

Name:

Class:

Year 7 Unit 3:



Is 7 billion too many?

Unit Overview: Global population change
ENQUIRY: Is 7 billion too many?

Unit intention:		
Success criteria	✓	X
<ul style="list-style-type: none"> • I can categorise factors affecting distribution • I can draw and explain a population pyramid • I can assess the success of the One-child policy • I can explain how population is changing today • I can compare the two main population theories • I can complete a choropleth map. 		
Unit summative and formative assessment details: Several EQs		
Home Learning (What and how often): Variety of consolidation sheets		
Topic Sequence <ul style="list-style-type: none"> • Population density and distribution • Population structure • Population controls • Reasons for migration • Population theory • UK population change 	Recommended reading: Bitesize - https://www.bbc.co.uk/bitesize/guides/zkg82hv/revision/1 Population 10 Billion – In Study Centre Places to visit: Docklands museum – to look at how our area has changed	

End of Unit EVALUATION

Success criteria – Have you met them? Show your evidence in preparation for your assessment.

1.

2.

3.

4.

5.

6.

How will you improve your work?

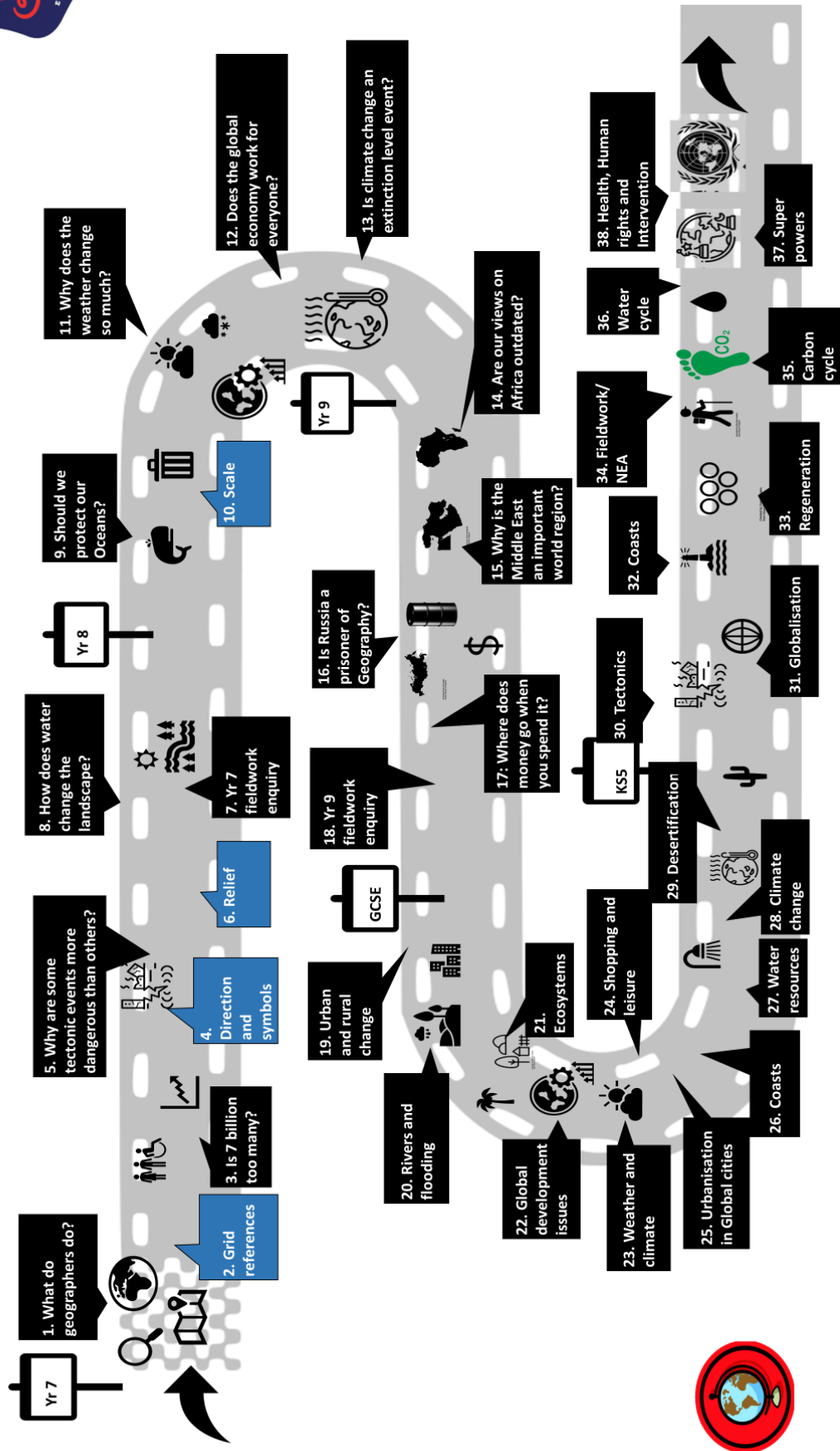
Year 7 (Term 2)

LI	Extending	Mastering	Learning	How assessed	HW Check
To understand what population density and distribution are	I can categorise factors affecting distribution	I can explain why population density is uneven	I can describe global population distribution	EQ	Density homework sheet
To understand how populations change over time	I can explain what a population pyramid shows	I can explain why birth and death rates change	I can calculate natural increase	EQ – Population pyramid	Population pyramid review sheet
To understand how countries, try to control their population	I can assess the success of the One-child policy	I can describe a variety of ways of controlling population	I can describe problems caused by over-population	China EQ	Guided reading
To understand the causes of migration	I can explain why people migrate	I can identify push and pull factors	I can define the types of migration	EQ - Migration	Pro-natalist policy
To understand how population might change in the future	I can explain how population is changing today	I can compare the two main population theories	I can name population theories	Is 7 billion too many?	
To describe and explain the UK's population.	I can explain why population density varies in the UK	I can explain the link between relief and population	. I can complete a choropleth map.	Essay	15 facts about London

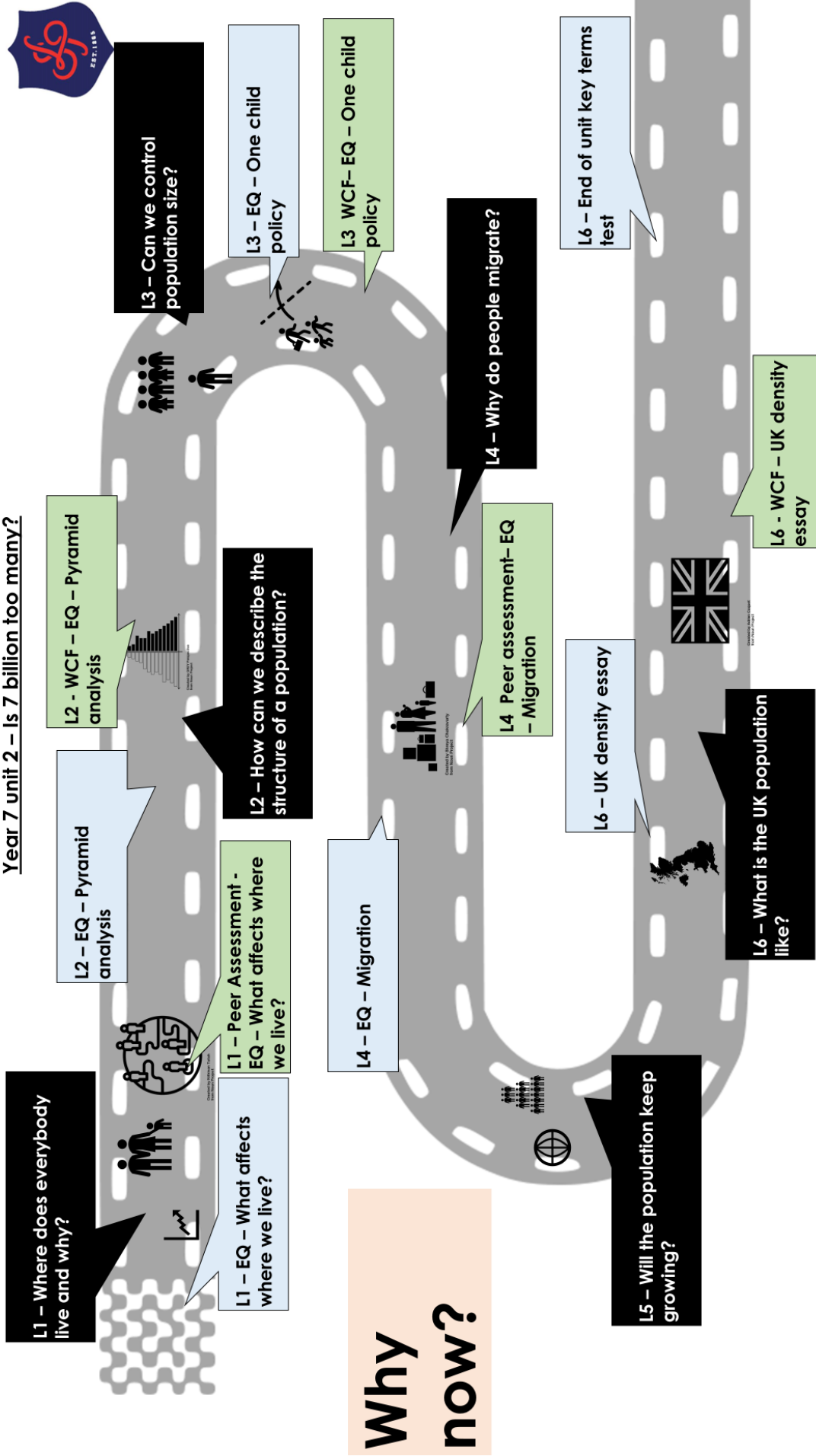
Glossary

Key word	Definition

Geography at Langdon Park School – From 2022



Year 7 unit 2 – Is 7 billion too many?

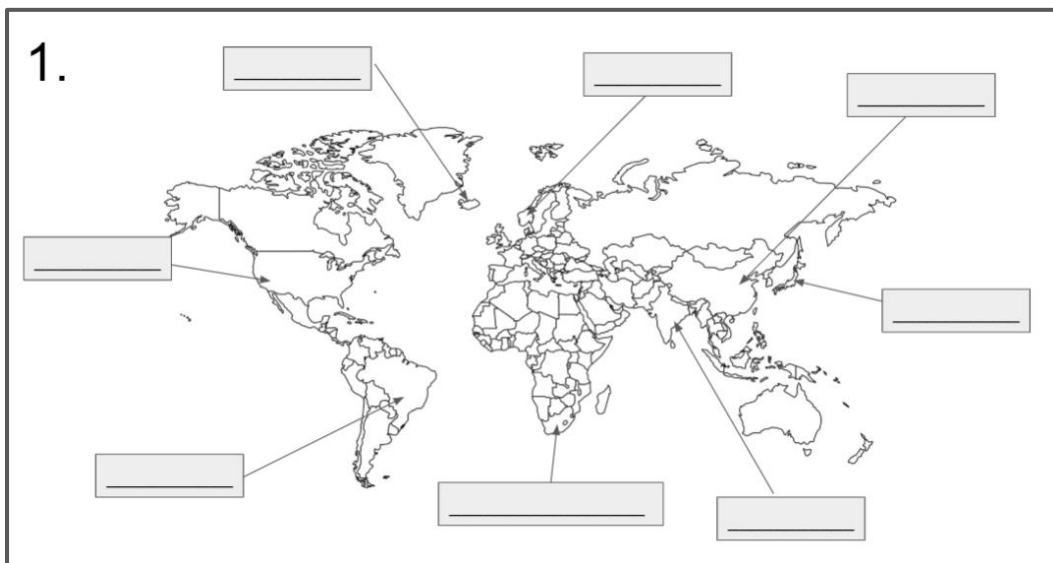


Lesson 1: Where does everybody live and why?

Big Picture

L/M/E		I think I can ...	My teacher thinks I can ...
Learning	I can describe global population distribution		
Mastering	I can explain why population density is uneven		
Extending	I can categorise factors affecting distribution		

Do it now: Complete the map



Starter:

What is the population of....?

London

The UK

The EU

China

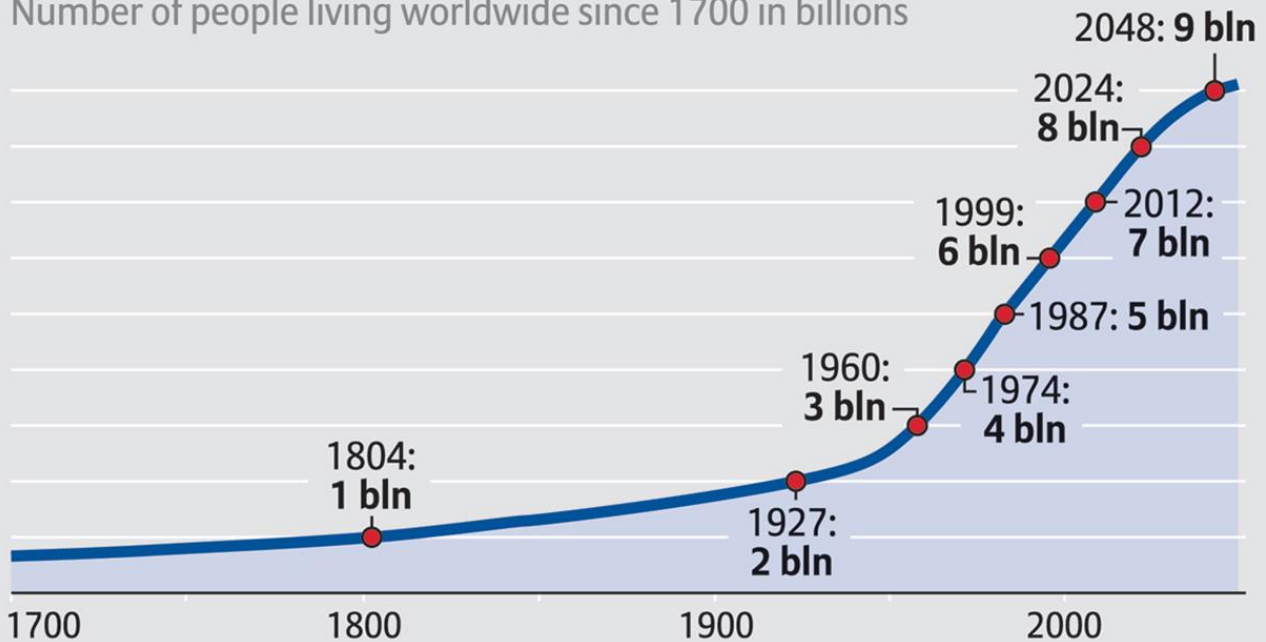
India

The World?

POPULATION OF THE EARTH

Allianz 

Number of people living worldwide since 1700 in billions



Source: United Nations World Population Prospects, Deutsche Stiftung Weltbevölkerung

For further information please visit: www.knowledge.allianz.com

Population density

When the population of an area is described as populated there are lots of people in one area

When the population is described as populated there are few people in one area.

Population distribution

The distribution is how the people are spread out.

This can be or

Match 1 =

Match 2 =

Match 3 =

Population density rises when the population increases.

In the Sahara Desert there is less than 1 person per square kilometre.

In Holland there are around 500 people per square kilometre.

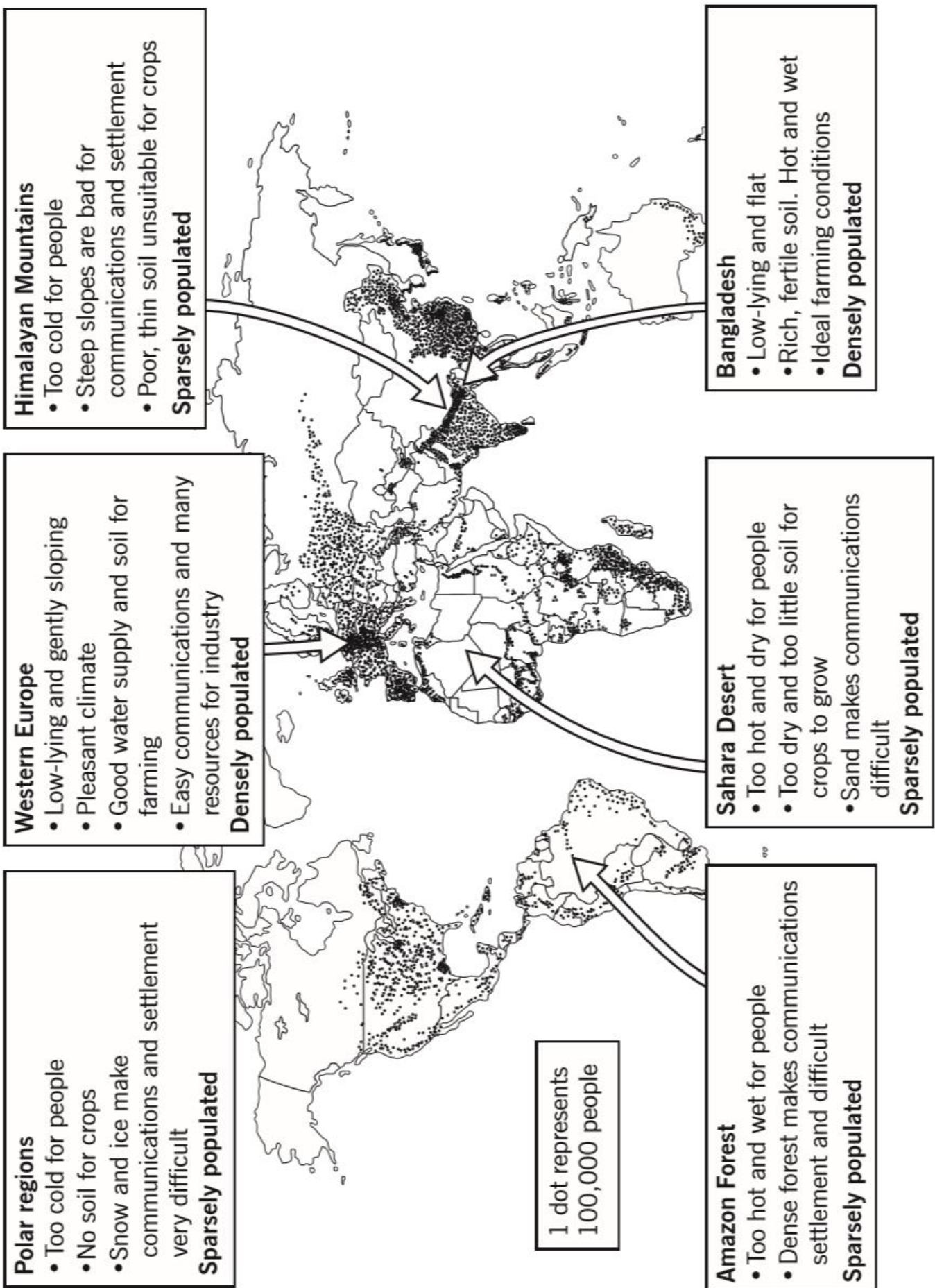
Why?.....
.....

Where do we live?

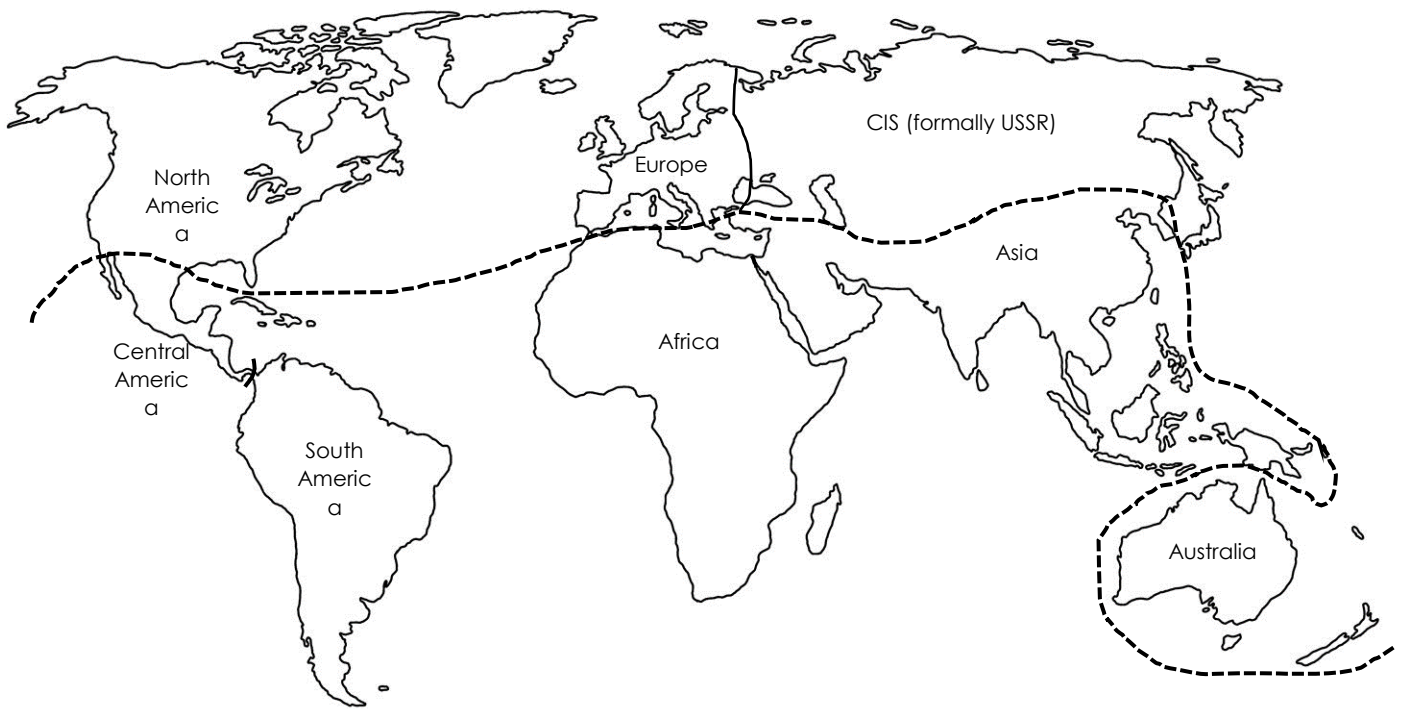
People are not spread evenly over the world. Some of the most crowded places are in China, India, parts of Western Europe, and some areas of Africa and the USA. More and more people in the world are living in cities. The population distribution map below shows how unevenly people are spread around the world.

For each bullet point in each box, add one of the following words from the list below. These are categories which each factor could be sorted into. The Amazon Forest has been done for you as an example.

Climate	Relief	Terrain	Vegetation	Soils	Natural Resources
	Transport	Economic	Political	Other	






Skill: Choropleth Maps







World Region	Population Density	Time for population to double	Population increase arrow
North America	12	93	
Central America	43	27	
South America	20	33	
Africa	18	24	
Europe	101	266	
USSR	13	80	
Asia	110	30	
Australia	2	90	




Population Increase key:

-  = Fast (doubling in less than 40 years)
-  = Medium (doubling in 40 to 90 years)
-  = Slow (doubling in more than 90 years)

Population Density key:

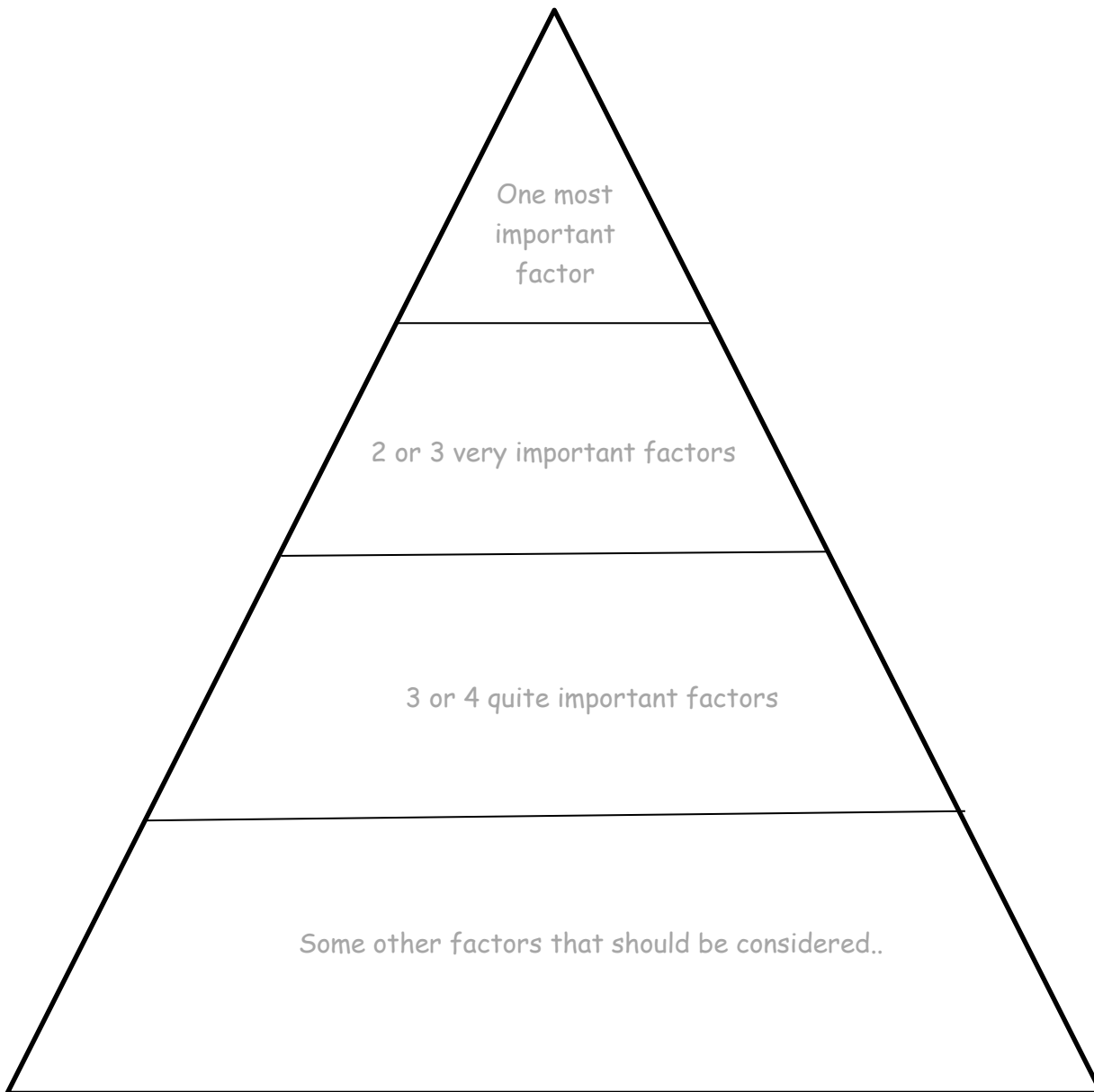
-  = rich north poor south divide
-  = Crowded (over 100 people per sq km)
-  = In between (20 – 100 people per sq km)
-  = Few people (less than 20 people per sq km)

Sort the statements into positives, then work out whether they are human or physical factors and negatives

Pleasant climate 	Poor water supply 	Good water supply 	Money available for investment 	Wars and fighting 
Lack of investment 	Fertile soil for growing crops 	Steep slopes 	Good roads, railways, ports, etc. 	A government that doesn't listen to its people 
Industry and jobs 	Dense forest 	Little industry and few jobs 	Poor soils for farming 	Government invests money 
Too hot or too cold 	Good food supply 	Few natural resources 	Open grassland for animals 	Good education system 
Too wet or too dry 	Flat or gently sloping land 	Poor transport links 	Natural resources for industry 	Established medical facilities. 

Positives – encourage people to live there	H/P	Negatives – prevent people from living there	H/P

Now put the factors into the pyramid



EQ What affects where we live?. You must make references to the factors from the triangle to illustrate your answer.

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Time to reflect

What does population mean?

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What does distribution mean?

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Why might an area be densely populated?

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Why might an area be sparsely populated?

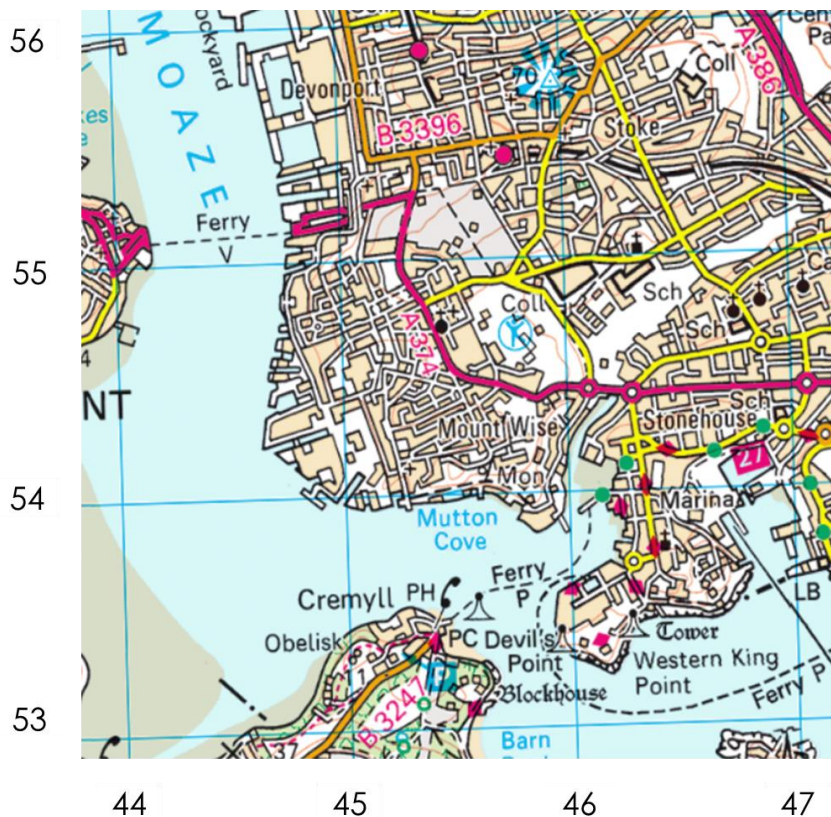
.....

Lesson 2: Where and why do people live?

Big Picture

L/M/E		I think I can ...	My teacher thinks I can ...
Learning	I can calculate natural increase		
Mastering	I can explain why birth and death rates change		
Extending	I can explain what a population pyramid shows		

Do it now:



What can be found at:

458 548

456 535

459 558

464 551

468 544

What is the 6-figure grid reference of:

The Phone box

Mutton Cove

The train station NE of Devonport

Starter:

25 most populated areas in the UK

C	A	R	D	I	F	F	Z	M	B	E	N	O	T	P	M	A	H	T	U	O	S	C
B	Z	H	G	R	U	B	N	I	D	E	K	B	I	R	K	E	N	H	E	A	D	C
O	S	T	C	S	I	F	D	R	B	C	O	V	E	N	T	R	Y	K	O	G	V	T
U	K	L	L	L	U	H	N	O	P	U	N	O	T	S	G	N	I	K	B	V	L	L
R	M	A	N	C	H	E	S	T	E	R	R	B	R	I	S	T	O	L	D	J	I	S
N	L	F	I	Z	B	D	L	E	I	F	F	E	H	S	C	W	W	S	L	F	V	E
E	I	D	G	R	E	A	T	E	R	L	O	N	D	O	N	U	C	V	N	I	E	I
M	S	W	A	N	S	E	A	W	E	S	T	Y	O	R	K	S	H	I	R	E	R	R
O	V	Y	I	Q	Z	W	A	M	A	H	G	N	I	M	R	I	B	B	S	P	P	E
U	U	A	D	M	N	O	T	T	I	N	G	H	A	M	H	I	H	E	Y	J	O	T
T	L	C	F	G	R	E	A	T	E	R	M	A	N	C	H	E	S	T	E	R	O	T
H	W	O	G	S	A	L	G	E	D	V	R	A	D	B	E	L	F	A	S	T	L	O
L	E	I	C	E	S	T	E	R	I	S	I	V	F	M	W	S	X	L	L	C	C	P
R	E	A	D	I	N	G	S	D	N	A	L	D	I	M	T	S	E	W	E	H	A	E
O	I	X	E	K	T	Y	N	E	S	I	D	E	W	I	T	W	I	P	J	J	B	H
D	J	N	O	T	H	G	I	R	B	V	H	Z	A	W	T	E	E	S	I	D	E	T

Find the following words in the puzzle.

Words are hidden     and .

BELFAST
BIRKENHEAD
BIRMINGHAM
BOURNEMOUTH
BRIGHTON
BRISTOL
CARDIFF
COVENTRY

EDINBURGH
GLASGOW
WEST YORKSHIRE
KINGSTON UPON
HULL
GREATER
MANCHESTER
LEICESTER
LIVERPOOL
MANCHESTER

NOTTINGHAM
READING
SHEFFIELD
SOUTHAMPTON
SWANSEA
TEESIDE
THE POTTERIES
TYNESIDE

WESTMIDLANDS
GREATER LONDON

Country	Birth rate	Death rate	Natural change (population growth rate)
Kenya	45	12	
India	29	10	
Brazil	25	7	
China	19	7	
USA	16	9	
Australia	15	7	
UK	13	11	+2
Italy	10	11	
Japan	10	8	

1. Calculate the population growth rate for each country.
2. How does the population growth rate differ between the UK and Kenya? Refer to BR and DR.

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3. Suggest reasons why the population growth rate is higher in Kenya than in the UK.

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War	Children need to work for the family	Clean water supply
Food shortage (or famine in extreme cases)	Old age pensions	Improved healthcare (better hospitals and doctors)
Education	Birth control available	Good harvest/reliable food supply
Disease or illness	High infant mortality rates (children die as infants)	Cultural tradition to have large families
Lack of family planning and contraception	Childcare is expensive	Early marriage (marrying at a young age)
Improved status of women		

Complete the table:

Birth rate 		Death rate 	
High	Low	High	Low

Below is a list of newspaper headlines. Study each one and decide if it is referring to a factor which would cause population to rise or fall, then explain your reasoning.

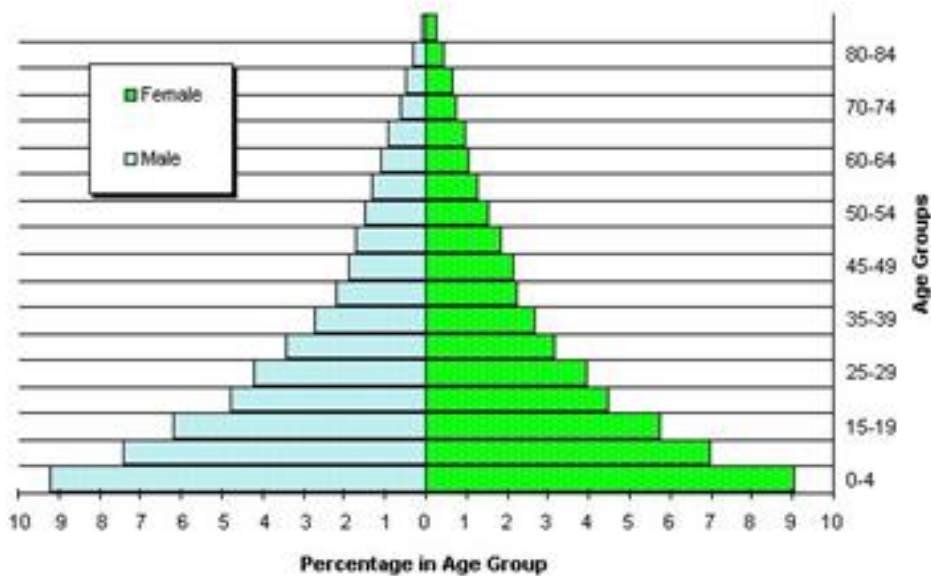
Flu epidemic spreads: death toll rises		Better medicine leads to longer life expectancy	
Record rice harvest in China		Improved water supply for Africa's driest countries	
Aids virus: millions infected		Children needed to help with work in Bangladesh	
Rice crop destroyed by monsoon rain		Fall in infant death rates in third world	
Millions of Indian children get Polio jab		Traditions for larger families	
Poor health care in third world countries		Gm crops: the answer to world food shortages	
Smaller families forecast in MEDCs		Wars break out in many Asian countries	
AIDS cure still years away, say scientists		Hope with cancer research breakthrough	
African harvest to fail again		5 th year of drought causes starvation in Ethiopia	
Birth control measures promoted in china			

'Population structure' is how theof a country is..... up.

In other words, it is people there are in each and how many of them areOr

This can be show by a

Population Pyramid for a Developing country



What does this graph show?

Which is the largest age group?

Which is the smallest age group?

What percentage of males are aged between 35-39?

How to Read a Population Pyramid:

Left hand side shows _____ population and the right hand side shows _____ population.

The _____ of the _____ represent the _____ of the population in a certain _____.

The Y axis shows the age groups which can be in _____ e.g. _____ or simply go up in _____ years.

The X axis show the _____ in that _____

HIC- Belgium

_____ base = low _____, so _____ population growth

_____ & _____ rates are _____

sides not _____ = not many people _____

Longer _____

LIC - Belize

_____ base = higher _____

rapidly _____ sides = high _____

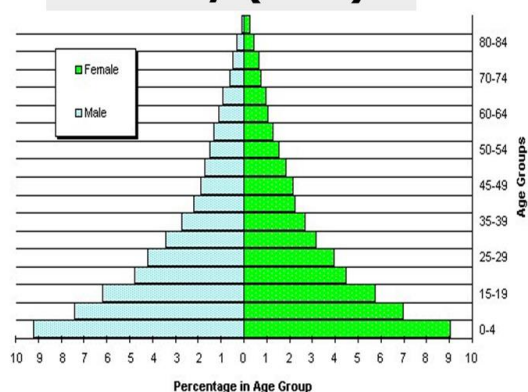
_____ point = _____ people live to _____ age

majority of the population is _____.

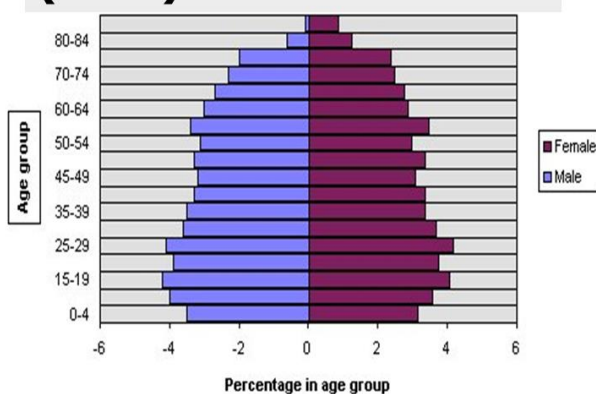
Choose the correct statements to go with each pyramid. Write the statement around the correct pyramid.

A	High birth rates	F	Poor medical care creates high infant mortality rates
B	Very few doctors	G	The average person is expected to live above the age of 60.
C	Low death rates caused by a good quality of life.	H	Low life expectancy caused by a poor diet and widespread disease.
D	Too many economically dependent in comparison to economically active.	I	Large numbers of people at a working age – economically active.
E	Reducing birth rates due to the growing cost of raising a family.	J	Free health care

Developing Country (LICs)



Developed Country (HICs)



Describe how the UK's population structure will change from 2011 to 2050 (6 marks).

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Time to reflect:

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Lesson 3: Can we control population size?

Big Picture

L/M/E	Learning Objective	I think I can ...	My teacher thinks I can ...
Learning	I can describe problems caused by over-population		
Mastering	I can describe a variety of ways of controlling population		
Extending	I can assess the success of the One-child policy		

Do now:

Name the 7 continents

.....

Latitude is an imaginary line showing how far..... or a place is.

Longitude is an imaginary line showing how far..... or a place is.

The line of longitude running along 0° is called the

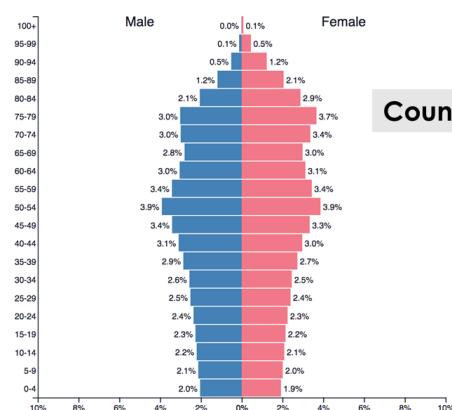
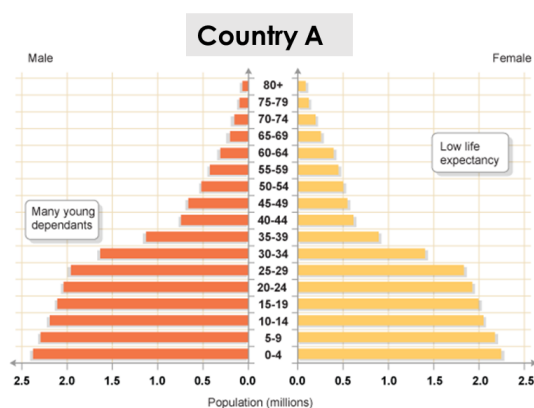
The line of latitude running at 23.5°N is the

Starter: Population problems

People are now living longer than ever before. As a result, this put stress on our services, such as hospital care.



Here are two different countries with predicted population pyramids for 2025. Describe their population pyramids





Challenges	Opportunities

Sort the statements on the next page into:

	Causes
	Effects

In 2005, 16% of the population in the UK were over the age of 65.	Increasing life expectancy which currently stands at 78. As people live longer, the number of older people increases.	Falling birth rates – there are fewer young people, so the proportion of older people is greater. The average UK women gives birth to 1.5 children.
Baby booms – lots of babies were born in the 1940s -60s. These large generations are starting to retire, increasing the number of elderly people.	Pressure on the pension systems – there aren't enough people of working-age to pay for an adequate pension for the retired population.	By 2030, only 56% of the population will be of working-age but the taxes they pay will have to pay for the pensions of the 27% of the population of retirement age.
More elderly people living in poverty – the state pension is not very large and many people don't have other savings.	Pressure on the health service – older people often need more medical care than younger people. The average stay in hospital in 2005 for people aged 75 and over was 13 nights	The working population may have fewer children because they already have older dependents, leading to a reduction in the birth rate.
Some people may be forced to work beyond normal retirement age to supplement their pensions.	Reduced work force – a smaller proportion of the population is working which may slow economic growth.	Increased taxes – a greater number of people claiming a pension will mean higher taxes for the working population.
Increased pressure on public services – there's greater demand for services like hospitals and hospices. more people will act as unpaid carers to their own elderly family members.	Unequal distribution of older people. Areas with high numbers may have inadequate facilities for younger people, e.g. bars or youth clubs.	Younger retired people contribute lots to the economy. They have reasonable amounts of money and lots of leisure time hence are good consumers.
Many retired people do voluntary work in schools and for charities that is essential work but done for free.	Many retired grandparents are now fulfilling child care roles for their grand children as the cost of child care rises	

CASE STUDY: the advantages and disadvantages of an ageing population in Japan



Introduction and key statistics:

- In 2006, 20% of Japan's people were over the age of 65; in 2055 the percentage will be 41%
- Japan's total population peaked at 127.8 million in 2005 and is predicted to fall by 30% to just under 90 million by 2055.

What are the disadvantages of an ageing population?

Workforce:

- The percentage of economically active people will fall from 66% in 2006 to 51% in 2055
- Businesses have difficulties finding new recruits; the labour force in the 15 - 24 age bracket which stood at more than 8 million in 1990 will fall to 5.3 million by 2015.

Pensions:

- By 2025 there will be only two workers paying taxes for every pensioner compared with nearly 6 workers in 1990.
- The age of retirement is rising from 60 to 65 by 2030.
- Higher pension contributions from employees, employers and the government.

Healthcare

- The number of people living in care homes or nursing homes is increasing.
- Half of Japan's health budget is spent on care for the elderly putting pressure on the nation's economy.
- A tax for people of the age of 40 was introduced in 2000 which will help pay for equipment such as wheelchairs.

18

What are the advantages of an ageing population?



The greying yen:

- Historically, pensioners saved so that they would have plenty of inheritance for their children when they died. However, society's traditions have changed and children are doing less of the caring and Japan's pensioners are now spending their savings and buying luxury goods and expensive goods. With so many people spending their incomes this could lead to a growth in the service industry.

Technology:

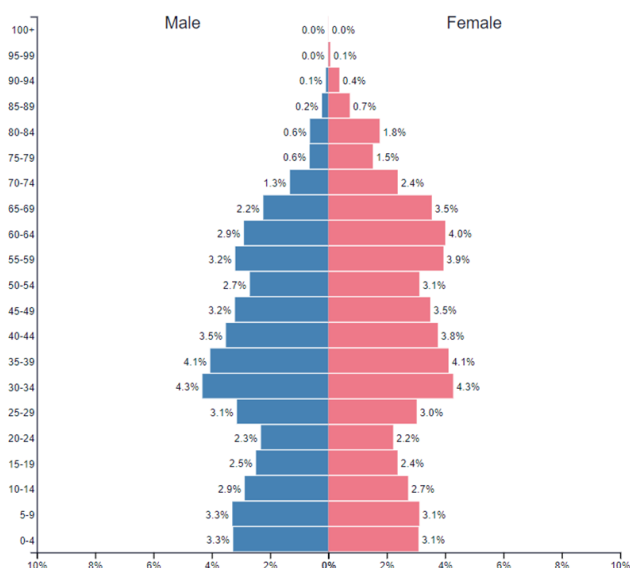
- There has been technological explosion; it has inspired a range of gadgets. This includes an online kettle that automatically sends emails to up to 3 people when it is switched on allowing people to check up on their without having to visit them,

What happens when your population is too low?

Russian Federation ▼

2020

Population: 145,934,459



- Describe the shape of the population pyramid

- What evidence does it show to suggest that the birth rate is low?

- Compare the percentages of males and females. What do you notice?

Vladimir Putin vows to reverse Russian population decline – 22/6/14

In 2006, Vladimir Putin described population decline as the country's most urgent problem. At that time 16 Russians died for every 10.4 babies born, with the population declining by 700,000 people a year.

Causes of the problem

Women in Russia have careers, and put off having children, often marrying later and therefore having fewer children. As well as this, the death rate is high in Russia due to high levels of heart disease, accidents, violence and suicide. Smoking rates are among the highest in the world (twice as high as in the USA). Environmental conditions, especially in the work place, are often poor

Government Incentives

In 2007, the government introduced a programme to pay \$11,000 to mothers who have more than one child. The money can be put toward buying a house or toward the child's education or be deposited into the mother's pension account.

Success?

Official figures show that about 1.9 million babies were born in Russia in 2015, up from 1.5 million in 2005. In 2013, the country saw the number of births surpass the number of deaths for the first time in over 20 years. The mortality rate has dropped rapidly in the last few years, mainly due to new legislation restricting the sale and advertisement of alcohol in 2016, together with government-sponsored sport to encourage more healthy lifestyles. There has been a slight natural increase in population, but not enough to make a significant difference. The population of Russia is still ageing.

How do countries fight falling birth rates? BBC 15 January 2020

Russia has promised greater support for parents as the country continues to struggle with a low birth rate.

"We have to help young people, those who want a family life and are dreaming about children," President Vladimir Putin said in an annual address to lawmakers.

Countries need to have a birth rate of at least 2.1 children per woman to sustain the population, but the average figure in Europe is about 1.59.

'Remarkable' decline in fertility rates

According to the UN, two-thirds of countries in Europe have introduced measures to increase fertility rates, from baby bonuses and tax incentives to paid parental leave, with varying degrees of success.

What did Putin promise?

President Putin says that Russia's birth rate is currently at 1.48 women per children. While this is a significant increase from 1999, when the figure fell to 1.16, Mr Putin hopes to raise the level to 1.7.

Under the proposals, first-time mothers would be eligible to receive maternity benefits previously paid only to women with two or more children.

Welfare benefits would also be paid for children aged three to seven in low-income families, and free school meals would be provided for the first four years of school.

Last year, Mr Putin promised tax breaks for bigger families. A one-off "maternity capital" payment, currently worth £5,800 (\$7,600; €6,800), was introduced for families with two or more children in 2007 under a 10-year programme.

Demography expert Prof Evgeny Yakovlev told BBC Russian that the move had temporarily increased the number of families with two children but added that financial uncertainty subsequently led to another fall in the birth rate.

Answer the questions:

Why has Russia's population fallen?

.....

How much is the population declining every year?

What does incentive mean?

.....

What measures did Putin put in place to encourage more births?

.....

What does legislation mean?

.....

The country was severely overpopulated	Starvation was a major problem for the Chinese people	There is now a big gender gap with 60 million more men than women	Female infanticide* has increased since the 1980s
Parents in China receive the cost of childcare and medical expenses for their one child.	Both parents are able to work so they will be financially better off	Abortion rate has gone up as women are pressured if pregnant for a 2 nd time	There was not enough shelter for all the population
Babies are being abandoned, particularly baby girls as women are less superior in Chinese society	There will be nobody to look after the elderly	Children get more time with their parents	Couples who break the policy are often forced into sterilisation- human rights infringement

	Social
	Economic

China's one-child policy - success or failure?

After three decades, the drawbacks of the one-child policy are more and more apparent

- China's pension system circles into crisis
- China faces growing gender imbalance

During the time that I grew up in China in the 1960s and 70s, Chinese families could have as many children as they liked. Many had four or five children. Some even had six or seven. My parents had four children. After the government started enforcing the rule of one child per family - often forcibly - my parents would sometimes jokingly remind me that I was an "exceeded quota person", meaning that under the one-child policy I would not have existed.

Chairman Mao, who led China from 1949 until his death in 1976, regarded a fast-growing population as a productive force necessary for China to become a great power. He treated brutally those who dared to question him and believed that China should control its population. His successor Deng Xiaoping started to reverse the trend. He felt the tremendous drag China's huge population had on its fragile economic recovery after years of political trouble.

The first children born under the one-child policy face the prospect of caring for an ever-increasing number of pensioners"

On 25 September 1980, the Communist Party issued an "open letter" to all members of the party and the Communist youth league, urging them to take the lead in having only one child. This is widely seen as the beginning of the controversial one-child policy. The

government claims that the policy has helped the country achieve 400 million fewer births during the past 30 years.

But this has come at a painful cost - keenly felt by my generation and those after us.

One of my childhood friends, who didn't want to reveal his name, has had to let his daughter, his second child, call him uncle in order to escape punishment for breaking the rule.

He says it breaks his heart every time he talks about his daughter, who is officially registered as someone else's child.

A female friend, like countless other young couples in China, had to pay a large fine for having a second child. But she believed the money was worth it.

Falling fertility

Officials have repeatedly stressed that the policy has helped reduce the pressure of population growth on society and economic development, will continue. But the government has already been challenged over whether the 400 million fewer births were entirely due to the implementation of this policy.

China faces the looming problem of a rapidly ageing society with not enough young carers.

The debate over whether the one-child policy is still needed was recently stirred up by a newspaper report about the little publicised case of Yicheng county, in the northern province of Shanxi.

Yicheng has been experimenting with a two-child policy for 25 years. Despite its more relaxed regulations, the county has a lower than average population growth rate, the report said.

After three decades, the drawbacks of the one-child policy are more and more apparent.

Even though China still has the largest population in the world, a report last month by the Chinese Academy of Social Sciences, said officials were seriously overestimating the fertility rate.

Instead of suppressing it, the report said the government should try to lift it. More and more people in China, largely in urban areas, prefer to have fewer children.

It is unclear when Beijing might end the one-child policy. But attention will be focused on an upcoming meeting of the party central committee next month.

Clearly, the situation is becoming urgent. Already the country's population is ageing fast. The first children born under the one-child policy face the prospect of caring for an ever-increasing number of pensioners.

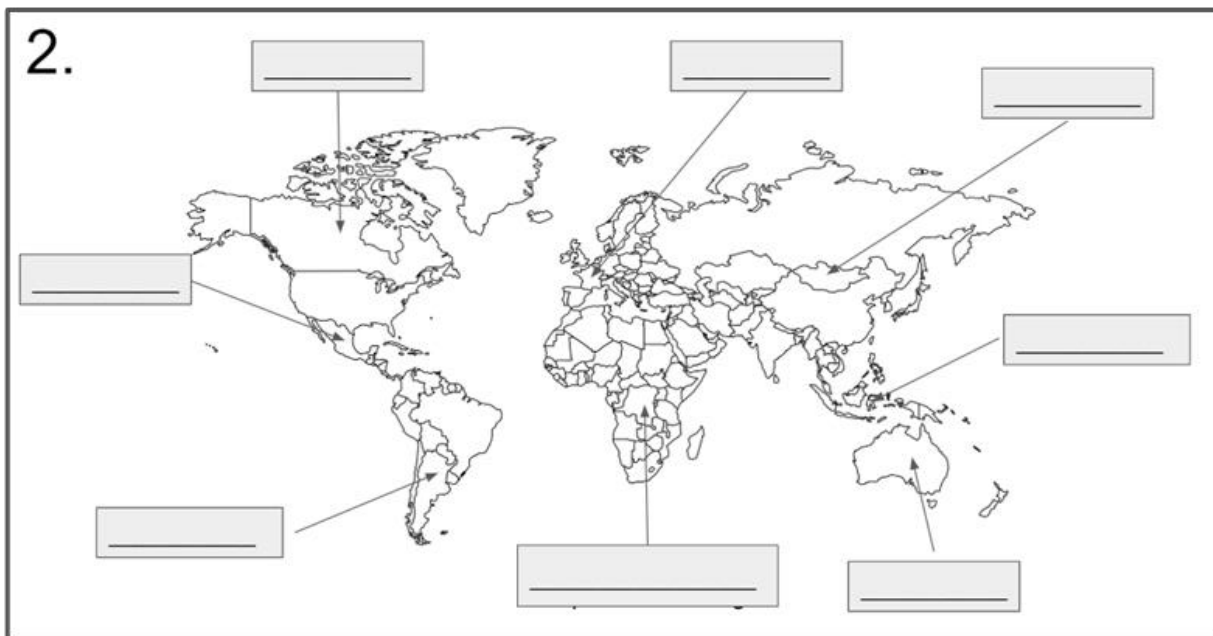
China also faces the daunting prospect of many men who can't find wives as many female foetuses have been aborted, resulting in a huge gender imbalance.

Lesson 4 Why do people migrate?

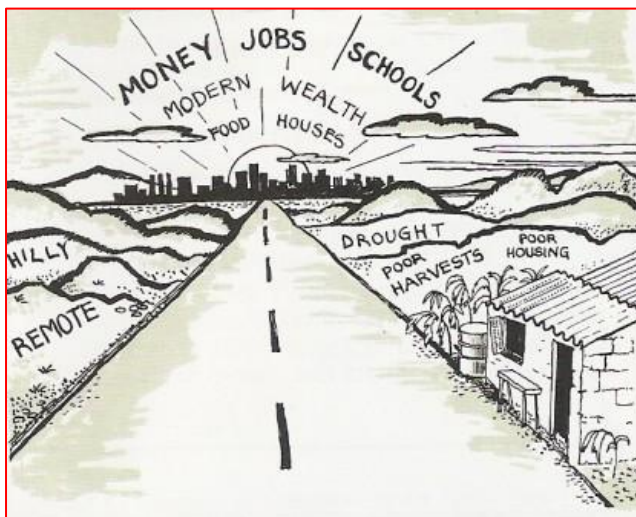
Big Picture

L/M/E		I think I can ...	My teacher thinks I can ...
Learning	I can define the types of migration		
Mastering	I can identify push and pull factors		
Extending	I can explain why people migrate		

Do it now:



Starter: What is the image trying to represent?



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Migration is

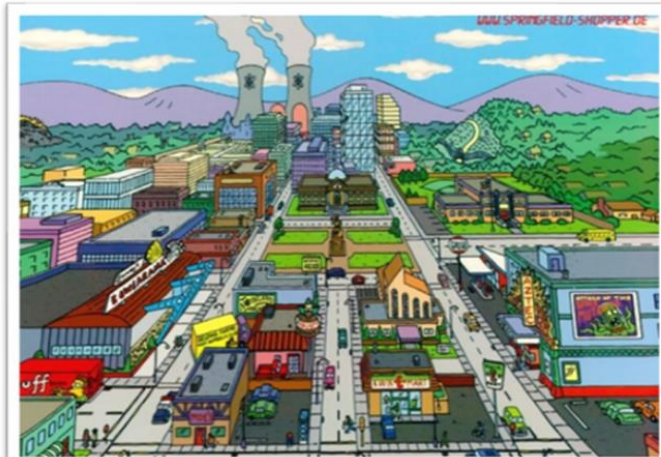
3 Migration routes on the map are

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Picture 1

Good things:

1 -

2 -

Bad things:

1 -

2 -

Picture 2

Good things:

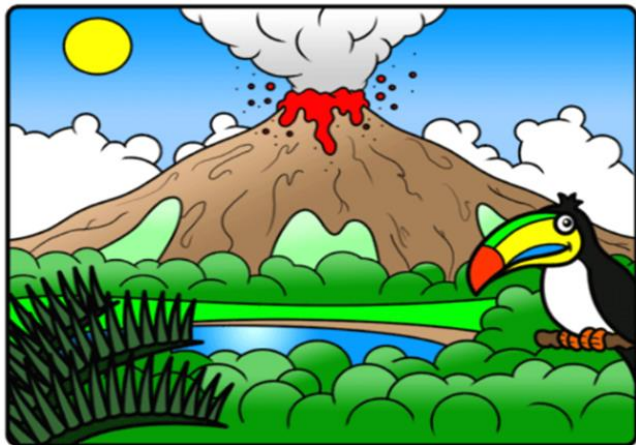
1 -

2 -

Bad things:

1 -

2 -



Push factor:

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Pull factor:

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Push factor	Pull factor
<ul style="list-style-type: none"> My country is involved in a civil war 	

Internal Migrant
Emigration
Immigration
Refugee
Asylum Seeker

People who have been forced to leave their home country and are often homeless.
A person arriving in a country with the intention of settling there.
People who have sought protection from a country other than the one they were born in.
A person moving from one area to another in the same country.
A person leaving a country with the intention of settling somewhere else

Superstar Challenge: What reasons would make people become a refugee or asylum seeker?

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Check so far:

A refugee is the name given to:

- a. people who are forced to leave their home and country because of something they have done wrong
- b. people who are forced to leave their home and country to escape war, persecution or natural disaster.

Refugees are able to:

- a. return home whenever they like
- b. cannot return home easily

Refugees are:

- a. happy to leave their home and country
- b. afraid and sad to leave their home and country

Refugees are able to:

- a. take all their possessions with them when they leave
- b. have to leave most of their possessions at home and take only what they can carry

Refugees move into:

- a. lovely new homes in a new country
- b. tents in a temporary camp

Refugees have:

- a. lots of food, a balanced diet and clean water
- b. very little food, a balanced diet and clean water

Refugee children:

- a. are able to go to a good school with lots of resources and equipment
- b. often stop attending school or attend schools in makeshift buildings with no pens or paper

What is one difference between refugees and you and me?

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What events do you think could have happened to cause a person to flee and leave everything behind?

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What types of experiences might refugees endure during their escape?

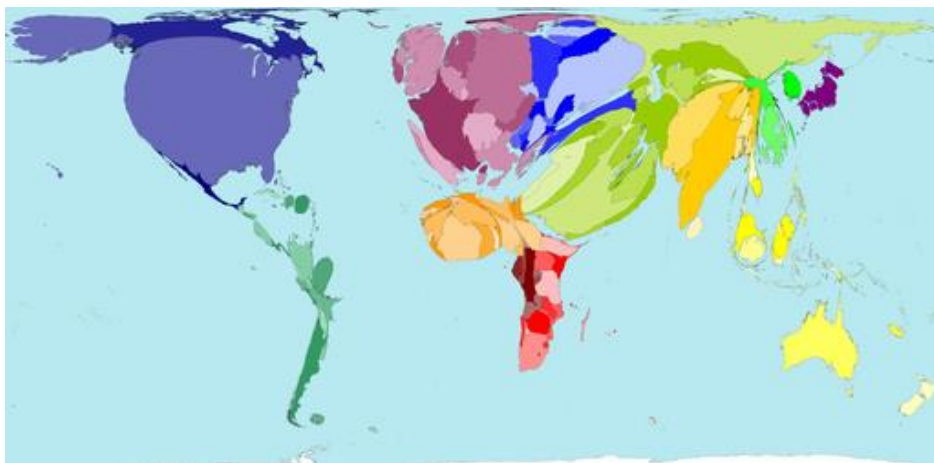
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How would you feel if you were a refugee who had to leave your home, family and possessions behind and live in another country?

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1. Name 2 continents which have a lot of immigrants

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2. Name 2 continents which have few immigrants.

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3. Can you see a pattern?

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Pen to paper: Exam practice

- 1) Migration happens because of push and pull factors. Describe what push and pull factors are. (4 marks)

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Figure 1

Between 2004 and 2007 it's estimated that more than half a million Poles migrated to the UK. The reasons vary from person to person, but most are thought to be economic migrants that want to support their family back in Poland. Unlike most EU countries the UK doesn't have a limit on the number of immigrants it will accept from Poland.

- 2) (a) Using Figure 1, suggest two push factors that might have caused Polish people to migrate to the UK. (2 marks)

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- (b) Using Figure 1, suggest two pull factors that caused Polish people to migrate to the UK. (2 marks)

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Remittances:

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Time to reflect: What type of migration?

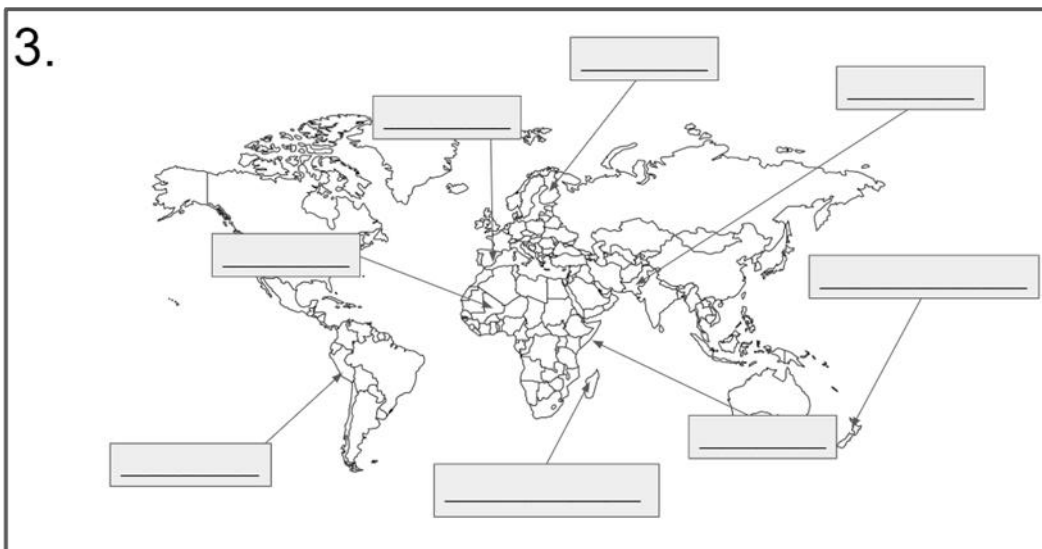
- 1.
- 2.
- 3.
- 4.
- 5.

Lesson 5: Will the population keep growing?

Big Picture

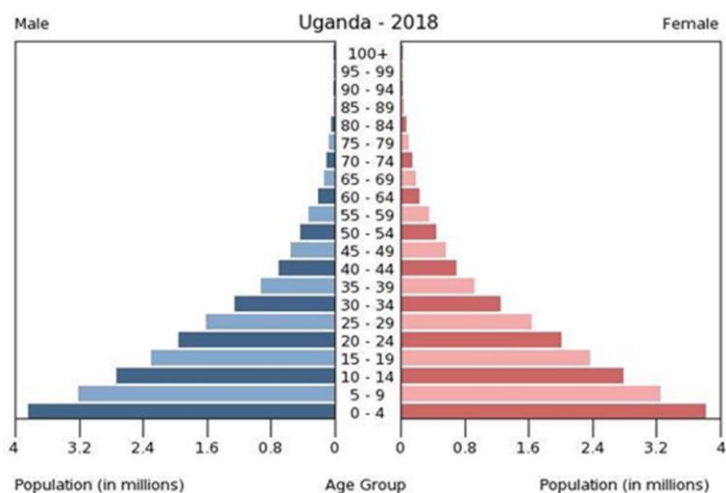
L/M/E	Learning Objective	I think I can ...	My teacher thinks I can ...
Learning	I can name population theories		
Mastering	I can compare the two main population theories		
Extending	I can explain how population is changing today		

Do now:



Starter:

Describe the population structure for Uganda.

[illegible]

Population theory

In 2009, Professor John Beddington, the UK government's chief scientific advisor, said:

'Our food reserves are at a 50-year low, but by 2030 we need to be producing 50% more food. At the same time, we will need 50% more energy, and 30% more fresh water'

He was describing what has been called the '2030 perfect storm' idea. It argues that by 2030 the world will be running out of resources. It is not a new idea. Geographers have worried about the number of people on the planet for at least 200 years. There are two viewpoints:

View	In a bit more detail	People who held this view	Sometimes called ...
Pessimistic	Population will eventually grow so large that the planet will run out of food, water, energy and other resources, leading to a crisis	Thomas Malthus Professor John Beddington	Malthusians or Neo-Malthusians
Optimistic	As population grows, humans invent new technologies to allow more food to be grown, and more resources to be supplied	Ester Boserup Julian Simon	Boserupians

Malthus 1766-1834

Thomas Malthus was born in 1766 and lived in England. He worked as a curate in Surrey. A curate is someone who cares for the people who use the chapel. In 1798, Thomas Malthus wrote an influential book. It influenced the way that many people think about resources and population growth. The book was called 'An Essay on the Principle of Population'.

He argued that population would increase geometrically (1,2,4,8,16 etc) by doubling in each generation, but that food production could only increase arithmetically (1,2,3,4,5 etc). In this way, population would eventually outstrip food supply, leading to a 'population vs resources crisis'. Population would have to fall, which would happen by:

Positive checks – war, starvation and famine would reduce population

Preventative checks – people marrying later and having fewer children

The balance between population and food supply would, therefore, be restored

Ester Boserup 1910-1990

Ester Boserup was a Danish and French economist. She wrote several influential books on agricultural production and the role of women in development. Her most famous was in 1965 called 'The conditions of Agricultural growth'

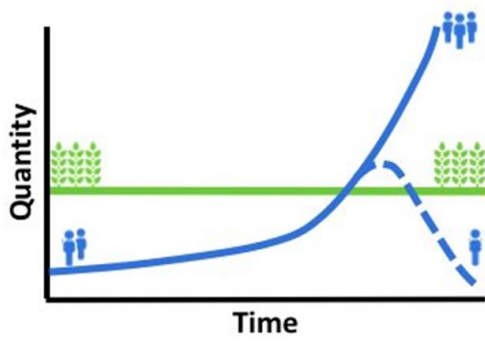
After graduating from the University of Copenhagen she worked for the Danish government until 1947. In 1957 Ester and her husband moved to India, where they worked and lived until 1960.

Her book didn't agree with many of the views around at the time.

Boserup made the case that populations do not run out of food. As the population increases so does the rate of agricultural production. This means that the increase in pressure on agricultural production meant that more food had to be produced. This increase in food production would be achieved through improvements like more efficient use of land, a larger workforce, the use of more advanced tools and machines, and the use of fertilisers

Boserup's study was based on India. As time went by, more researchers were inspired to go and measure agricultural production. Time and time again, researchers found that the level of agricultural production increased to match the increase in population.

When was Thomas Malthus born?		Which country was Malthus from?	
What job did Thomas Malthus do?		What is agriculture?	
What do pessimists think about population?		What is a famine?	
What do optimists think about population?		What did Boserup believe?	
What does geometrically mean?		When was Boserup born?	
What does arithmetically mean?		Which country did Boserup study in?	
What are positive checks?		Which country was Boserup's book based on?	
What are preventative checks?		What does the 2030 perfect storm refer to?	



Video notes

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5 What is the projected fall of Japan's population?

6 Which country is currently the most populous in the world?

Key statistics

FERTILITY RATES 1: 'JAW-DROPPING' GLOBAL CRASH IN CHILDREN BEING BORN

The world is ill-prepared for the global crash in children being born which is set to have a "jaw-dropping" impact on societies, say researchers. BBC JAMESTGALLAGHER

Falling fertility rates mean nearly every country could have shrinking populations by the end of the century. And 23 nations - including Spain and Japan - are expected to see their populations halve by 2100. Countries will also age dramatically, with as many people turning 80 as there are being born.

What is going on?

The fertility rate - the average number of children a woman gives birth to - is falling. If the number falls below approximately 2.1, then the size of the population starts to fall. In 1950, women were having an average of 4.7 children in their lifetime. Researchers at the University of Washington's Institute for Health Metrics and Evaluation showed the global fertility rate nearly halved to 2.4 in 2017 - and their study, [published in the Lancet](#), projects it will fall below 1.7 by 2100. As a result, the researchers expect the number of people on the planet to peak at 9.7 billion around 2064, before falling down to 8.8 billion by the end of the century. "That's a pretty big thing: most of the world is transitioning into natural population decline," researcher Prof Christopher Murray told the BBC. "I think it's incredibly hard to think this through and recognise how big a thing this is; it's extraordinary, we'll have to reorganise societies."

Why are fertility rates falling? It has nothing to do with sperm counts or the usual things that come to mind when discussing fertility. Instead it is being driven by more women in education and work, as well as greater access to contraception, leading to women choosing to have fewer children. In many ways, falling fertility rates are a success story.

Which countries will be most affected? Japan's population is projected to fall from a peak of 128 million in 2017 to less than 53 million by the end of the century. Italy is expected to see an equally dramatic population crash from 61 million to 28 million over the same timeframe. They are two of 23 countries - which also include Spain, Portugal, Thailand and South Korea - expected to see their population more than halve. "That is jaw-dropping," Prof Christopher Murray told me. China, currently the most populous nation in the world, is expected to peak at 1.4 billion in four years time before nearly halving to 732 million by 2100. India will take its place. However, this will be a truly global issue, with 183 out of 195 countries having a fertility rate below the replacement level.

Why is this a problem? You might think this is great for the environment. A smaller population would reduce carbon emissions as well as deforestation for farmland. "That would be true except for the inverted age structure (more old people than young people) and all the uniformly negative consequences of an inverted age structure," says Prof Murray. The study projects: The number of under-fives will fall from 681 million in 2017 to 401 million in 2100. The number of over 80-year-olds will soar from 141 million in 2017 to 866 million in 2100. Prof Murray adds: "It will create enormous social change. It makes me worried because I have an eight-year-old daughter and I wonder what the world will be like. "Who pays tax in a massively aged world? Who pays for healthcare for the elderly? Who looks after the elderly? Will people still be able to retire from work? "We need a softlanding," argues Prof Murray.

Key geographical terms

1 What does fertility rates mean?

2 Which two countries will see their population half?

3 What is the trend with fertility rates?

4 Why are fertility rates falling?

7 Identify three problems with an aging population?

8 Write a sentence to explain chain why you think these countries contribute so much to climate change (There are a number of reasons!)

Guided READING

1 After China which country will become the

2 Why is 2.1 the fertility threshold?

3 Which nations with high mortality rate

4 Is population decline good for

5 How can

6 What policies could countries

7 What will be the population of

Is fertility dropping globally? The world is ill-prepared for the global crash in children being born which is set to have all the "law-dropping" impact on societies, say researchers. The study projects: The number of under-fives will fall of an inverted age structure," says Prof Murray. The number of over 80-year-olds will soar from 141 million in 2017 to 401 million in 2100. Prof Murray adds: "It will create enormous social change. It makes me worried because I have an eight-year-old daughter and I wonder what the world will be like. "Who pays tax in a massively aged world? Who pays for healthcare for the elderly? Who looks after the elderly? Will people still be able to retire from work? "We need a soft landing," argues Prof Murray.

Are there any solutions? Countries, including the UK, have used migration to boost their population and compensate for falling fertility rates. However, this stops being the answer once nearly every country's population is shrinking. "We will go from the period where it's a choice to open borders, or not, to frank competition for migrants, as there won't be enough," argues Prof Murray.

Some countries have tried policies such as enhanced maternity and paternity leave, free childcare, financial incentives and extra employment rights, but there is no clear answer. Sweden has dragged its fertility rate up from 1.7 to 1.9, but other countries that have put significant effort into tackling the "baby bust" have struggled. Singapore still has a fertility rate of around 1.3. Prof Murray says: "I find people laugh it off; they can't imagine it could be true, they think women will just decide to have more kids. "If you can't [find a solution] then eventually the species disappears, but that's a few centuries away." **How do countries fight falling birth rates?** The researchers warn against undoing the progress on women's education and access to contraception. Prof Stein Emil Vollset said: "Responding to population decline is likely to become an overriding policy concern in many nations, but must not compromise efforts to enhance women's reproductive health or progress on women's rights.

What about Africa? The population of sub-Saharan Africa is expected to treble in size to more than three billion people by 2100. And the study says Nigeria will become the world's second biggest country, with a population of 791 million. Prof Murray says: "We will have many more people of African descent in many more countries as we go through this. "Global recognition of the challenges around racism are going to be all the more critical if there are large numbers of people of African descent in many

9 List some

10 Key vocab:

11

12 Why is this only a prediction?

13 Write your own question:

Time to reflect:

Is 7 billion people too many for the planet?

Give your view and explain it

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Lesson 6: How and why has the UK's population changed?

Big Picture

L/M/E	Learning Objective	I think I can ...	My teacher thinks I can ...
Learning	I can complete a choropleth map		
Mastering	I can explain the link between relief and population		
Extending	I can explain why population density varies in the UK		

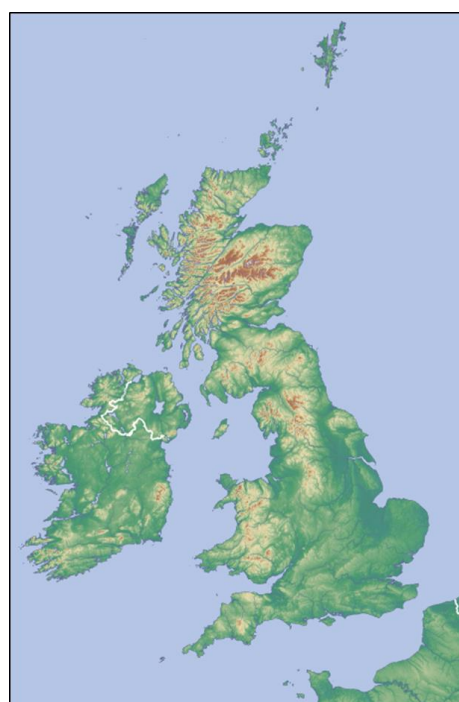
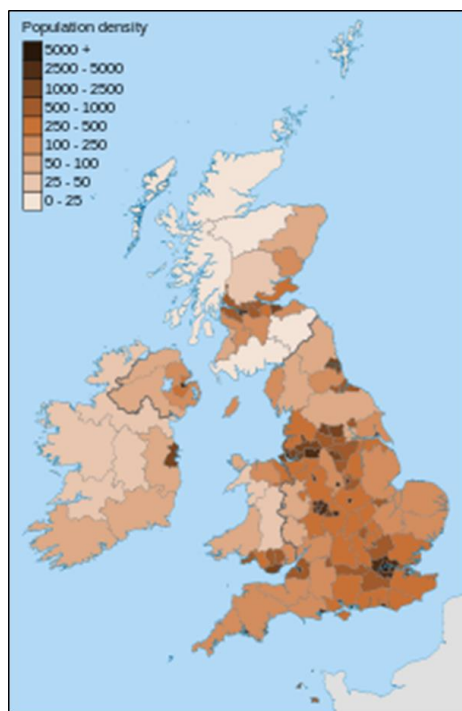
Do now: What are these symbols?



PH

Starter: – what will the UK's population be by the end of the lesson?

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What does population density mean?

Population density means

What does the physical map of the UK show?

The physical map of the UK shows

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Look at both maps together. Can you explain why people in the UK live in certain parts and not others?

The population of the UK mainly live where the land is This is because

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This means

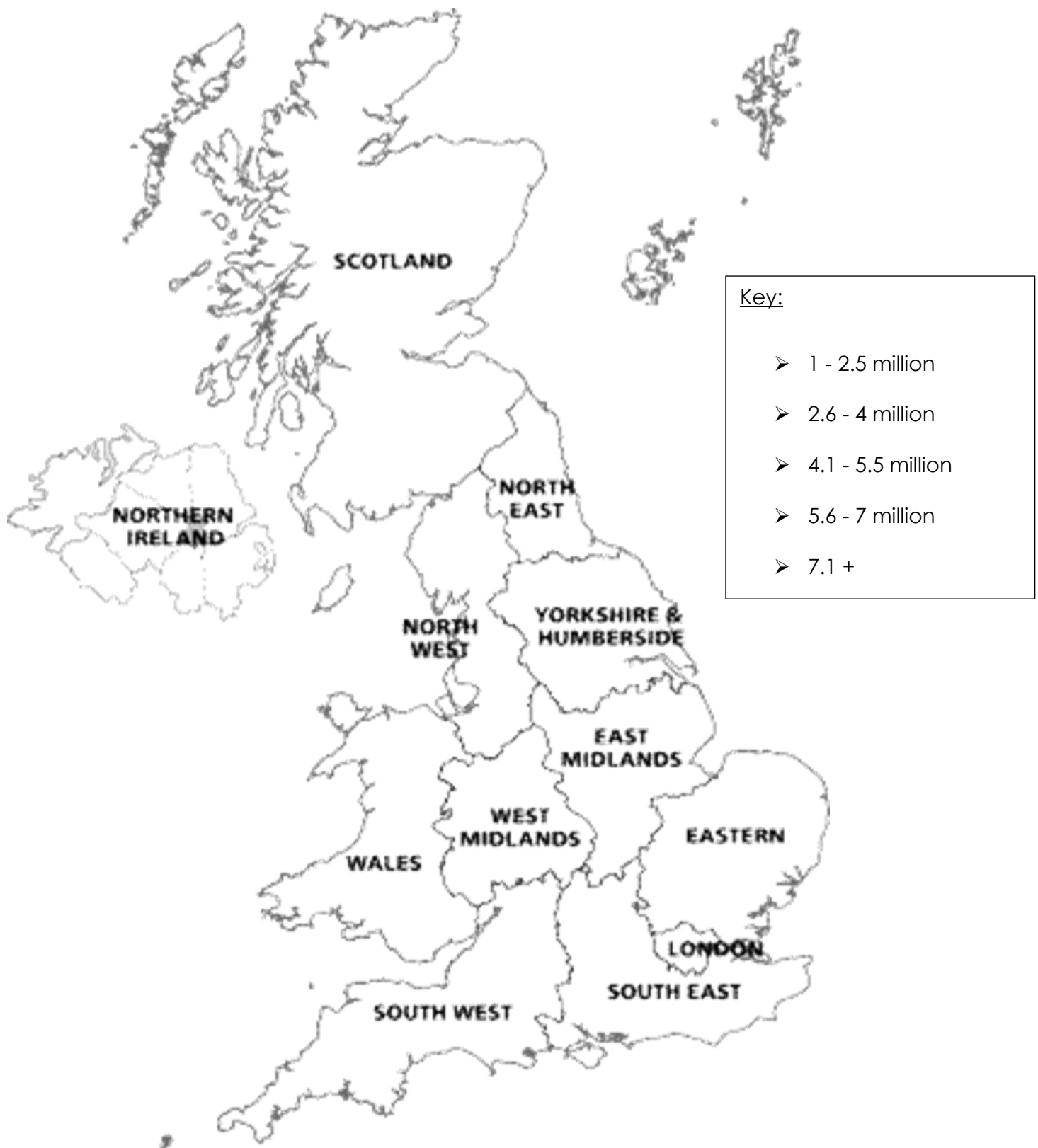
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I also know

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<u>Region of the UK</u>	<u>Population (in Millions)</u>
North East	2.6
North West	7.1
Yorkshire and Humber	5.3
East Midlands	4.5
West Midlands	5.6
East England	5.8
London	8.6
South East	8.6
South West	5.3
Wales	3.1
Scotland	5.2
Northern Ireland	1.8



A choropleth map to show the population of the UK

Describe the population distribution of the UK regions and suggest reasons for these distributions.

Define what is meant by the term 'population distribution'.

Describe the distribution of the population of the UK. Is it even?

Compare the population of different regions of the UK.
Have you included region names?
Have you included data as evidence?
Have you included comparing connectives?

Explain why some regions are less densely populated than others.

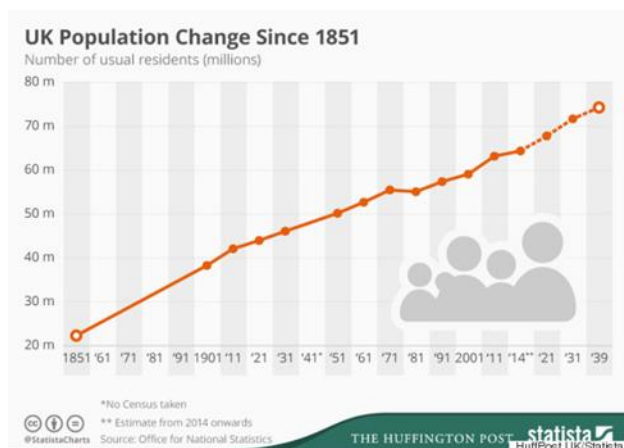
Have you included region names? Have you included keywords? Have you used a physical map of the UK to give reasons? Have you included connectives?

Suggest what will happen in the future to the UK's population distribution. Have you included region names? Have you included data? Have you included connectives to explain why you think this?

[illegible]

[illegible]

How has the UK's population changed? Use the key words on the board to describe what the graph shows



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The distribution of the UK's major cities and most _____ populated areas reflected its _____ past. This was shaped by the Industrial Revolution in the eighteenth century. There was a development of _____ industries and concentration of _____ near supplies of _____ and raw materials such as iron _____.

(industrial, densely, ore, heavy, population, coal)

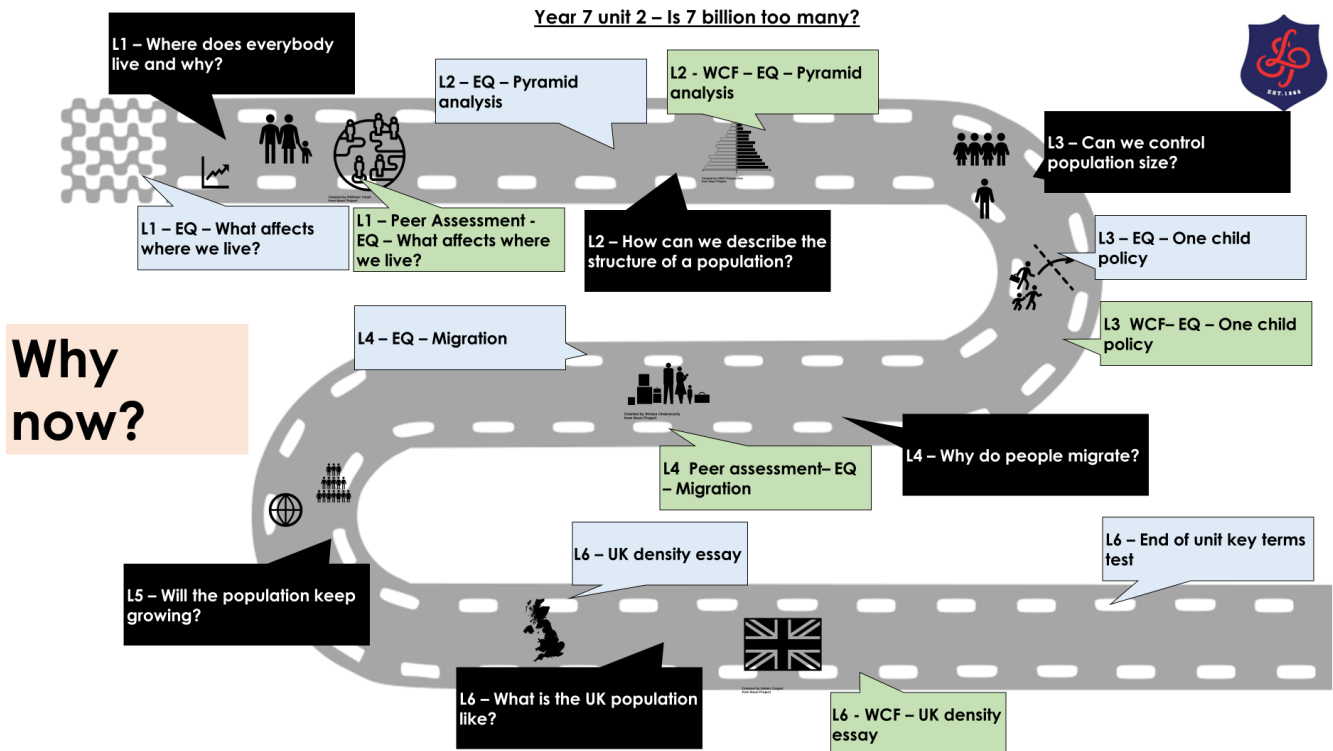
_____ developed because of its position as the capital of the UK. Belfast, Cardiff and Edinburgh also grew because of their functions as capital cities. The UK's second city _____ grew mainly as a centre of industrial _____ due to its key _____ in the country. The UK's position as an important _____ nation explains the growth of _____ such as London, Liverpool and Bristol.

(position, Birmingham, ports, trading, London, innovation)

True or false

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

- 11.
- 12.
- 13.
- 14.
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- 16.
- 17.
- 18.
- 19.
- 20.



What have you learned about Global Population? Top 3 pieces of information	
Why were you studying this topic? Why is it important?	
Out of the 6 lessons in the journey above, which lesson did you learn the most from?	
What is the 1 key message/ fact that you will remember from this topic?	
When we teach this unit again next year, what else do you think we should teach about? What was missing from this unit?	

