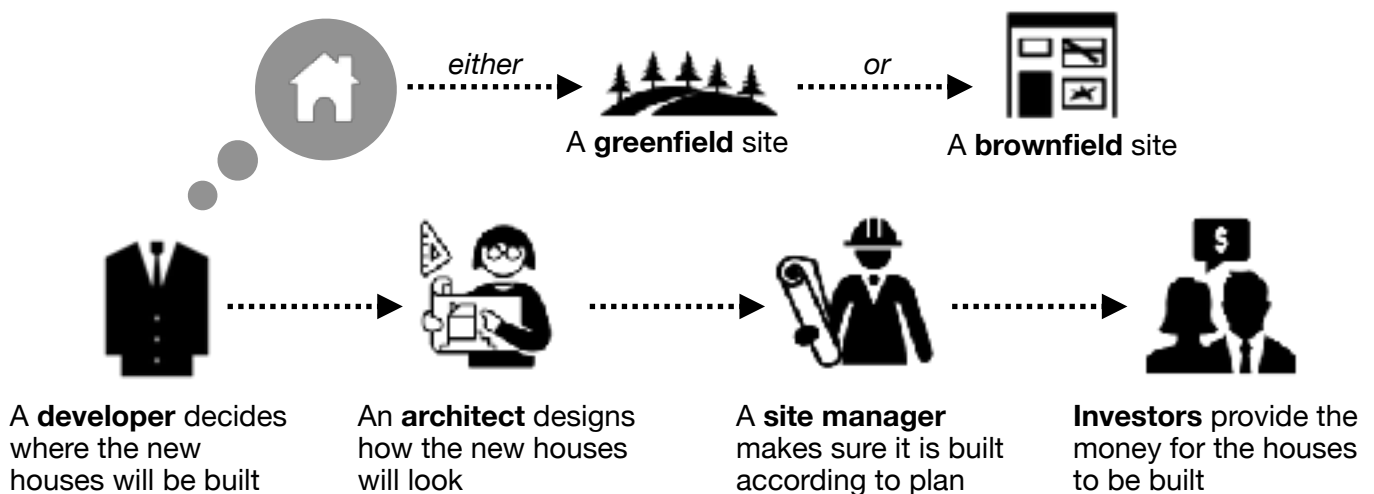
In this lesson we'll learn about:

- The differences between greenfield and brownfield sites
- How sites are chosen to be developed
- The challenges of meeting the demands of different user groups, and how this leads to conflict.

Example of a greenfield site



Example of a brownfield site



Population



They decided where to build all of these houses

Developers



Jane counted how many she could fit in the room

Categories



The areas got nicer and nicer since they started work

Spoilt



How many people there are living in a place

Pollution



This milk has gone off

Develop



We organised all of them into these groups

Quantity



This is the building where we make all the toy teddy bears

Factories



The air is so dangerous it makes people ill



Greenfield and Brownfield Sites

1 The population of Banbury is predicted to
2 increase by 6000 people between 2019
3 and 2024. There are not enough houses in
4 Banbury for an extra 6000 people live. This
5 means that more homes need to be built.
6 As a result, areas in Banbury that do not
7 have houses on them will need to be used
8 for housing. As Geographers, the word we
9 use for housing is a residential area. A
10 residential area is an area where houses
11 are built, and people live.

12 When choosing where to build new
13 residential areas, developers need to
14 choose sites. As Geographers, we use the
15 word site to describe the place where a
16 residential area will be built. The word site
17 is used in the same way as when
18 describing the site of a settlement.
19 Developers have to make choices about
20 the site for new residential areas. As
21 Geographers, we use the word developers
22 to describe the people in charge of making
23 the decision about which site to build new
24 residential areas.

25 The word develop means to make
26 something better, or to improve it. The
27 word development is used to describe the
28 building of a new residential area because
29 it means that the area is being improved.
30 Development sites for residential areas
31 can be grouped into two categories,
32 greenfield sites and brownfield sites. When
33 choosing which site to develop for a new
34 residential area, developers have to
35 choose between greenfield and brownfield
36 sites.

37 Greenfield sites have not been used
38 before. As Geographers, we use the word
39 undeveloped to describe greenfield sites
40 because they have not been built on
41 before. This means that undeveloped
42 greenfield sites do not cost very much to
43 buy. Most greenfield sites are on the fringe
44 of towns and cities. As Geographers, we

45 use the word fringe to describe the edge
46 of the town or city, where the city ends,
47 and the countryside begins. As a result of
48 most greenfield sites being located on the
49 fringe of town or cities, the new residents
50 have to rely on cars. This means that the
51 number of cars on the roads increases.
52 The increase in the number of cars on the
53 roads can lead to more traffic jams, more
54 pollution from exhaust fumes, and an
55 increase in the noise of the area.

56 Developing greenfield sites often requires
57 removing areas of forest and woodland,
58 which means the sites' appearance can be
59 spoilt. Developing greenfield sites reduces
60 the quantity of land that is available for
61 farming, which can have a negative effect
62 on food production. As a result of being
63 located on the fringe of towns and cities,
64 greenfield sites are typically further away
65 from the services provided by the
66 settlement they are being built on the
67 fringe of. This means that new residents
68 have to travel further to be able to access
69 the services they need from the
70 settlement. As a result, the number of cars
71 increases further.

72 Brownfield sites have been used before.
73 Brownfield sites have previously been
74 developed, but they are not being used at
75 the moment. A common way to describe
76 brownfield sites is areas that are disused.
77 Towns and cities typically have brownfield
78 sites where factories and other companies
79 used to be but aren't there anymore.
80 Developing brownfield sites means that
81 greenfield sites aren't developed, this
82 means that the town or city doesn't get
83 any larger, and new residential areas are
84 closer to the services provided by the
85 settlement.

86 Developing brownfield sites means that
87 more of the natural environment is left
88 alone. As Geographers, we use the word

89 conservation to describe trying to protect
 90 a natural environment from development.
 91 Developing brownfield sites means that
 92 more of the natural environment is
 93 conserved. As a result of brownfield sites
 94 already being in the town or city, new
 95 residents don't need to rely on owning a
 96 car. This means that developing
 97 brownfield sites can help to reduce the
 98 quantity of traffic and help conserve the

99 environment. However, the land in
 100 brownfield sites is often contaminated
 101 from its earlier development. This means
 102 that the land cannot be developed without
 103 being cleaned first. The cost of cleaning
 104 brownfield sites can be very high. As a
 105 result, developing brownfield sites can
 106 often be more expensive than developing
 107 greenfield sites.



Let's check for Understanding: Answer these questions

205. What phrase do we use to describe housing?		209. What word do we use to describe a site that has been previously developed?	
206. What word do we use to describe a place where a residential area might be build?		210. What word do we use to describe trying to protect a natural environment?	
207. What do we call people how decide which site to use for housing?		211. Which type of site typically requires new residents to own a car?	
208. What word do we use to describe a site that is undeveloped?		212. Which type of site typically doesn't increase the size of the settlement?	



213. Complete the table below

	Greenfield Site	Brownfield Site
Advantages		
Disadvantages		



Conflict over development sites

108 We are going to think about someone who
 109 likes walking their dog. This person likes
 110 walking their dog through the fields next to
 111 where they live. The way the person wants
 112 to use this land is for leisure. The dog
 113 walker would not be happy if the fields
 114 where they walk their dog were developed
 115 as a new residential area.

116 People often disagree about how land
 117 should be used. People disagree because
 118 they want to use the same land to do
 119 different things. Typically, doing one thing
 120 with a site means that something else
 121 can't be done. If a greenfield site is
 122 developed as a new residential area, it can
 123 no longer be used in the same way by
 124 people walking their dogs.



Deliberate Practice

Complete each of these sentences below to explain whether the user group would prefer to develop a greenfield site or a brownfield site.

214. Someone who walks their dog through the fields on the fringes of Banbury would prefer the developers to choose because

.....

215. A newly married couple with a young daughter who are worried about the road and traffic would prefer the developers to choose because

.....

216. An elderly retiree who is no longer able to drive would prefer the developers to choose because

.....

217. A young man who is looking to move out of their parents' house and live alone for the first time would prefer the developers to choose because

.....

218. A couple in their thirties with two children, whose living room window looks across the countryside on the town's fringe would prefer the developers to choose because

.....



Identify the Development Sites

The numbered sections on the map below show where Banbury's new housing development sites are.



219. Draw the outline of the housing development sites on the Ordnance Survey map below, and label them to show whether they are greenfield sites, or brownfield sites.





House sizes in Greenfield and Brownfield Sites

125 People typically buy the largest house that
126 they can afford. There are two main
127 reasons why people typically buy the
128 largest house that they can afford. The first
129 reason is that a larger house is considered
130 preferable. People like having space, and
131 the larger their house, the more space they
132 have. Larger houses allow people to
133 prepare for the future. Single people
134 buying a large house will have space if
135 they meet someone and start a family.

136 The second reason people buy the largest
137 house that they can afford is because of
138 the fees involved in buying a house. To
139 buy or sell a house involves contracts and
140 lawyers. Lawyers are experts who have
141 spent years training to understand the law.
142 A contract is an agreement about what
143 two people are going to do. A contract to
144 buy a house, is an agreement, written by a
145 lawyer, that one person will sell their house
146 to another person. Lawyers need to be
147 paid for their time. Paying lawyers for their
148 time increases the cost of buying a house.

149 People buy the largest house that they can
150 afford so that they can live in it for longer,
151 and they don't need to pay lawyers as
152 frequently to write contracts.

153 People typically don't have all the money
154 to buy the largest house they can afford in
155 one go. People buying a house typically
156 agree to pay a smaller amount each month
157 rather than pay all of the money in one go.
158 This means that more people can buy
159 houses than if they needed to have all of
160 the money in one go.

161 As a result, banks pay all of the money in
162 one go for a house, and people pay the
163 bank a smaller amount each month. This is
164 called a mortgage. A mortgage is where
165 the bank buys a house, and people pay
166 the bank money each month, until they
167 have paid the bank all of the money they
168 agreed to pay. People typically have a

169 mortgage to buy their house. People who
170 have all of the money they need to buy a
171 house in one go are anomalies.

172 Banks have to decide how much they
173 think people will be able to pay them each
174 month for a house. This means that banks
175 will not offer a mortgage that people can't
176 pay on their current income. However, it
177 does mean that banks will offer people a
178 mortgage that they can't afford if they lose
179 their income. As a result, many people
180 have to maintain or increase their income
181 in order to afford to pay the mortgage to
182 the bank each month. If people are no
183 longer able to afford the mortgage each
184 month the bank keeps the house. This
185 means that if people can no longer afford
186 the mortgage, they are not allowed to live
187 there.

188 People typically buy the largest house that
189 they can afford. This means that people
190 often have a high mortgage that they need
191 to pay each month. As a result, people
192 with mortgages typically need to work so
193 that they can continue to pay their
194 mortgage. Settlements with higher
195 spheres of influence and more higher-
196 order services typically pay higher
197 incomes. As a result, people can typically
198 afford larger houses if they work in higher-
199 order services in settlements with higher
200 spheres of influence.

201 People living in Banbury can work in
202 London. As Geographers, the word we use
203 to describe travelling to work is
204 commuting. People who live in Banbury
205 but travel to London for work are
206 commuting. People can commute from
207 Banbury to London in about an hour.
208 London has a very high sphere of
209 influence and has some of the highest-
210 order services in the U.K. People working
211 in London can typically afford mortgages
212 on large houses in Banbury.



210. Composing a PEEL Paragraph

We're going to practice an I/We/You approach to explaining why the size of homes are different in greenfield and brownfield sites.

Explain why larger houses are typically developed on greenfield sites.

I: Let's look at the answer to this question together

To begin with, there are two types of site that developers can choose for new residential areas, either greenfield sites or brownfield sites.

This means that developers have to make a choice about the site they are going to develop. Greenfield sites are cheaper and have never been developed, but developing greenfield sites increases traffic as they are on the settlement's fringe.

As a result, developers would choose to build larger houses on greenfield sites aimed at families who own cars and can travel to the services the settlement provides, but who want to be further away from the settlements centre.

Consequently, housing developments on greenfield sites have larger houses.

Explain why smaller apartments are typically developed on brownfield sites.

We: Let's work on the answer to this question together

To begin with, there are two types of site.....

.....

.....

This means that developers have to make a choice.....

.....

Brownfield sites are more expensive as they typically require.....

.....

However, new residents in brownfield sites don't need to.....

.....

.....

You: Finish the answer independently

.....

.....

.....

.....

.....

.....

Lesson 18: Castle Quay II

We have learnt that Banbury is building more homes. We have learnt that Banbury doesn't provide as many services as expected, and this makes it an anomaly.

In this lesson we'll learn about:

- The services that used to be provided in Banbury
- The plans to develop Castle Quay II
- The challenges of meeting the demands of different user groups, and how this leads to conflict.

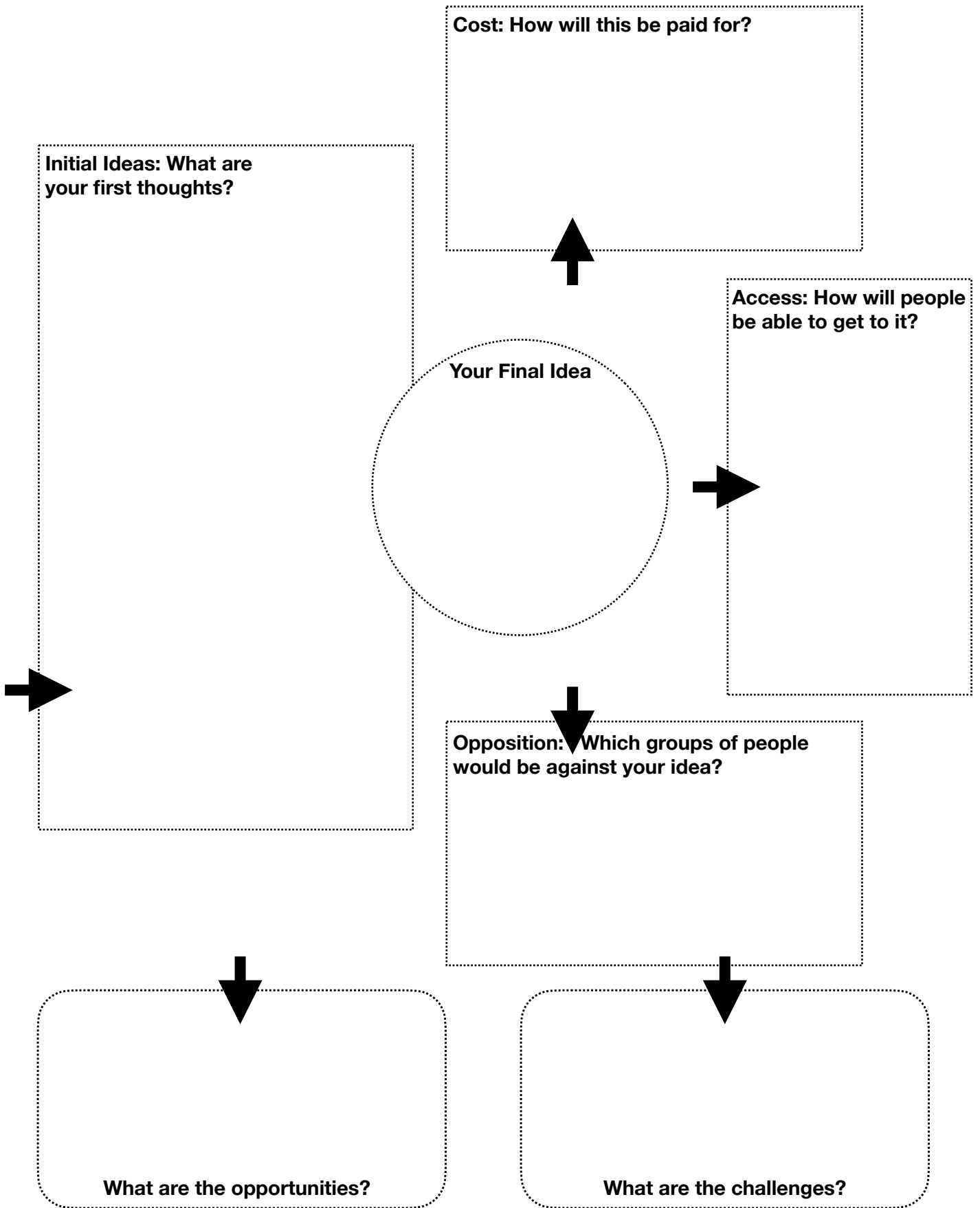
Land for Development

- 1 The photograph at the bottom of the page
- 2 is from Google Earth. Google Earth is a
- 3 service provided by the Google Company.
- 4 The service provided by Google Earth is
- 5 access to photographs taken from
- 6 satellites.
- 7 Satellites have flown above Banbury and
- 8 taken photos of the surface. The
- 9 photograph at the bottom of the page
- 10 shows an area of land that can be
- 11 developed. We know that Banbury doesn't
- 12 provide as many services as typical town
- 13 of its population size. If it were up to you,
- 14 what would you do with this land?





211. Work through the planning boxes on this sheet.



The Horton General Hospital

15 The Hospital in Banbury is called the
 16 Horton General Hospital. The Horton
 17 General Hospital is run by Oxfordshire
 18 Health. In September 2019, the bosses of
 19 Oxfordshire Health decided that the
 20 obstetrics department of the Horton
 21 Hospital would stay closed. The obstetrics
 22 department helps women give birth. It is
 23 typical for a town the size of Banbury to
 24 have a hospital with an obstetrics
 25 department.

26 The obstetrics department of a hospital
 27 has a high sphere of influence because it
 28 is a higher-order service. The bosses of
 29 Oxfordshire Health have decided that
 30 obstetrics will be provided by the John
 31 Radcliffe Hospital in Oxford.

32 This increases the sphere of influence of
 33 the John Radcliffe Hospital. Pregnant

34 women will now need to travel further to
 35 reach the obstetrics department of the
 36 John Radcliffe Hospital instead of the
 37 closer Horton General Hospital.

38 Considering the predicted growth of
 39 Banbury, reaching 55,000 residents by
 40 2025, the decision not to have an
 41 obstetrics department is also an anomaly.



The Cattle Market

42 Banbury was once home to Western
 43 Europe's largest cattle market. A cattle
 44 market is where farmers would bring their
 45 cattle to be sold, and where they would
 46 come to buy more cattle.

47 The cattle market made Banbury much
 48 wealthier during the time of the Jacobite
 49 Uprising and the Primary Triangulation by
 50 William Roy. In the 1920s the cattle market
 51 was moved closer to Banbury, on Merton
 52 Street in Grimsbury. Moving the cattle
 53 market to Merton Street in Grimsbury

54 meant that the cattle market was closer to
 55 the train station.

56 The cattle market was closed in June
 57 1998. When the cattle market was closed
 58 in 1998 it hadn't been used for several
 59 years. Officially closing the cattle market
 60 when it was no longer being used allowed
 61 the land to be a brownfield development
 62 site. A new housing development and
 63 Dashwood Primary were built on the
 64 brownfield site where the Banbury cattle
 65 market used to be.

Let's check for Understanding: Answer these questions

212. Which department of Horton General Hospital is being closed?	
213. Which hospital will pregnant women now need to visit?	

214. Banbury was once home to Western Europe's largest what?	
215. What was built where Banbury's cattle market used to be?	



The Castle Quay II Development

67 Plans for a £35 million expansion of
68 Banbury's Castle Quay shopping centre
69 will be submitted to Cherwell District
70 Council by the end of the month, marking
71 the final stages of a development plan that
72 has taken four years.

73 The ambitious plans for what is being
74 dubbed CQ2 outline the redevelopment of
75 the canalside area next to General Foods
76 Social club. An artists impression of the
77 supermarket location of CQ2 Included are
78 plans for six restaurants and an eight-
79 screen multiplex cinema capable of
80 seating 1,300 film fans.

81 In addition there are plans for a hotel on
82 the existing Castle Quay side of the canal
83 and a supermarket, which would be
84 constructed on the site of the former
85 Spiceball Leisure Centre currently used as
86 a temporary car park.

87 The cinema, cafe and restaurants would
88 occupy the area opposite the multi-storey
89 car park and would allow alfresco dining
90 along the canal side. Details of potential
91 occupiers of the new development will be

92 released in the near future but a
93 spokesman for the owners of the shopping
94 centre, Aberdeen Asset Management, said
95 the development will attract large chain
96 restaurants that can be found in similar
97 developments in Bicester and Oxford.

98 Cameron Murray from Aberdeen Asset
99 Management, owners of Castle Quay,
100 said: "Over recent years, it's become clear
101 that shoppers are increasingly favouring
102 locations which offer an exciting
103 combination of great shops and leisure
104 outlets, such as restaurants, bars and
105 entertainment. "We've spent the past four
106 years working on CQ2 with this in mind,
107 developing a dynamic environment that
108 appeals to the modern shopper, offers a
109 wide range of entertainment options and
110 encourages more people to come to
111 Banbury."

112 Construction, if approved, would go ahead
113 on two current car parks but the plans
114 involve an underground parking area along
115 with parking spaces around the hotel and
116 supermarket complex, resulting in an
117 overall net gain in total spaces available.



Let's check for Understanding: Answer these questions

216. How much is the castle quay expansion expected to cost?	
217. How many restaurants are expected to be in CQ2?	
218. How many screens is the cinema expected to have?	
219. What type of dining would be possible along the canalside?	

220. What is the name of the company that owns the shopping centre?	
221. How many years have developers spent working on CQ2?	
222. Will the planned carpark be on the surface?	
223. Is there expected to be an increase or decrease in parking spaces?	



Castle Quay II Development Plans

Add the letters from the satellite image at the bottom of the page to the correct place on the development plan at the top of the page to show which areas are being redeveloped.



