Topic lists for revision

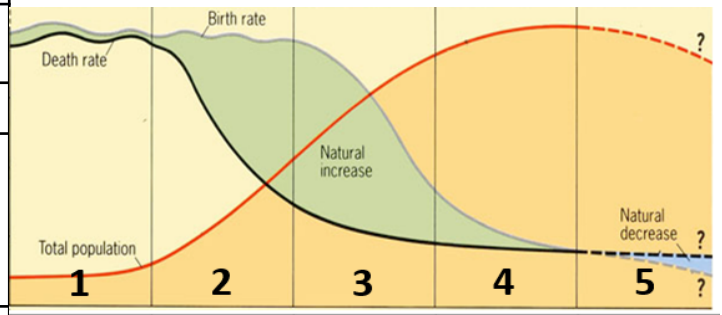
Population and urbanisation (HT1)		
1	Global Population Distribution	
2	Demographic Transition Model	
3	Comparing Populations (DTM stages)	
4	Population Pyramids	
5	Migration and Natural Increase	
6	Urbanisation and Megacities	
7	Mumbai (opportunities and challenges)	
8	Quality of Life in Mumbai	
9	Sustainability in Mumbai	

Cold environments (HT2)		
1	What is a cold environment?	
2	Population in Russia	
3	Glacial processes	
4	Glacial landforms of erosion	
5	Cold environment opportunities	
6	Cold environment challenges	
7	Sustainability to protect cold environments	

KS3 Geography Knowledge: Population and Urbanisation

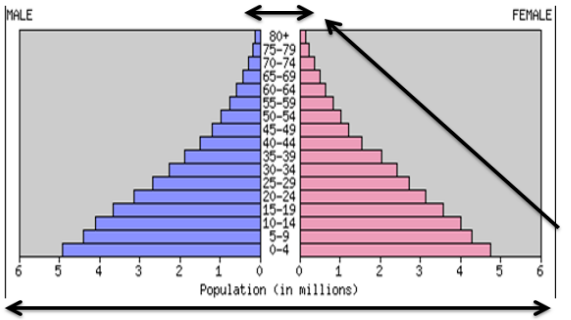
Global populations are	Rising.
The global population is… **In 2050 it will be….** **In 2100 its will be…..**	8 billion 9.8 billion 11.2 billion
Population Distribution	Where people are located.
Population density	The number of people living in a certain area (ppl per km_2)
Dense population	Lots of people live in an area.
Sparse population	Very few people live in an area.
Factors affecting population density are:	Push and pull factors
Pull factors are…..	Factors that attract people to an area.
Examples of pull factors:	• Flat land • Good access to services and lots of employment • Mild climates with lots of natural resources (oil, wood, coal) • Fertile soil • Peace
Push factors are……	Factors that push people out of an area.
Examples of push factors	• Steep slopes • Lack of services and lack of employment • Extreme temperatures • Few natural resources • Unfertile soil • Dense forest • War and conflict
China is located	In east Asia, next to the East China Sea. Neighbouring countries include Mongolia, India and Vietnam.
China's capital city is	Beijing
China's population size is	1.4 billion
China's is split into	Provinces
China's eastern provinces are….	Densely populated due to its flat, fertile land, good transport routes and cities which offer jobs and services.
Chinas' western provinces are….	Sparsely populated due to its steep slopes, mountains, lack of transport routes and lack of cities.

Dollar Street	A tool used to compare how families at different stages of income / development live in countries across the world
Demographic Transition Model	Shows how populations will change as countries move through 5 stages of development.
Population pyramid	A graph that shows the population structure of an area, The population is divided up into 5 year gaps. It tells you the number of men/women alive in each 5 year gap. It shows a snapshot of the population at the time it was created.
Birth Rate	Number of births per 1000 babies born
Death Rate	Number of deaths per 1000 people
Natural increase	The increase in population when birth rate is higher than death rate.
Life Expectancy	The number of years a person is expected to live for,



Traditional rainforest tribes	Afghanistan, Ethiopia	India, China, Brazil	UK, France, USA	Japan, Italy, Germany
High birth rate • Lack of birth control • Women marry young • Children needed to work on land **High death rate** • Disease • Famine, • Lack of clean water • Lack of medical care	**High birth rate** • Same as in stage 1 **Decreasing death rate** • Improved medical care • Cleaner water • More and better food • Improved sanitation	**Decreasing birth rate** • Birth control more available. • Fewer children die • Women stay in education longer and marry later **Slowly decreasing death rate** • Same as stage 2	**Low birth rate** • Birth control widely used. **Low death rate** • Continued improvement to medical care, sanitation and food/clean water availability.	**Very low birth rate** • Status of women and equal rights. Women have fewer children and far later in life. **Slightly increasing death rate** • There are more old people = more deaths.

If the bars are very short at the top there is a low life expectancy and few elderly people.



If the bars get shorter quickly there is a high death rate and fewer elderly people.

If the base is wide there is a high birth rate and lots of young people.

Population growth is affected by:	Natural increase and migration.
Natural increase is caused when… This is common in	the number of babies being born (birth rate) is greater than the number of people dying (death rate). Countries in stages 2 and 3 of the DTM: *Bangladesh, India, Brazil, Mexico*
Migration is……. • Emigrants are…. • Immigrants are…. • A migrant is…. • Voluntary migrants are…. • Forced migrants are…..	The movement of people from one place to another, both domestically (within a country) & internationally (between countries) • *The people choosing to leave a countries.* • *The people arriving in a new country.* • *The person doing the moving.* • *People who choose to move for work or family.* • *People who have no choice, due to war or natural disasters.*
Number of international migrants in 2017	The number of international migrants (people living in a country they were not born in) worldwide was 258 million in 2017. If all the world's international immigrants lived in a single country, it would have the world's fifth largest population.
International migrants in the UK	Today there are 9.3 million international migrants in the UK. *They mainly come from Africa, India, Pakistan, West Indies, Eastern Europe.*

KS3 Geography Knowledge: Population and Urbanisation

Urban	A built up area (e.g. town or city)
Rural	A sparsely populated area
Urbanisation	The movement of people from rural to urban areas.
Urban growth	The increase in land area covered by towns and cities.
Urbanisation in HICs occurred in…	The 18th and 19th Centuries
It was caused due to…. **Start of UK's industrial revolution:** **Start of USA's industrial revolution:**	Industrialisation – the growth of manufacturing and factories. The factories are located in towns and cities = people move from the countryside to cities for work = urbanisation. ➢ 1750s ➢ 1800s
Urbanisation in LICs and NEEs is occurring…… **It is happening because….**	1. Many LICs and NEEs are currently going through their Industrial Revolution. For example, China's industrial revolution began in 1980. 2. Poor quality of life in rural areas (push factors)
Megacity	A city with a population of more than 10 million. 1970 - 3 megacities 2021 – 37 megacities

MUMBAI FACT FILE:
- It is the wealthiest city in India.
- It is located in the Maharashtra state on the western coast of India, facing the Arabian Sea.
- Mumbai's population has grown rapidly in the last 50 years to reach over 23 million today.
- **Mumbai's population density is 44,500 ppl per km_2. This is 8 times higher than London!**

The growth of Mumbai has been caused due to rural to urban migration and natural increase.
- **Rural to urban migration**: nearly 1 person arrives to Mumbai per minute. 70% of all migrants were from the state of Maharashtra and the average age of migrants was 20-21 years and 64% were male.
- Natural increase: Mumbai's birth rates are higher than their death rate = natural increase in population.

Urban planning to improve the quality of lives for the urban poor in Mumbai

Sanitation project	Problem: hundreds of people share a single toilet and 1 in 20 people are forced to use the street as a toilet. Solution: so far over 300 community toilet blocks have been built, housing more than 5100 individual toilets, with separate facilities for men and women. This will improve living standards for more than 1 million people.
Electrification project	Problem: lack of electricity. People rely on bottled gas for cooking and heating, which is expensive and dangerous. Solution: aid projects are providing 10,000 people living in slums with new or upgraded electricity connections.
Resettlement scheme	Problem: poor quality housing, lack of services…etc. Solution: people from poor quality slums are being relocated to new areas. This improves living standards by providing: ➢ *Good quality homes with strong walls and beds.* ➢ *Access to water supply with sanitations systems = less risk typhoid, stomach problems and other infections.* ➢ *Access to shops and businesses = more job opportunities.* ➢ *Access to electricity.*

Urban growth has created a number of opportunities in Mumbai

Jobs in a variety of industries	• Over 3 million people commute each day to work in Mumbai. • Mumbai generates 6.16% of India's GPD • Jobs in factories producing electronic items, jewellery, textiles. • Jobs in high-tech industries: call centres, online banking and software development. • Many TNCs have their headquarters in Mumbai: Bank of America, Volkswagen, Walt Disney.
Higher & reliable wages	• The highly skilled jobs = higher wages. • The high number of jobs means there are more reliable wages.
Access to services & entertainment	• There is much better access to education and healthcare. • Mumbai has the highest percentage of internet access of any Indian city (12 million in 2013) • **Restaurants, clubs, bars, theatres, festivals, shops…etc.**
Transport	• Train, airplanes, boats, buses…etc. Mumbai has links to all the major industrial cities in India as well as connections to globally important cities.
Cultures	• People live in Mumbai from different ethic backgrounds (people from different races and religions).

Urban growth has created a number of challenges in Mumbai

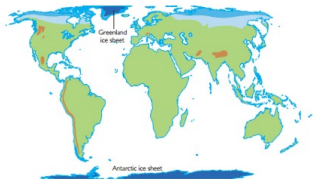
Squatter settlements	• 40% of the population in Mumbai live in poor quality housing or on the streets. • The poorest live in squatter settlements on the outskirts of the city. People arrive and cannot afford homes. ➢ *Homes are very small and made out of wood, cardboard, metal and plastic sheeting* ➢ *They are overcrowded and lack services = diseases are common as is pollution (air, water, waste)* • An example of a squatter settlement in Mumbai is Dharavi. Home to 1 million + people. (shown in 'Slumming It')
Lack of services ➢ **Education** ➢ **Sanitation** ➢ **Hospitals**	• As populations rise rapidly it's difficult to supply services to the population. They cannot develop the necessary infrastructure (water pipes, electricity lines, sewage pipes) fast enough to support the rising population size. • Lack of teachers and schools = lack of education. Around 24 % of children are illiterate. • Lack of sewage pipes = people dispose of sewage into nearby rivers and streams. These are used by locals to clean and for drinking = waterborne diseases (typhoid/cholera/dysentery). 83% diseases in Mumbai are waterborne. • Lack of hospitals = lack of healthcare.
Water pollution **Air pollution** **Waste pollution**	Sewage and industrial waste from factories is poured into rivers. The Mithi River in Mumbai is very polluted because: • Large companies dump industrial waste straight into the river and the airport uses it to dump untreated oil. • 800 litres of sewage goes straight into the river every day. This results in waterborne diseases, death of wildlife and destruction of ecosystems. Vehicles and factories pollute the air. In 2018; • The World Health Organisation ranked Mumbai as the 4th most polluted megacity in the world. • 89.6% of deaths in slums are due to respiratory diseases. 100,000s of tons of waste is produced every day in Mumbai. This is often left on the streets because they do not have the infrastructure (roads, lorries) to collect the rubbish and the do not have the money to build this infrastructure.

Managing Populations

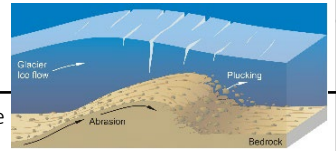
Why manage populations	If a country is over-populated = a strain on resources such as food, unemployment impacting on standard of living If a country is under-populated = lack of investment, not enough workers to work in the different sectors
China	China introduced the one child policy in 1979 to slow down population growth rate (2.8%). Couples were given incentives such as free childcare/healthcare to only have one child.
Russia	Russia introduced 'Day of Conception' in 2006 to increase birth rate as it was quite low (-0.2%) as the pop. Is in decline Women were given incentives such as money/prizes to have more than one child.

KS3 Geography Knowledge: Cold Environments

Cold environments are the coldest environments on Earth.

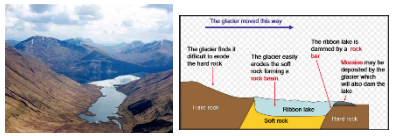
Characteristics of a cold environment	✓ Typically they have temperatures below freezing ✓ The ground can be covered in ice or frozen ✓ Some plants, however these are not in abundance
Where are cold environments found?	Polar and tundra environments are found at the top and bottom on the world. These are where earth's largest glaciers are found and are known as 'ice sheets' or 'continental ice sheets'. Earth's other glaciers are much smaller and found high up in the mountains, where it is also very cold. These are called 'alpine glaciers.' 
A glacier is….	*A glacier is a large mass of ice that flows across the land.* Glaciers are made up of layers of snowfall over hundreds of years. Whilst glaciers are usually found in the coldest places across the world, we actually find glaciers on **every continent**.

Physical Processes

Plucking (erosion)	When large parts of bedrock become frozen to the base of the glacier and as the glacier moves, the bedrock moves with it. 
Abrasion (erosion)	When large parts of bedrock attached to the glacier rub against the bedrock wearing it away. This causes striations (scratches) on the rock
Freeze-Thaw Weathering	When water freezes, expands and thaws, causing them to break. 
Transportation	When that glacier carriers away the material it has eroded.
Deposition	When material the glacier has been carrying is 'dropped off'
Glacial Till	As the ice melts, the 'load' or material it is carrying, falls to the ground. This is made up of rocks, stone, sand and clay.
Meltwater	The water from the melting ice feeds into a river or a lake. This is called meltwater.

A glacial landform is a recognisable feature on the land that is created by the action of glaciers.

Landforms of Erosion

Feature	Images and OS Maps	Description	Formation
Corrie		• It has three steep sides and a flat open front.	Snow gathers in a hollow on the side of a mountain. The snow accumulates and builds up. As it does, the weight of the glacier increases and it starts to moves down slope. This leads to ice gouging and deepening of the hollow creating a corrie. This can eventually fill with water (called a tarn), snow or ice.
Arete & Pyramidal Peak		• An arête is knife like edge that is found near a corrie. • A pyramidal peak is a pointed peak.	An arête is formed when two corries form back-to-back. The backwalls erode of a create a very narrow knife-like ridge between them. This ridge is called an arête. A pyramidal peak is formed when three corries form back-to-back. The pyramidal peak is the steep pointed peak at the top. Arêtes Run up to the peak.
U-Shaped Valley		• It has a U-shape, steep sides and a flat bottom	Glaciers starts to move down a river valley which is a V-shaped valley. As the glacier moves down stream the valley sides and bottom are eroded due to plucking and abrasion. This creates the steep sides and flat floor that characterise a U-shaped valley. It is given this name as it looks like the letter U. It can also be called a glacial trough.
Ribbon Lake		• A long narrow deep lake	A ribbon lake is a long narrow lake found at the bottom of a U-shaped valley. It is formed when a glacier moves over a band of soft and hard rock. The soft rock is eroded more easily by plucking and abrasion. As the glacier retreats a rock basin is left behind. This fills up with meltwater from the glacier and a lake is left behind.

Avalanches	An avalanche is a sudden and fast flow of snow sliding down a mountain. As it gets nearer to the bottom of the mountain, it gains speed and power. This can cause damage to anything in its path. It could be up to 80 miles an hour in 5 seconds - faster than driving on a motorway. It is a major hazard to people living in, or visiting, these areas. 2 types of avalanche – Powder: This is when a layer of snow with different properties slides over another layer of snow. Slab: This is when an entire snow cover, from the earth to the surface, slides over the ground. On the 25th April 2015 a 7.8 earthquake struck Nepal and the surrounding countries. The earthquake triggered a huge avalanche on Mount Everest.
Nenets	The Nenets are indigenous people from Siberia (northern Russia). They live on the Yamal Peninsula. Reindeers are important to the Nenets because; Antlers sold to China for medicine, meat sold to make money, meat and blood a source of food, skin used to make clothing and the chum,

Identifying Glacial Landscapes on an OS Map:

In every country, there are areas of flat land and mountains. The slope of the land is known as gradient. A steep gradient = steep slopes = mountains. There are three ways to show this on a map.

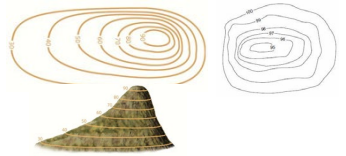
Contour Lines are lines on a map that join points of equal height. They are usually shown using fine brown lines on an OS map.

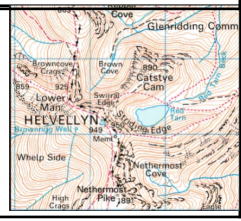
Contour lines give you an idea of the gradient and shape of the land.

✓ If contour lines are close together – this means the land is steep.

✓ If contour lines are far apart – this means there is a gentle slope

Most contour lines have their height written on them to tell you the height of the land along that specific contour line. These heights are given in meters. These numbers allow you to work out the direction of increasing or decreasing altitude.





KS3 Geography Knowledge: Cold Environments

THE LAKE DISTRICT:

The Lake District is an example of a glaciated landscape in the UK. Around 20,000 years ago the Lake District was covered in ice. Today that landscape shows that history.

the Lake district is located in the north of England, more specifically in the Northwest in the county of Cumbria.

The Lake District is a National Park;

.A National Park is:

- ✓ A protected area/location
- ✓ It has people and laws that make sure nature and wildlife are protected
- ✓ It is protected so people can continue to benefit from nature without destroying it.
- ✓ There are 15 national parks in the UK

An economic opportunity refers to opportunities to make money and create jobs in an area/place.

What are the economic opportunities in the Lake District?

Opportunity	How does it creates opportunities
Tourism: ✓ In 2018, 19.38 million tourists visited the Lake District ✓ Tourism is the main source of income in the Lake District ✓ Tourism has been a popular tourist destination since the 18th century, in fact poets and writes such as Wordsworth and Beatrix Potter were inspired by the area	1. When tourists visit the Lake district, they often need somewhere to stay such as a hotel or a B&B. 2. People spend money in restaurants and leisure activities 3. This means that local people can earn money by working in these jobs, additionally making more money for the local area.
Quarrying: ✓ This is where rock is taken out of the ground to use for different purposes. In the Lake District, slate is the type of material that is quarried. ✓ Slate can be used for roofing and walkways. ✓ One slate mine in the lake district = Honister Slate Mine	1. The quarry provides jobs for the local people 2. In addition to this, the quarry can sell its goods to other people/companies 3. This means that local people can earn money by working in these jobs, additionally making more money for the local area.
Farming: ✓ Farming is a core part of the economy in the Lake District ✓ 2500 people are employed in farming in the LD and most of the farming in the area is sheep and beef production. ✓ The lower glacial landscape, where thicker soils are found are used for crop farming.	1. Farming provides jobs for the local people 2. In addition to this, farmers can sell their produce to different places and earn money. 3. This means that local people can pay taxes, which can go towards improving the local area, bringing more people to the area.

Antarctica – A Cold Environment

- Antarctica is a continent (5th largest). It is surrounded by the Southern Ocean.
- The south pole 90°S is located in Antarctica and = southernmost point on the Earth.
- It is a cold desert = a desert as it is dry & lack of precipitation (little rain or snow).
- Antarctica only has two seasons due to the tilt of the Earth's axis in relation to the sun. During summer Antarctica is on the side of the Earth tilted towards the sun and is in constant sunlight. In winter Antarctica is on the side of the Earth tilted away from the sun causing the continent to be dark.

An economic opportunity refers to opportunities to make money and create jobs in an area/place.

What are the economic opportunities in the Lake District?

Challenge:	Sustainable Solution:
Traffic Congestion: ➢ Many tourists travel by car to the Lake District = Can cause traffic congestion which is when traffic moves at slow speeds resulting in long queues or standstill traffic. ➢ Worse in the summer months when tourism is at it height ➢ Local people may struggle to go about their daily business	1. introduced the 'Go Lake Travel Programme'. This included; *50 miles of cycle lanes, 5 new bus services (20,000 passengers), 9 locations for electrical vehicle hire* 2. This means that there are less cars on the road, reducing traffic congestion and a reduction in air pollution from greenhouse gases.
Second Homes/High Price Homes: ➢ A 'second home' or a 'holiday home' often bought by tourists. These homes not used fully throughout the year ➢ 20% of properties in the national park are second homes ➢ Difficult to maintain local services; *schools, shops and public transport.* ➢ House prices increase = harder for locals to buy homes	1. Local councils have build more social housing so that the homes are ore affordable 2. Planning permission for new houses are only granted to local people, or people who live there all year round = more homes available for local people, and house prices may also decrease.
Footpath Erosion: ➢ Paths are eroded, people start to walk on and trample the land beside the path. Footpath erosion occurs on heavily used paths at popular sites =loss of vegetation, grass, soil ➢ Eroded paths are unsightly and lead to habitat loss, water pollution and damage to the archaeological and natural history of the area.	1. 'Fix the Fells' = organisation that aims to fix the paths. 2. 'Stone pitching'. Stones are dug into the centre of the path so people can walk on them. They create a 'staircase' across the landscape. 3. Use Sheep fleeces that are folded and rolled to create a 'floating path' then layered with stones. The fleece protects the peat and soil but allows water to drain

Antarctica

Climate

- Antarctica has a polar climate = average temperature range between -10 °C and -60 °C
- Antarctica experiences strong katabatic winds, as cold air flows down from inland areas towards the coast.
- The coastline of Antarctica is one of the windiest places in the world.

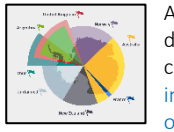
Animals

- Emperor penguin – largest of all penguins. **Adapted By:** having flippers to help them to swim and feathers to trap warm air close to their bodies.
- Weddell Seal –**Adapted By:** Smooth, streamlined shape to pass easily through the water. A substantial blubber layer lies under the skin acting as insulation, to swim in frigid Antarctic waters down to -2C.

Antarctica Challenges

- **Climate change :**increases in temperature = the melting of ice and loss of habitat for species like penguins. Sea levels rising damaging the ecosystems
- **Antarctica has many resources**: No single country owns Antarctica = access to these resources (copper, gold, fossil fuels) could cause conflict.
- **Tourism -** increasing numbers of tourists. If larger ships come, tourist numbers will increase = may unknowingly bring seeds and spores of plants from other areas and the threat of pollution, eg oil spills from the cruise ships.

Antarctic Treaty



Antarctica is not owned by a single nation. Many different sovereign states have made territorial claims. A treaty is an agreement under international law between different countries or organisations.

Some of the agreements are:

1. natural reserve that is devoted to peace and science
2. To allow scientists freedom to work and share scientific knowledge
4. To set aside any territorial claims and ban nuclear explosions and the disposal of radioactive waste
6. To make sure all visits to Antarctica comply with the treaty