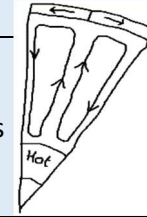# GCSE Geography Self-Quizzing Booklet
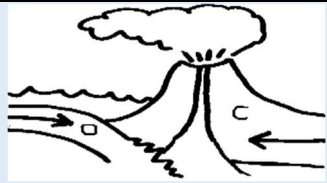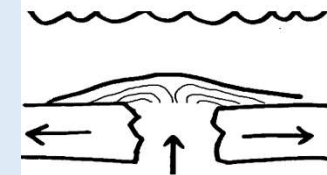
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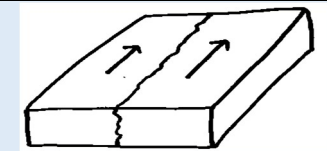## 1. Natural hazards

Term	Definition
Natural hazard	A natural event that threatens people or has the potential to cause damage, destruction and death. *Eg.* earthquakes
Tectonic hazards	Caused by movement of the tectonic plates (volcanoes and EQs).
Atmospheric hazards	Created in the atmosphere (tropical storms, drought, tornadoes).
Hazard risk	The probability or chance that a natural hazard may take place.
Earthquake	A sudden or violent movement within the Earth's crust followed by a series of smaller shocks.
Volcanoes	An opening in the Earth's crust from which lava, ash and gases erupt.
Factors increasing hazard risk	
Vulnerability	Higher population densities (floodplains). More people living in dangerous areas.
Capacity to cope	Poverty means people can't afford protection/planning e.g. can't evacuate.
Nature of the NH	More warning for TS than earthquakes. Higher the magnitude = higher risk.

3. Distribution of tectonic hazards

Plate margin	The margin or boundary between two tectonic plates.
Tectonic plate	A rigid segment of the Earth's crust which can float across mantle.
Hazard	**Distribution**
Volcanoes	At destructive + constructive margins. Ring of Fire around edge of the Pacific. Some aren't on margins. (Hotspots)
Earthquakes	Mostly on plate margins. (All margins) Along w. coast North + South America. Some caused by fracking and mining.

2. Plate tectonic theory

Theory	Explanation	
Convection currents	Occur in the mantle. The heating and cooling of magma in the mantle makes currents which can move tectonic plates.	
Slab pull	Oceanic plate subducting into the mantle pulls the rest of the plate with it.	
Ridge push	The weight of the plate at ocean ridges makes the plates move due to gravity.	
Structure of the earth		
Crust	The crust is made up of 7 large tectonic plates and several smaller ones.	
	Oceanic crust	Thin 5- 10km. More dense. Can be made and destroyed.
	Continental crust	Thick 30 – 50km. Less dense. Older, never destroyed.
Mantle	Semi molten rock moves slowly. Convection currents occur here.	
Outer core	Liquid. Iron and nickel.	
Inner core	Solid. 5500°C.	

5. Key terms

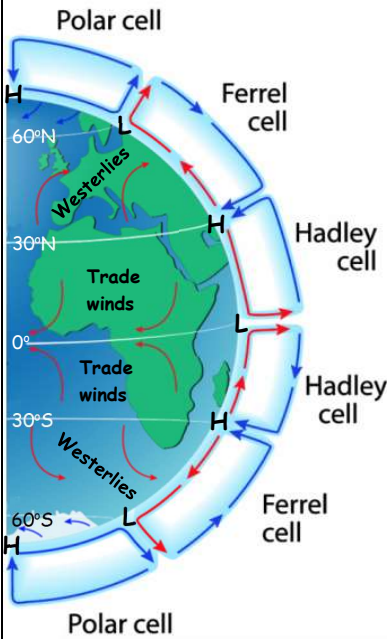| Key term	Definition
Primary effects	The initial impact of a natural hazard on people and property. Caused directly by the event.
Secondary effects	The after effects that occur as indirect impacts of natural events, sometimes on a longer timescale.
Immediate responses	The reaction of people as the disaster happens and in the immediate aftermath.
Long term responses	Later reactions that occur in the weeks, months and years after the event.

4. Plate margins

Include processes and ensure correct sequence.

Destructive margins

Composite volcanoes.
Earthquakes.

1. **Convection currents** move two plates towards each other.
2. The oceanic plate is denser and so **subducts** under the less dense continental plate.
3. Due to **friction**, and heat in the mantle, the oceanic plate melts.
4. **Pressure** builds up. Magma is eventually released.
5. An explosive eruption forms a **composite volcano.**

Constructive margins

Shield volcanoes.
Earthquakes.

1. **Convection currents** move two plates away from each other.
2. Magma from the mantle rises through the gap.
3. The lava is very runny so travels a long distance before cooling.
4. Over many eruptions, a **shield volcano** is formed.

Conservative margins

Earthquakes.

1. **Convection currents** move the plates side by side.
2. **Friction** builds up causing **tension.**
3. Eventually the tension will be released as waves of energy which is an **earthquake**.

There are no volcanoes at this margin.

6. Tectonic hazards vary between contrasting levels of wealth

	LIC $730	HIC $40,000	Explanation
Earthquake	Nepal 2015	New Zealand 2016	
Primary effects	• 8,632 died. 22,000 injured. • 22 hospitals destroyed. • 499,000 homes destroyed. • Dharahara Tower collapsed.	• 2 died. 50 injured. • Water/power damaged. • Only 36 red tag buildings. • 400km road/rail destroyed	New Zealand's buildings are EQ proof. In Nepal building quality is poor, responses ineffective.
Secondary effects	• US$5 billion in damages. • Tourism decreased by 1/3. • 4mill homeless, no water. • Avalanches on Everest (18☠)	• US$8.5 billion in damages. • 200 homeless from Waiau. • 100,000 landslides, blocked Clarence River.	Damage costs were higher in New Zealand as more expensive infrastructure.
Immediate responses	• India– search/rescue 15mins • Shelter- Kathmandu tent city • Charities like Oxfam gave aid	• 200 evacuated in 24 hours. • Power restored in 24 hrs. • Clean water supplies set up	Not adequate in Nepal, relied on aid. NZ had plans in place- rapid and efficient.
Long term responses	• Asian development bank gave US$200 mill • Investment needed for infrastructure	• New water pipes 4 months • Road/rail repaired in 2yrs. • Relief fund for low income families ($250).	In Nepal these were slow and are still ongoing. Very fast in New Zealand as more money.

7. Why do people continue to live in areas at risk from tectonic hazards?

Factor	Explanation
Low frequency	People think they won't happen in their lifetime.
Always lived there	Don't want to leave family / friends.
Monitoring	People feel safe as they'll be warned if a hazard is imminent.
Poverty	People can't afford to leave.
Benefits	Volcanoes have fertile soil and geothermal energy. (Economic)
Protection	EQ proof buildings make people feel safe.

8. Management can reduce the risks from tectonic hazards

	Planning	Prediction	Protection	Monitoring
Definition	Actions taken to enable communities to respond to, and recover from, natural disasters.	Attempts to forecast when and where a natural hazard will strike, based on current knowledge.	Actions taken before a hazard strikes to reduce its impact.	Recording physical changes to help forecast when and where a natural hazard might strike.
Earthquake examples	Similar for both. Future development avoids high risk areas. Educate people to know what to do (drills) Plan evacuations. Stockpile emergency supplies i.e. water.	Can't reliably be done for EQs. But we can suggest areas that will be vulnerable.	EQ proof buildings i.e. reinforced concrete. Bridges strengthened with steel frames.	Seismometers and lasers monitor earth movement. Only gives a SMALL warning time.
Volcanoes examples		Can be predicted if the volcano is well monitored. Some LICs can't afford to do this.	Roofs strengthened (heavy ash). Trenches or barriers to divert lava (not successfully).	Seismometers, gases released, changes in shape of the volcano.
How does it reduce the risks?	Less people are vulnerable. Often more efficient in HICs.	Allows evacuation, which can reduce deaths and injuries.	Buildings less likely to collapse reducing injury. But expensive.	Allows a warning to be given to put plans in place like evacuation.

9. Global atmospheric circulation

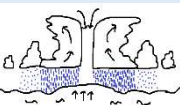| Factor	Explanation
Global atmospheric circulation	Worldwide system of winds, which transport heat from the equator to the poles.
Key information	Wind is large scale movement of air from HIGH to LOW pressure. This is caused by differences in temperature at the Equator and the poles. The circulation is divided into loops called CELLS. Low pressure = Rising air = Rain. High pressure = Sinking air = Clear skies.
	At the poles, cool air sinks creating high pressure. (<250mm rainfall). At 60°N air rises between the Ferrel and Polar cell creating an area of low pressure. The UK gets lots of low pressure weather blown in from the Atlantic. At 30°N air sinks between the Ferrel/Hadley cell creating high pressure (deserts <250mm rain). On the equator air rises as the sun's heat is most concentrated. This creates a low pressure area with high rainfall. (Rainforests >2000mm of rain). Surface winds blow towards the equator (trade winds). Direct hurricanes to west. Here winds blow towards the poles and are called Westerlies. (From the west). The winds curve due to the spin of the earth (Coriolis effect).

10. Weather hazards in the UK

Hazard	Example
Extreme weather	A weather event that is significantly different from the average pattern and is especially severe or unseasonal.
Strong winds	Damage property / disrupt transport. 2018 Storm Ali killed 2 people.
Heavy rain	Can cause flooding, costing millions. Cockermouth 2009 314 mm in 24 hrs.
Snow	Injury, death, travel disruption. March 2018 Beast from East. 50 cm.
Drought	Crop failure, rules to conserve water. April 10-March 12 only 75% of rain.
Heatwaves	Pollution builds up- breathing problems. Death. BUT tourism benefits. 2018.

11. Evidence that weather is becoming more extreme…

Our weather is naturally variable BUT extreme events are becoming more common and severe.	

Hazard	Example
Temperature	10 warmest yrs all occurred since 1990 2018 joint hottest summer on record. Dec 2010 coldest month for 100 years.
Rainfall	More rainfall records broken between 2010 - 2014 than in any other decade. Dec 2015 wettest month on record.

12. An example of a recent extreme weather event in the UK

Name	Somerset floods 2013-14.
Causes	3 times the average rainfall from December – February. Ground saturated (more surface runoff). High tides and storm surges. Rivers had not been dredged. Flat relief and floodplains flood very easily.
Impacts	600 homes flooded. Muchelney cut off for two months (200 people unable to leave). Hundreds of people evacuated for several weeks. Average cost to businesses was £17,000. £148 million cost of damage. Cost to the tourist industry of £200 million in 2014. 2 years to restore soil quality. 7,000 hectares of farmland destroyed. Rivers contaminated by overflowing sewers.
Manage-ment strategies	**Immediate responses** • Hundreds of people evacuated from their homes. • Early warning systems from the Met office. • Sandbags given to people to protect their home. **Long term responses** Government pledged a 20-year plan costing £100 million. • Regular dredging of the rivers Parrett and Tone. • Widening of the River Sowy's channel. • Temporary pumping stations converted into permanent ones
This is also our rivers case study.	

13. Tropical storms

Hurricanes, cyclones, typhoons. An area of low pressure with winds moving in a spiral around the calm central point called the eye of the storm. Winds are powerful and rainfall is heavy.

Factor	Explanation
Global distribution	5° – 30° north and south of equator (sea temp warm, wind shear low). More in the northern hemisphere. Move towards the west.
Relationship with ACM	Trade winds (from high to low pressure) send tropical storms to west.
Structure	Circular, can be 100s of km wide. Eye- calm in centre (air ↓, LOW). Eyewall- strong winds, torrential rain. Edges- Wind speed falls, rain reduces.

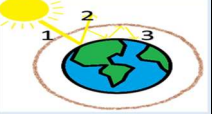| How will climate change affect them?	
Distribution	Increase to higher latitudes (warmer sea temperatures).
Frequency	Number could increase. (Longer season)
Intensity	Stronger? More evaporation.

14. Formation of tropical storms

Include processes and ensure correct sequence.

Conditions	5-30° latitude. Ocean depth > 60m deep. Sea temperature > 27°C. Form summer and autumn.

1. Sun heats the ocean (27°C) > **rapid evaporation**.
2. **Condensation** occurs quickly leading to a large amount of cloud forming (**tropical depression**).
3. Due to the earth's rotation, this cloud mass starts to spin. An eye is formed in the centre.
4. Due to rising air, a **low pressure** area forms below. Air rushes into this creating high wind speeds. (>74mph = **tropical storm**)
5. The low pressure results in the ocean being uplifted forming a **storm surge**.

15. How can we reduce the impacts?

Strategy	Explanation
Prediction / monitoring	Satellites and aircraft to monitor storms. Computer models calculate the predicted track. Allows warnings so people can evacuate or protect their home.
Planning	New developments avoid high risk areas. Emergency services train and prepare. Plan evacuation routes. Reduces the injuries and deaths.
Protection	Building design- reinforced concrete, stilts to reduce flood risk. Flood defences along rivers and coasts. Reduces the number of buildings destroyed so fewer injuries and deaths.

16. Tropical storms affect people and environments.

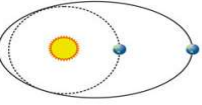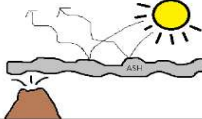|	Generic	Typhoon Haiyan 2013 Philippines
Primary effects	Direct results of strong winds, high rainfall, storm surges. Flooding, buildings destroyed, death.	6,201 deaths. (Most drowned in storm surge.) 1.1 million houses damaged. 90% of Tacloban city destroyed.
Secondary effects	Homelessness > lead to poor health. Lack of sanitation > diseases (cholera) Food shortages, price increase.	4.1 million homeless. Damage cost US$12 billion. 1.1 million tonnes of crops destroyed (rice).
Immediate responses	Evacuate before the storm. Rescue those affected. Provide food, water, blankets. Aid workers arrive from abroad. Recover dead bodies (prevent disease).	➢ Over 1200 evacuation shelters set up. ➢ Philippines Red Cross delivered basic food aid. ➢ UK sent shelter kits. ➢ 800,000 evacuated (warnings given 2 days early).
Long term responses	Repair homes and infrastructure. Promote economic recovery.	➢ More cyclone shelters built. ➢ No build zones. ➢ 'Cash for work' programmes.

17. Climate change key terms

Key term	Definition
Climate change	A change in the global climate from the expected. This can be due to natural or human causes.
Global warming	Gradual increase in the temperature of the earth's atmosphere generally attributed to the greenhouse effect.
Quaternary period	The period of geological time from about 2.6 million years ago to today
Glacial periods	Colder periods of time.
Interglacials	Warmer periods of time.
Greenhouse gases	Water vapour, carbon dioxide, methane, nitrous oxide, ozone, CFCs
Enhanced greenhouse effect	The greenhouse effect is a **natural process** that warms the Earth so humans can survive. However, humans have added **extra** GHGs to the atmosphere trapping too much heat making the climate hotter.

18. Evidence for climate change

Key term	Definition
Pollen analysis	Pollen is preserved in peat bogs, we can date the peat and the type of pollen suggests the climate conditions.
Photos	Comparing photos from the 1800's with today show glaciers have shrunk.
Ice cores	Ice cores are extracted by drilling. Analysis of trapped gases tell us the climatic conditions of the past.
Tree rings	Thinner rings indicate colder climates. They can tell us changes in temperature for about 10,000 years.
Temperature records	Records using thermometers show us temperature variations around the globe, but only since the 1850's.

19. Causes of climate change

Natural factors	Orbital changes	Changes in the pathway of the Earth around the Sun over 96,000 years from circular to elliptical. During the circular rotation the earth is closer to the sun and so the climate is warmer.
	Volcanic activity	Large volcanic eruptions emit ash/gases into the atmosphere. These reflect the sun's radiation back out to space and reduces temperature on Earth for short periods of time (volcanic winters).
	Solar output	The sun's output of energy changes on a 11 year cycle. When solar output increases the Earth experiences warmer climates.
Human causes	Use of fossil fuels	CO_2 is released into the atmosphere when fossil fuels are burnt. This occurs with cars, factories and to make electricity.
	Agriculture	Farming of livestock produces lots of methane and we now eat more meat. Rice farming also releases methane and is a core food in many cultures.
	Deforestation	Plants remove CO_2 from the atmosphere and convert it to organic matter using photosynthesis. When we cut down trees we stop them absorbing more CO_2. If trees are burnt for fuel or to clear land for farming they release CO_2 into the atmosphere.

20. Effects of climate change

On people	- Death rate has increased (some due to heat, some due to cold) - Migration vital from low lying areas - Water stress increases (political tension) - Lower crop yields (malnutrition) - High damage costs from more storms + Higher temperatures bring an economic boost to some areas (hotter = more tourism, countries at high latitude- farms grow more)
Environment	- Glaciers shrink, ice caps melt - Sea levels rise. 82cm by 2100. - Coastal erosion increases - Coral reefs suffer bleaching - Biodiversity may decrease - More extreme weather events (storms, fires)

Poor countries tend to suffer the most as they do not have the money to adapt effectively to climate change. Often located in more vulnerable areas.

21. Managing climate change

<table>
<tr><th></th><th>Strategy</th><th>Explanation</th><th>Evaluation</th></tr>
<tr><td rowspan="5">Mitigation</td><td colspan="3">Action taken to reduce or eliminate the long term risk to human life and property from natural hazards and climate change.</td></tr>
<tr><td>International agreements</td><td>1997 Kyoto Protocol. Countries agreed to monitor and cut GHG emissions. UK's target was to cut emissions by 12.5% by 2012 (surpassed it at 22%).
2015 Paris Agreement. 196 countries.</td><td>+ Global reduction of CO_2
- The USA didn't ratify the Kyoto agreement and withdrew from the Paris agreement.</td></tr>
<tr><td>Planting trees</td><td>This increases the amount of carbon dioxide that is absorbed from the atmosphere through photosynthesis.</td><td>+ Also has other environmental benefits.
- Takes a long time for trees to grow</td></tr>
<tr><td>Alternative energy production</td><td>Replace fossil fuels with nuclear power and renewable energy to reduce GHG emissions. The UK is building more offshore windfarms and offering grants for people installing solar panels.</td><td>+ Reduces CO_2 emissions.
- Expensive, needs large investment.</td></tr>
<tr><td>Carbon capture and storage</td><td>New technology which captures CO_2 from power stations burning fossil fuels and transports it to places it can be stored safely underground.</td><td>+ Reduces CO_2
- Expensive technology</td></tr>
<tr><td rowspan="4">Adaptation</td><td colspan="3">Actions taken to adjust to natural events such as climate change, to reduce potential damage, limit the impacts, take advantage of the opportunities, or cope with the consequences.</td></tr>
<tr><td>Changes in agricultural systems</td><td>Rainfall unreliable, temperatures ⬆
Drought resistant crops can be used i.e. millet in Kenya. Some countries are changing to grow different crops i.e. peaches and grapes in southern UK.</td><td>+ Higher latitude areas can get more varieties of food.
- Drought resistant seeds can be expensive, increases food prices > impacts the poor the most.</td></tr>
<tr><td>Managing water supply</td><td>Dry areas getting drier = water shortages.
Collect rainwater, recycle waste water. Water meters installed to cut use.</td><td>+ Collecting rainfall is cheap.
- Water meters may not change use in HICs (habits need changing).
- Little use if the is no rain.</td></tr>
<tr><td>Reducing risk from rising sea levels</td><td>Expected to rise by 82cm in 2100. Physical defences like flood barriers can be built.
Cheaper options= earth embankments and building houses on stilts.</td><td>+ Important as large areas are being affected.
- Can be unaffordable for LICs</td></tr>
</table>

1. Global pattern of urban change

The world's population is growing rapidly; currently 50% of us live in urban areas.

Urbanisation	An increasing percentage of a country's population living in towns and cities.
HICs	Very slow rate of urbanisation. Already have high urban populations. Urbanisation happened earlier (during the industrial revolution).
NEEs	Fast rate of urbanisation due to industrialisation. Urban population is increasing rapidly.
LICs	Fast rate of urbanisation. Urban population is low as many still work in farming.

2. Factors affecting urbanisation

Rural-Urban migration	The movement of people from a rural area (countryside) to an urban area (towns and cities).
Push factors	Negative factors that make people leave an area e.g. drought, famine, war, few services.
Pull factors	Positive factors that attract people to an area e.g. better access to services, better paid jobs, access to electricity.
Natural Increase	When the birth rate is higher than death rate; the population grows. High in NEE cities as migrants are often young and health care is improving.

3. Megacities

|	
Megacity	A city of more than 10 million people living there.
How many?	There are now 34. Rapidly increasing.
Where?	Most are in Africa and Asia.

17. Key terms

|	
Social deprivation	The extent an individual or an area lacks services, decent housing, adequate income and employment.
Dereliction	Abandoned buildings and wasteland.
Urban Greening	Process of increasing and preserving open space in urban areas i.e. parks.
Urban sprawl	Unplanned growth of urban areas into surrounding rural areas.
Integrated Transport System	Different forms of transport are linked together to make it easy to transfer from one to another.
Brownfield	Land that has been used, abandoned and now awaits reuse; they are often found in urban areas.
Greenfield	A plot of land, often in rural areas or on the edges of urban areas that has not been built on before.
Commuter settlements	A place where people live but travel elsewhere for work e.g. Yate → Bristol.

18. Sustainable urban living

Sustainable urban living	Where people living, now, have the things they need, without reducing the ability of people in future to meet their needs.
Water conservation	Recycling grey water. ½ flush toilets. Rainwater harvesting on roofs. Permeable pavements- filters pollutants.
Energy conservation	Energy efficient appliances. Energy saving (south facing windows). Use of renewable energy sources.
Waste recycling	Recycling boxes in houses. Recycling facilities nearby. Encourage websites like 'Freecycle'.
Creating green space	Maintain green spaces around towns- Cools area, encourage exercise, happy.

19. Urban transport strategies used to reduce traffic congestion

Problems with congestion	⚒ ↗ air pollution (global warming). 💰 Late for work, deliveries delayed. 👥 ↗ accidents, stress, asthma. In Bristol, 200 people die as a result of air pollution each year.
Beryl Bikes	Shared bikes in Bournemouth + Poole.
Oyster Cards	Quick and easy to pay for more than one type of public transport (London).
Park and ride	Car parks on the outskirts of a town, with buses into the city centre.
Congestion charge	Charge for entering the city centre at peak times.
Bus lanes	Stop buses being held in traffic.

4. Location and importance of Lagos

Location	Lagos is located on the south coast of Nigeria, close to the Benin border.
Regional	Good transport links- centre of trade. Large migrant pop.- cultural diversity.
National	Largest city in Nigeria (21 mill megacity) 80% of Nigeria's industry, 30% of GDP.
International	Financial centre of West Africa. Important port, international airport.

5. Causes of urban growth in Lagos

Rural to urban migration	More than 275,000 migrants arrive in Lagos every year. 1,200 migrants arrive each day.
Natural increase	High birth rate of 35.2 per 1000/year. Migrants are young so have children.

6. Opportunities created by urban growth in Lagos

Social	• Better access to services (health care, water treatment). • 68% have a secondary education. 90% attend primary v.s. 40% in rural areas. • Electricity (Lagos uses 40% of Nigeria's).
Economic	• Jobs available (construction- Eko Atlantic). • Wages 4x higher than in rural areas. • Thriving film/music industry- Nollywood 2nd largest film industry, $3 billion in 2018
Urban industrial areas	Groups of industries located together. • Provide jobs > Wages increase > Home market increases. • Increases exports + tax to government. • Attracts other businesses (positive multiplier effect).

7 + 8. Challenges created by urban growth in Lagos

Managing urban growth	66% live in squatter settlements like Makoko (1/4 million people). **Squatter settlements** are areas of poor-quality housing (often illegal), lacking in basic services *i.e.* sewage and water. 3 km to communal water points. Up to 15 households can share 1 toilet.
Providing clean water	Only 40% of the city is connected to the state water supply. Pipes are old and can be contaminated with sewage. Informal market for water- inflated prices.
Providing sanitation	Squatter settlements do not have access to sewers. Causes health problems *e.g.* cholera.
Providing energy	Not enough power for all… Neighbourhoods have to take turns for a few hours at a time. In squatter settlements, some illegally tap electricity which is dangerous.
Providing access to services	This is better than in rural areas… but not equal for all. Squatter settlements have limited access. Poorer people are less likely to afford services. Makoko has just 1 school and informal, unregistered healthcare centres.
Reducing unemployment	Not enough formal jobs. 60% work in the informal economy. *E.g.* People scavenge in the Olusosun rubbish dump.
Crime	City is too large to effectively police all of it. High crime rates in squatter settlements. Gangs like 'Area boys'.

Managing environmental issues		
	Challenge	How is it being managed?
Waste disposal	Produces 9000 tonnes of rubbish each day. Only 40% of rubbish is collected.	LAWMA starting to collect rubbish overnight. Recycling banks added to each estate.
Air and water pollution	10,000 illegal industries = waste disposal and emissions are not controlled. Squatter settlements have no sanitation. Pollution levels are 5x higher than recommended limit > breathing problems.	Lagos has banned the import of mini generators Communities encouraged to share one larger generator. $2.5 million new water treatment plants.
Traffic congestion	40% of Nigeria's cars are registered in Lagos. Bad traffic congestion- poor public transport 2 hours commute called the 'Go Slow'.	Bus Rapid Transit network. Built to cope with 200,000 people daily.

9. Example- How urban planning improves the quality of life for urban poor

What?	How does it improve QoL?	Was it successful?
Makoko Floating School Built in 2013 Educated 100 of the poorest children in Makoko	👥 Collects rainwater – drinking source 👥 Used for community meetings 💰 Built by unskilled locals (gained new skills) 💰 Improved job prospects for children	✓ Increased quality of life. ✗ Collapsed after a storm in 2016. ✗ Didn't cater for enough children.

10. Distribution of population and major cities in the UK

Population	66 million. Distribution is very uneven. 82% live in urban areas. Upland areas are sparsely populated.
Cities	Most in lowland areas and on coasts. London is the biggest city and the capital. It has 10% of the population. Cities reflect our industrial past (near raw materials *e.g.* Leeds near coal). Counter-urbanisation is a recent trend.

11. Location and importance of Liverpool

Location	North-west of the UK on the coast of the Irish Sea. Around the river Mersey.
Importance within the UK	Known as the Capital of culture. Home to Tate Modern Gallery. 5th most visited city in the UK by overseas tourists.
Importance to wider world	Played central role in the Slave Trade. Liverpool University ranked in top 200 worldwide. Home of the Beatles.

12. Impacts of migration on the growth and character of the city

National migration	2 million Irish migrants arrived by 1850. Welsh migrants arrived in early 1800s
International migration	Chinese sailors settled from 1868. Oldest African community since 1730.
Impact on character	Accents from migrants combined to create the "Scouse" accent.

13. Urban change in Liverpool

- Population is growing rapidly.
- Changed from port and manufacturing city to modern tourist destination.
- Centre for creative industries.

14. Opportunities created by urban change

Cultural mix	50 countries represented (food, art). St Paul's Carnival (attracts 40,000).
Recreation and entertainment	Echo Arena – 7 million visitors since 2008 Albert Dock developed with shops, restaurants and museums. 2 football teams (Liverpool, Everton). Liverpool One shopping centre
Employment	160,000 jobs in tourism and service sectors. 5000 jobs created by Liverpool2 container port.
Integrated transport system	Links different types of public transport Reduces congestion in the city. Many cycle and pedestrian routes built.
Urban greening	Liverpool One had a five-acre park (Chavasse Park) as the main part of regeneration.

15. Challenges created by urban change

Urban deprivation	Factories closing in Toxteth and Anfield. Problems of crime, drug use, low quality housing, lack of transport.
Inequality in housing	Regeneration of Anfield forcing people out. Calderstones – average house price of £540,000
Inequality in education	Toxteth and Anfield – lower qualifications.
Inequality in health	Toxteth – life expectancy 15 years lower than in St. Helens.
Employment	Anfield – 8.5% youth employment 4.4% unemployment, Nat avg is 3.6%
Dereliction	Toxteth run-down and derelict following suburbanisation.
Building on brown and greenfield	Land in Albert Docks needs clearing and decontaminating before building on.
Waste disposal	Recycling centre opened Old Swan in December 2015, unable to cope with the amount of waste.
Urban sprawl	Knowsley Business Park – pollution and congestion. Croxteth Park built on greenfield site. Aughton – increased demand for housing + rural roads overwhelmed.

16. An example of an urban regeneration project

Example	Why did it need regeneration?	What are the main features?	Successful?
Anfield Project	- One of the most deprived areas in England. - 9% unemployment rate in Anfield. - High criminal activity e.g. vandalism. - Houses run-down and clustered together.	- Over £36 million spent renovating 300 houses; plan to build 600 more. - £10 million hotel built to create dozens of jobs. - New school opened. - £4.5 million for tree-lined pavements and pedestrianised areas. - New Health centre opened.	✓ 360 local jobs created; £14.5 million boost to economy. ✓ Attractive place to live. ✗ Roads blocked during commute times. ✗ House prices rising.