

7.1 Why are rivers important?

Using different data to find out about rivers

1

- a) 85 miles (137 km) in length, with 22 miles (35 km) that are navigable.
- b) The rushing, shining water flows from the hills and farms to the sea. Families gather on Sundays.

2

- a) The quantitative data from the Canal and Rivers Trust tells us objective facts about the River Tees, but not what it is like to be there.
- b) The qualitative data from the poem gives us an idea of what the River Tees is like and how it is used, but is a subjective opinion.

7.2 How does water flow into rivers?

The water cycle – key terms

Images should be relevant to the description.

| | |
|--------------------|--|
| Evaporation | The sun heats water and it changes into water vapour. |
| Condensation | As air rises it cools and water changes back into a liquid. |
| Precipitation | Droplets join together until they are heavy enough to fall from the sky. |
| Infiltration | Water soaks into soil. |
| Percolation | Water sinks into cracks in rocks. |
| Throughflow | Water flows through soil towards a river, lake or the sea. |
| Groundwater | Water flows through rocks towards a river, lake or the sea. |
| Overland flow | Water flows over the surface of the land. |
| Evapotranspiration | Water evaporates from plants. |
| Water cycle | The recycling of water through different stores. |

7.3 What work do rivers do?

River processes

1 Relevant diagrams should be added to show processes:

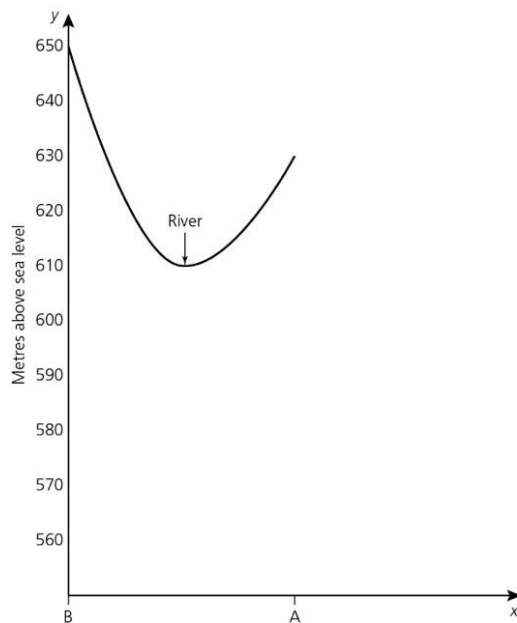
- Hydraulic action – the force of water breaking up and carrying away material.
- Abrasion – rocks carried by the river hitting the bed and banks, breaking up and carrying away material.
- Attrition – rocks carried by the river hitting against each other, becoming smaller and rounder.
- Corrosion – weak acid in some river water dissolving material.
- Traction – material rolls along the riverbed.
- Saltation – material moves along the river in a hopping motion.
- Suspension – small particles float in the water.
- Solution – dissolved material is carried down river.
- Deposition – when material being carried by the river is dropped.

2 Rivers deposit their load when they don't have enough energy to carry it anymore.

7.4 How do rivers change from source to mouth?

Profiles of a river

- 1 The long profile shows changes in the gradient of a river as it flows from its source to its mouth. In the upper course of a river, the gradient is usually steep, and the river erodes its channel vertically. This creates V-shaped valleys.
- 2 Cross section should be completed using the OS map extract.



- 3 This cross section shows a river in its upper course. I can tell this because the contour lines are close together, showing that the gradient is steep.

7.5 How do rivers shape the land?

Waterfalls

- 1 *Example answer:* The stunning sweep of Niagara Falls will take your breath away, but what else can tourists learn about these famous falls? As you stand at the top of the falls the powerful plummeting water will entrance you, but this water is also shaping the landscape, eroding the rock of the falls. As the water hits the base of the waterfall it wears away the rock, forming a deep plunge pool. Over the millennia, this erosion has undercut the waterfall, causing the rock face to collapse many times. The waterfall has retreated through the landscape, leaving behind the magnificent steep sided gorge we see today.
- 2 This waterfall will change over time as the process of erosion, undercutting and retreat will be repeated, with the waterfall moving back and the gorge becoming longer.

7.6 How do I conduct a river fieldwork enquiry?

Testing the Bradshaw model

- 1 Megan is investigating load particle size.
- 2 Students may suggest a variety of answers but should recognise that whilst collecting more

pebbles will make the average more valid this will also take more time.

- 3 Megan wanted to choose pebbles randomly so that her sample represents the pebbles on the riverbed, making her results more valid.
- 4 Megan's method could be improved by using more specialist equipment to measure the pebbles, such as callipers.

7.7 How are rivers important to people?

A local river fact file

The fact file will be completed to suit the river chosen by the student. Here is an example.

Name of river:

River Severn/Afon Hafren

Location of river:

Wales and West of England

Description of river:

This is the longest river in Great Britain. Its source is in the Cambrian Hills in Mid Wales and its mouth is the Severn Estuary, near Bristol.

Which settlements are located near to this river?

The river runs through Shrewsbury, Gloucester and Worcester.

Why are these settlements located near to this river?

The settlements developed next to the river as it was a water source and could also be used for transport. Roman Gloucester grew up at an important crossing point.

How is this river used for leisure and recreation?

The River Severn is famous for the Severn Bore, a wave created by the rising tide. On some days this wave is big enough for people to surf it! The river is also used for fishing, kayaking and boating.

Do any industries use this river? If so, how do they use it?

The river runs through Ironbridge Gorge, which was the centre of the iron industry during the industrial revolution. The raw materials of iron ore and coal were found close by and the river could be used to transport the iron produced to the sea.

How important is this river to you? Explain your answer.

This river is important to me as I have visited it at several points along its course, including Ironbridge Gorge and the Severn Estuary.

7.8 How do river floods create problems?

Damage caused by flooding

- 1 This answer will depend on the postcode entered.
- 2 Reasons for a high flood risk could include low lying flat land, being near a river and/or being in an area which receives high levels of precipitation. The opposite is true for a low flood risk.
- 3 This answer will depend on the students' home situation – for example a bungalow would be much more severely affected than a house. Tangible damage refers to damage which can be repaired/replaced, so could include carpets, furniture, electrical sockets etc.

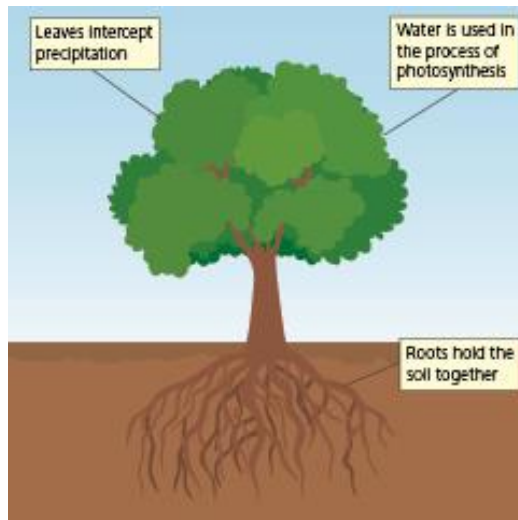
- 4 Intangible damage happens when something is irreplaceable. Again, this will depend on the home situation. Intangible damage includes old photographs and precious mementos.
- 5 The risk of a home flooding can be reduced by building in areas above rivers and with good drainage. Homes could also be defended against flooding using flood gates, sandbags etc.

7.9 How can flooding be managed?

Soft engineering

- 1 Floods in washlands will cause less damage as few people live in upland areas and land is not used as intensively.
- 2 Farmers who use land for livestock may clear woodland areas to create fields, reducing interception, but then the land will stay covered with grass. If land is used for crops it will sometimes be covered in vegetation but will be bare at other times. When there is vegetation there will be more transpiration and infiltration, but when it is bare there will be more runoff.

3



- 4 This answer will depend on the flood defence scheme chosen. An example could be the Bambery Flood Defence scheme, which includes a soil embankment, raised roads and a biodiversity action plan (BAP). The embankment stops the river going over the top of its banks, the raised roads mean routes are kept open during floods and the biodiversity action plan allows rain to be absorbed by the trees and stored in the ponds.

7.10 Why are rivers important? Review

Rivers review

What are rivers and how does water get into them?

Rivers are water flowing in channels.

Water gets into them from precipitation, overland flow, through flow and groundwater flow.

How do weathering, erosion, transportation create river landforms?

V-shaped valleys are formed by vertical erosion when the river cuts down into the hills.

Waterfalls are formed by erosion which undercuts the rock, leading to collapse and retreat.

Meanders are formed by rivers winding through the landscape, with erosion on the outside of the bend and deposition on the inside.

Oxbow lakes are formed by the neck of a meander being cut through by erosion, straightening the river and leaving a lake behind.

What do river landforms look like on an OS map?

This map extract shows a confluence at 859,296.

It shows a meander at 865,287 (there is more than one meander on the extract).

Why are rivers important to people?

Water supply: people need water to drink, cook and clean.

Settlement: in the past people often lived at crossing points or river ports. Today many people enjoy living near rivers for their beauty and for leisure.

Industry: some industries need to use large amounts of water, whilst others once needed rivers for hydro power and transportation.

How can we investigate rivers?

It is important to choose a fieldwork location carefully because it must be safe and allow us to test the factors we need to investigate our aims.

Conclusions must link back to the original enquiry questions so that we can answer the questions using the evidence collected.

It is important to evaluate both fieldwork and results because they will have strengths and limitations which affect the reliability of our conclusions.

8.1 What is development?

Families around the world

- 1 This task will depend on which families are chosen. A photograph of each family should be added. Here are completed tables for two contrasting families.

| | |
|--|--|
| Name of family | Family 18 |
| Country | Burundi |
| Income | \$29 |
| How many family members are there? | 5 |
| What is their house like? Describe the areas for cooking, cleaning and sleeping. | Single bedroom house they built themselves. There is one room used as a living room and for sleeping. Cooking is done on a fire and the room can get very smoky. The family would like to buy a bed. |
| What may this show about their quality of life? Remember all aspects of development shown in the DCR – Social, Economic, Environmental, Political. | Their quality of life is being affected as they work very long hours to earn little money. Cooking on a fire means breathing in smoke, which will affect their health. |
| Interesting facts | The family says the maize they hang from their roof is their most precious possession. |

| | |
|--|--|
| Name of family | Family 441 |
| Country | Colombia |
| Income | \$2380 |
| How many family members are there? | 2 |
| What is their house like? Describe the areas for cooking, cleaning and sleeping. | two-bedroom apartment. Kitchen is separate and has fitted units, with electricity and gas used to cook. The sisters each have a bedroom with a large, comfortable bed. |
| What may this show about their quality of life? Remember all aspects of development shown in the DCR – Social, Economic, Environmental, Political. | They have a high quality of life as they own their own apartment and it is comfortably furnished – the only thing they are unhappy with is a lack of room ventilation. They have holidays and enjoy their phones and iPad. |
| Interesting facts | The furthest place they have been on holiday is Poland. |

- 2 The families are similar in that they have different areas for cooking, living and sleeping, but family 18 do all of this in one room, whereas family 441 have separate rooms for each use. Family 441's greater income means that they live comfortably, with luxuries, whereas family 18 hasn't been able to afford to buy a bed yet.

8.2 How can we measure economic development?

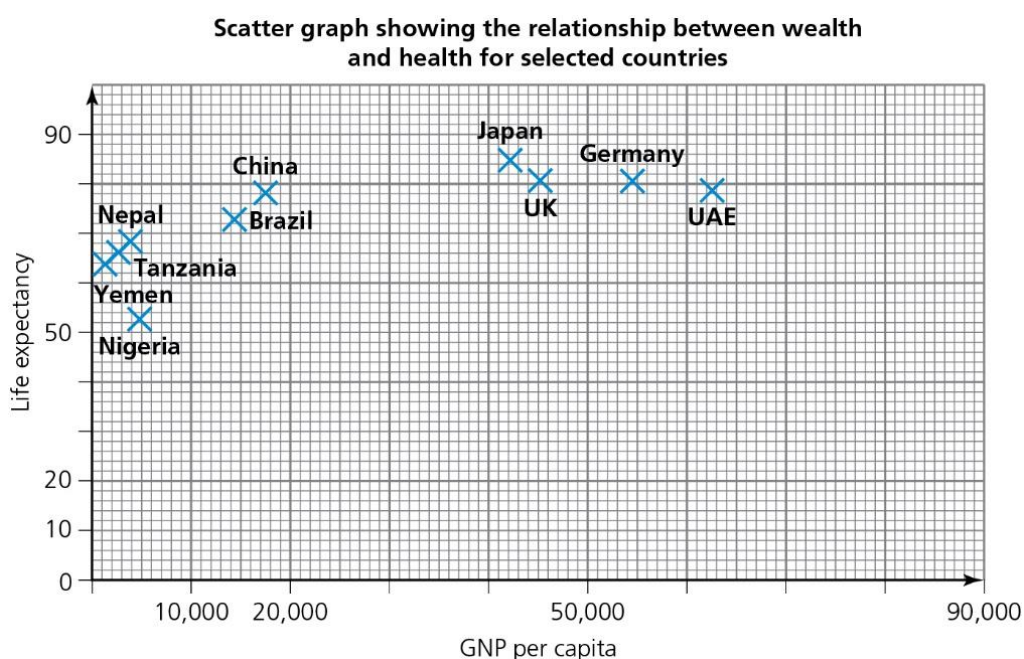
Analysing a cartoon

- Left: Cambodia, Burundi, Somalia
Right: Canada, United States, UAE
- Wealth around the world is poorly spread, with a few rich countries holding a high amount of global wealth in comparison to the vast majority of countries.
- By splitting the world's countries into just 'rich' and 'poor' the cartoon does not display the

different categories of income and how countries can be newly developing, like India, showing signs that they will become richer in the future. The cartoon also fails to reflect how a country can be wealthy, but this wealth doesn't always trickle down to its people. Just white people are portrayed in the cartoon, leaving countries that have majority black populations underrepresented. Finally, the simplicity of the cartoon means that it does not show the wealth divide within countries, such as in India where its wealth is predominantly held by the top 10 per cent of the population while seven per cent of its people live in extreme poverty.

8.3 What is the Human Development Index?

Comparing GNI per capita and life expectancy



Descriptions of findings

The graph shows the general trend that the higher a country's GNI is, the higher their life expectancy is. An example is Germany, which has the third highest life expectancy of 80.6, while also having the second highest GNI per capita of \$54,534. The graph also shows how Nigeria has the lowest life expectancy of 52.7, while holding the third lowest GNI of \$4,790. However, there are some anomalies shown in the graph and Table A, such as Japan, which has the highest life expectancy of 84.8, while having a GNI that is £20,300 lower than the highest GNI shown on Table A (that of the UAE at \$62,574).

Explanation of findings

This can be explained as countries at a higher level of development will have both high GNI and high life expectancies. This is because both individual people and governments will have money to spend on healthcare, education etc. Access to good healthcare means people will be able to get treatment when they are ill, helping them to live longer and to have a good quality of life.

8.4 What is your ecological footprint?

Exploring your ecological footprint

Answers will depend on the individual. Example answers:

I am already taking action to reduce my ecological footprint by going on a bus to school and using my bike as my main form of transport. I am also careful to recycle as much as possible and make a meal plan before going shopping to reduce food waste.

I could do better by turning all lights off when they are not necessary, ensuring that I lift share in cars as much as possible and try and find holidays that are accessible by bus or train instead of travelling by plane. I will also try to eat meat and fish just a few times a week and encourage my family to eat seasonal produce that can be

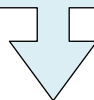
Barriers I face in reducing my ecological footprint include living in a rural area where public transport is poorly connected, meaning that I have to travel by car more than I would like to. It is also hard to eat seasonally when supermarkets continue to stock foods from countries all year round. It is also hard to identify ecologically harmful substances like palm oil in cosmetics, foods etc. due to their large presence in supermarket products and by the lack of clear labelling.

8.5 How is chocolate an example of development by exploitation?

Impact of the chocolate trade on quality of life

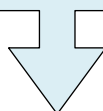
The farmer: *'The average price of a bar of chocolate sold in the UK exceeds what a cocoa farmer earns in a week.'*

This will affect their quality of life and their family because low wages mean little money to afford essentials such as food and medicine. Children may not be able to go to school if money is short and they are needed to help on the farm.



The country: *'Cocoa accounts for 40 per cent of Côte d'Ivoire's exports... Prices are often kept low by big manufacturing companies.'*

This will affect the quality of life of people across Cote d'Ivoire because the country isn't making as much money through its exports as it could if prices were higher. The government won't be able to earn as much through taxes, meaning less money for education, healthcare etc.



The consumer (you and me): *'The average price of a bar of chocolate sold in the UK exceeds what a cocoa farmer earns in a week.'*

These low prices affect our quality of life because we are more likely to be able to afford to buy chocolate bars. However, eating too much chocolate isn't good for our health.

This isn't sustainable because people aren't treated fairly. A sustainable approach means that the environment and local people are respected.

This isn't sustainable because people aren't treated fairly. A sustainable approach means that the environment and local people are respected.

8.6 What is missing from the global development maps?

Dollar street

Answers will depend on the country chosen. Here is an example:

Country: USA

| | |
|---------------------------------------|--|
| Name of family | Family 152 |
| Income | \$604 per month |
| Describe their quality of life | This family is homeless and living in a one-bedroom flat for transitional families. Their money is from a disability allowance. This will affect their quality of life as they will feel uncertain. They can eat in a cafeteria, but only have a microwave in their room if they want to make their own food, reducing their choice. They have reliable water and electricity and have a toilet, so can stay clean and warm. |

| | |
|---------------------------------------|---|
| Name of family | Family 153 |
| Income | \$4,650 per month |
| Describe their quality of life | This family owns their own four-bedroom house and has reliable water, electricity and a toilet. They pay the rent with their wages. They have the security of owning their home and have enough money to save and afford holidays around the world. |

| | |
|---------------------------------------|---|
| Name of family | Family 258 |
| Income | \$2,347 |
| Describe their quality of life | This family rents a two-bedroom house and has reliable water, electricity and a toilet. They pay the rent with their wages. They don't earn enough to save much but have had holidays. Their home is affordable but they dream of being homeowners, so whilst their home is safe they aren't as secure as if they owned it. |

There is inequality in the USA because some people are not able to earn money and those who have jobs get paid different amounts of money. Some people can afford to own their home, some rent and some are homeless. All the families studied had electricity, water and a toilet, but some had money spare for luxuries and holidays, whilst others struggled.

8.7 What progress has been made towards the Sustainable Development Goals?

Impact of world issues on the SDGs

Answers will depend on the student's context. Here is an example:

| | Impact in your local area | Impact on your country | Impact globally |
|---|---|--|--|
| COVID-19 pandemic | Education was affected as schools shut and not everyone was able to learn online. Health was badly affected as people caught COVID and got ill. | People were worried about losing their jobs and poverty, but the Government provided money so companies could keep their workers. Vaccines were developed to protect health. | Travel around the world almost stopped. Countries that depended on tourists were hit really hard. Poor countries couldn't get hold of enough vaccines. |
| Conflicts i.e. Russia–Ukraine and Israel–Palestine | Prices of petrol and electricity went up, making it harder for families to afford heating and travel and so affecting their wellbeing. | The UK has had to find other sources of oil as we aren't buying from Russia. This made us think about our consumption. | Different countries support different sides in conflicts, causing divides across the world. |
| Unsustainable use of resources | Our school has realised that we are using resources unsustainably and so set up an Eco Club to make improvements. | People are worried that air pollution in major cities is having a serious effect on people's health. Some cities have set up low emissions zones. | COP 28 in the UAE in 2023 looked at what the world could do to tackle the climate crisis, including sustainable resource use. |

8.8 Why are Sustainable Development Goals important for Nepal?

The Sustainable Development Goals comic strip

This cartoon will depend on which SDG is chosen and which country.

A cartoon for Nepal in relation to **SDG1 No Poverty** could include illustrations showing:

- Nepal being a beautiful country popular with tourists and with great potential for hydroelectric power.
- Development in Nepal being limited as it is landlocked and has poor infrastructure.
- The major earthquake in Nepal in 2015 causing massive loss, but also giving the opportunity to build back better.
- The change from being a monarchy to a democracy being difficult because of protests and conflict.
- Potential for Nepal to develop links with neighbouring India and China.
- Small scale aid being used to improve access to clean water.
- Large scale aid being used to build a major hydroelectric power project.

- Looking to the future – can Nepal overcome its challenges and capitalise on its opportunities?

8.9 How can gender equality lead to development?

Why are there gender inequalities in the UK?

Answers are likely to consider whether the gender gap in GCSE results in England is caused by boys and girls being treated different and given different opportunities first. They may say that boys and girls are treated the same and that other factors cause the difference, or may comment on different treatment and opportunities which could include:

- Boys being brought up to be more active and girls to be more studious.
- Teachers having higher expectations of girls work.
- Teachers focussing more on boys' behaviour than their work.

Other reasons they may suggest for the gender gap in results may include:

- School being set up in a way that suits girls more than boys.
- Boys being more confident about being able to get a job without needing good GCSE grades.

When considering the low number of female CEOs students may discuss:

- Most interviewers likely to be men and so may then appoint more men.
- Women being brought up to be less demanding, so less likely to ask for promotion.
- Women more likely to take career breaks for caring reasons.

They may think that the situation will stay the same in the future as the inequalities continue to be reproduced, or that the situation may improve as more people are aware of it and businesses are changing to reflect new attitudes and technologies.

They may discuss the potential benefits to the development of the UK of enabling more women to take top positions in businesses as this will make the most of the whole population's talents.

8.10 What is development? Review

What have you learnt?

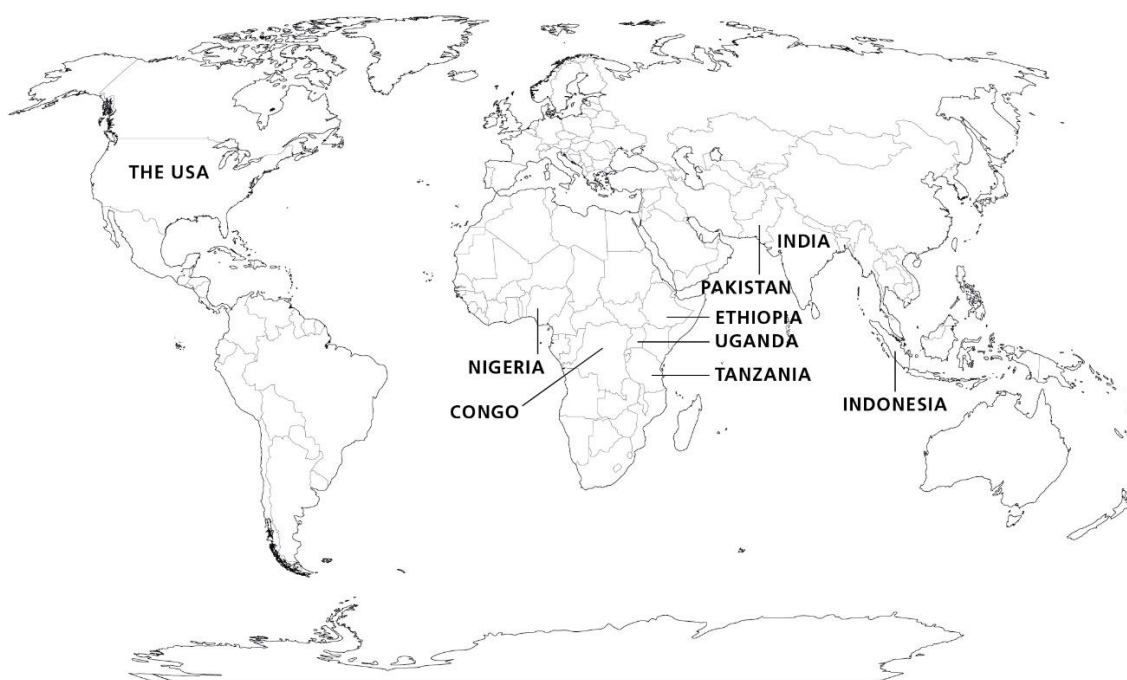
Answers will depend on the student and what they've learnt. When they are considering how their learning may affect their life in the future they may consider:

- Understanding the world – how places are different in terms of development and why.
- Careers – indirectly through being able to apply knowledge of world if they are working in or with other countries or directly through working for an organisation such as the UN or an NGO such as Water Aid.
- Personal choices – considering ecological footprint.
- Consumption – considering ecological footprint and impact of colonialism before making purchases

9.1 One planet, many people: how are populations changing?

Predicting population growth

1



2 The countries shown on the map are mainly in Africa and Asia. Most are between the Tropics.

3 *The answer will depend on the view of the student. Here is an example:*

I don't think that it is possible for the UN to forecast population growth up until 2050. They only have information about how countries have grown in the past to base their forecast on and not all countries will grow in the same way. We have new medicines and technology, which may lead to populations changing in different ways, as well as the media spreading ideas rapidly across the world.

9.2 Where does everyone live, and why?

Population density

- 1 Population distribution – number of people in each square kilometre
 Densely populated – large number of people in each square kilometre
 Sparsely populated – small number of people in each square kilometre

2

| Place | Sparsely or densely populated? | Possible reasons for population density |
|------------------------|--------------------------------|---|
| The Himalayas in Nepal | Sparsely | It is difficult to build on the steep slopes of the Himalayas and there aren't many roads connecting places. |
| Los Angeles in the USA | Densely | LA is a busy city which offers a lot of job opportunities. It is on the coast, so has a port and a lot of tourists. |

| | | |
|--|----------|--|
| The Sahara Desert in North Africa | Sparsely | The Sahara is so dry that little grows, so there isn't much to eat or drink, limiting the number of people who can live there. |
| The South East of the UK | Densely | The capital city of the UK is in the Southeast and a lot of businesses have located there, so there are plenty of jobs. |

- 3 The answer will depend on the student. Here is an example: I live in an area which is sparsely populated because I live in the countryside. Most of the land is used for farming and there are only a few houses.

9.3 Where does everyone live in the UK?

Researching a UK city

This will depend on the city chosen. Here is an example:

Name of city: Bristol

| | Fact | Source of information |
|---|---|---|
| Location (where it is) | West of England | Own knowledge |
| Population in 1750 | 50,000 | https://localhistories.org/a-history-of-bristol/ |
| How the city was affected by the Industrial Revolution | <i>'In 1750 alone, Bristol ships transported some 8,000 of the 20,000 enslaved Africans sent that year to the British Caribbean and North America.'</i> Goods made in Bristol, including guns and alcohol, were traded in Africa, then sugar, rum, indigo and cocoa were brought to Bristol from the Caribbean. | https://collections.bristolmuseum.org.uk/stories/transatlantic-traffic-enslaved-africans/ |
| Population in 1850 | 266,000 in 1881 | https://localhistories.org/a-history-of-bristol/ |
| Products this city was famous for in 1800–1900 | <i>'In the 19th century, the copper, brass, and glass industries in Bristol went into decline. On the other hand, shipbuilding boomed in Bristol. So did the chocolate industry and soap making. The tobacco industry in Bristol also thrived. In the late 19th century there was also a cotton industry in Bristol.'</i> | https://localhistories.org/a-history-of-bristol/ |
| Population in 1950 | 548,530 | https://worldpopulationreview.com/world-cities/bristol-population |
| How was the city affected by changes in trade in the | The docks in the city centre were struggling by the 1960s, as big container ships couldn't get | https://bristolcitydocks.co.uk/the-seven-ages-of-bristol-docks/ |

| | | |
|---|--|---|
| 1980s/90s (more products coming from overseas) | around the bends in the River Avon. The closure of the docks was announced in 1969 and a lot of areas were wasteland in the 1980s. Regeneration started with the Watershed being opened as a media centre in 1982. | |
| Population in 2020 | 686,000 | https://populationstat.com/unit-ed-kingdom/bristol |
| What this city is famous for today | The harbourside (inc. SS <i>Great Britain</i>), arts and culture (inc. Banksy street art), creative industries (inc. Aardman Animation, home of Wallace & Gromit) and aerospace. | www.bristol.ac.uk/city/bristol-is-famous-for/ |

The blog <https://localhistories.org/a-history-of-bristol/> was very useful as it told me about population change but also about different industries in Bristol at different times. It was very easy to read but it didn't tell me where they had got their information from, which would be useful to know.

9.4 Why do countries conduct a census?

Using census data

This will depend on the areas chosen. Here is an example:

| | Area 1 Cardiff LAD | Area 2 Powys LAD | Comparison |
|------------------------------|---------------------------|-------------------------|---|
| Population density | 2517 people/km | 16 people/km | Cardiff is much more densely populated than Powys. |
| Median age | 34 years | 50 years | The population of Cardiff is much younger than in Powys. |
| Household deprivation | 48.9% | 48.6% | There are similar levels of deprivation in Cardiff and Powys. |
| Country of birth | 83.5% born in UK | 95.2% born in UK | A higher percentage of people were born in the UK in Powys than in Cardiff. |

I can draw the conclusion that the urban area of Cardiff has a much denser population than the rural area of Powys. Cardiff has a younger population and more people who were born outside the UK. Both places are similar in terms of deprivation.

It would be useful to know this information if you worked in the NHS in these areas so that you could make sure healthcare focused on the needs of the right people. It would also be useful to know if you were providing services for people new to the country.

9.5 How can we model population change?

The Demographic Transition Model

The answer will depend on the stage chosen. Answers should include:

- Stage 1 – high birth and death rates, population staying stable, women raising children, most people have a low quality of life.
- Stage 2 – high birth rate, decreasing death rate due to advances in healthcare, rapid population growth, women raising children, most people have a low quality of life.
- Stage 3 – decreasing birth rate, low death rate, population growing, women having smaller families due to contraception (sometimes because of government incentives) and increased role in the workforce, improving quality of life.
- Stage 4 – low birth and death rates, population stabilising, women staying in education and playing a major role in the workforce, good quality of life for many people.
- Stage 5 – birth rate falls below death rate, leading to a declining population, meaning it is more difficult to fill jobs, which could lead to a decrease in quality of life.

9.6 How can we describe the structure of a population?

Population pyramids

1

| Population | Stage | Evidence |
|--|-------|---|
| The number of students attending primary schools in England will shrink by 16.6% over the next decade. | 4 | The birth rate has decreased, so not as many students will be in primary schools. |
| In Uganda the death rate has fallen from 18.1 per 1000 people in 1973 to 5.6 in 2022. The birth rate has also fallen, from 48 per 1000 people to 35. | 2/3 | Both the birth rate and death rate have fallen, but the birth rate is still higher than the death rate, so the population is still growing rapidly. |
| Life expectancy of the San people of southern Africa is between 40–50 years. | 1 | The life expectancy is very low. |
| Monaco had the highest life expectancy in the world in 2023, with people living to an average age of 87. | 4 | The life expectancy is very high. |
| The natural increase (birth rate – death rate) in Vietnam has fallen from 24.2 per 1000 people in 1971 to 9.68 in 2020. | 3 | Natural increase has decreased significantly, so the rate of population growth is slowing down. |

- 2 The change in the population of the UK means that primary schools in some places will get smaller and some may need to shut. There may be a shortage of young people to do jobs. The population is getting older, which means more retired people and more people needed to do jobs in care.

9.7 Can countries control population size?

Promoting population growth

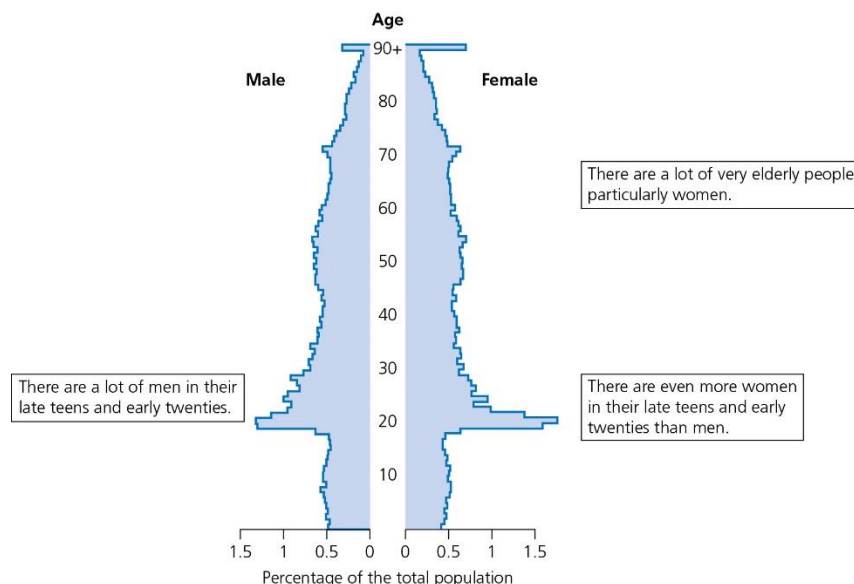
Posters should encourage families to have more children in Russia. They could include:

- £11,000 payment for mothers with more than one child.
- Possibilities for spending this money – buying a house, educating the child, adding to pension.
- Encouragement to have more children to help the country as a whole – need for more children to grow up to do important jobs.
- Images may include happy families, children being educated, mothers with more money etc.

9.8 How do population structures vary within a country?

Constructing a population pyramid

1 The population pyramid sketched will depend on the area selected. Here is an example for York:



- 2 There are a lot of people in their late teens and early twenties because York has a really popular university. There are a lot of very elderly people as York is an attractive city with many care homes – there are more women, as their life expectancy is longer.
- 3 This means York will need plenty of services for young adults, such as support for mental health for young people who have just moved away from home. It will also need social care and healthcare for older people.

9.9 Is overpopulation or overconsumption damaging the Earth most?

Impact of overconsumption

The contents of the poster will depend on the individual, but may include images and text to reflect ideas from the text such as:

- World population not too 'heavy' to be carried.
- Impact of consumption is a big problem for the environment and resources.
- USA consuming 25% of resources whilst population is under 5%.

- Need to look at a single individual's actions, not total headcount.

9.10 One planet, many people: how are populations changing? Review

Reviewing key terms and issues

| Key term | Brief definition | Related image |
|---|---|---|
| Population | Number of people living in a place. | <i>Images should be relevant to the description</i> |
| Population distribution | The pattern of where people live and how populations are spread out. | |
| Demographer | Someone who studies population. | |
| Birth rate | Number of babies born per 1000 people in a place. | |
| Death rate | Number of deaths per 1000 people in a place. | |
| Natural increase | Difference between the birth rate and the death rate in a place. | |
| Demographic Transition Model (DTM) | Model showing how population changes through time or from place to place. Includes birth rate, death rate and natural increase. | |
| Population pyramid | A pair of back-to-back histograms that show the age and sex distribution of the population for a country. | |
| Under-populated | When there aren't enough people to do all the jobs needed. | |
| Over-populated | When there are too many people in comparison to the amount of resources. | |
| Overconsumption | When resource use exceeds the amount of resources available in a place. | |

The responses to the following questions will vary from student to student. Here are some examples:

'The demographic transition model is helpful for people studying populations of countries.'

I disagree because it shows what has happened in the past, but this won't necessarily be the same in the future.

'Countries that try to control their population growth are usually successful.'

I agree as even if people are offered things to change their plans for their family size, they would have wanted a certain sized family for a reason and that probably won't have changed.

'Overconsumption is damaging the Earth more than overpopulation.'

I agree because people in wealthy countries are using far more resources than in other countries.

10.1 Why do people move and what impact does this have?

Migration

- 1 **Immigrant:** someone who moves into a country.
Voluntary migrant: someone who chooses to move from one place to another.
Forced migrant: someone who has to move, possibly because of a natural disaster or conflict.
Refugee: someone who has been forced to move and has crossed an international boundary to seek safety.
- 2 & 3 *These answers will depend on the student. Here is an example:*
 I would like to move to Cornwall when I am older because there are nice beaches and I could learn to surf. These are pull factors as they attract me to Cornwall. I live in London now. I am a long way from a beach and my area is very crowded with buildings and cars, which are push factors. An obstacle which could get in the way of me moving is finding a job in Cornwall, especially during the winter when there aren't many tourists there.

10.2 Why do people migrate?

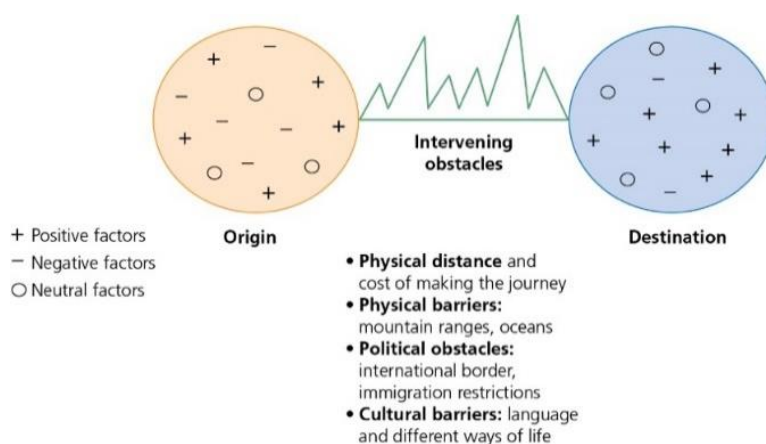
Researching migration

Answers will depend on the person interviewed. Here is an example:

- 1 I lived in a village outside Bristol in the west of England.
- 2 There wasn't much to do in the village and I wanted to go to university, then get a job in a city.
- 3 It was quite easy to move to university, but when I moved to get a job, it was hard to find one at first. I had to share a flat with friends and it was damp.
- 4 I moved to Salford to go to university and then to London to work.
- 5 I wanted to move to Salford to go to the university and because I love live music and Manchester has really good entertainment and nightlife for students. I wanted to move to London to get a well-paid job and enjoy living in an exciting and diverse city.
- 6 I am really glad that I moved. I would be really bored in a village and wouldn't have had the same opportunities to learn and get a well-paying job.

10.3 Where do people migrate to?

Applying Lee's migration model to migration from Mexico to the USA



Origin: Mexico
Problems with crime rates, drug use and corruption
Poor education opportunities

Destination: USA
Jobs on farms, in factories and as cleaners and maids
Opportunity for children to be

10.4 Why do people migrate to Russia?

Researching migration to Russia

1

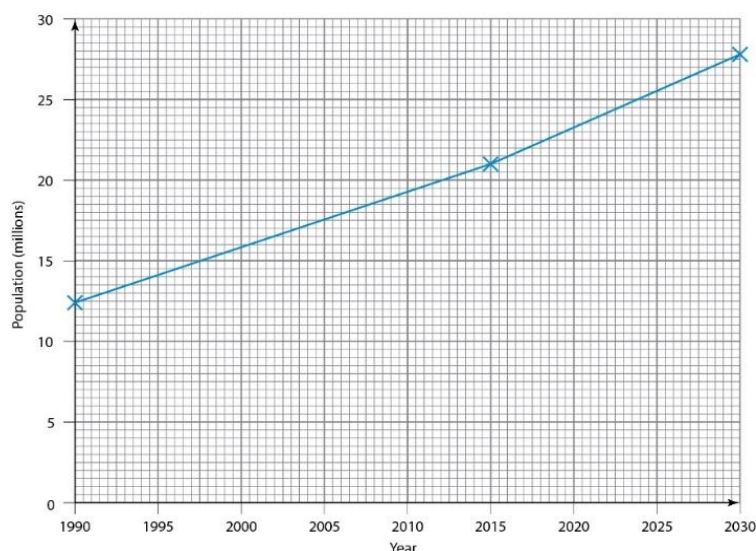
| | |
|--------------------------------------|---|
| Country | Tajikistan |
| Location (where it is) | Central Asia, west of China, south of Kyrgyzstan |
| GDP or GNI per capita | \$3,900 (2021 est.) |
| Main industries | aluminium, cement, coal, gold, silver, antimony, textile, vegetable oil |
| Remittances as a share of GDP or GNI | 30–50% |
| Other information | Tajikistan became independent in 1991 following the break-up of the Soviet Union, and experienced a civil war between political, regional and religious factions from 1992 to 1997. |

- Tajikistan benefits from its people working in other countries as they send money back – 30–50% of the country's GDP is from remittances.
- This could cause problems because families may be separated and people with skills may leave Tajikistan to get jobs elsewhere, leaving a lack of skilled people to do jobs in the country.

10.5 What is urbanisation?

How Mumbai's population is changing

1



- 2 The population in 2030 is predicted to be 2.5 x the population in 1990.
- 3 Rural–urban migration is the movement of people from the countryside to the towns and cities.
- 4 People in India may migrate from the countryside, where many work in farming, to the city, so that they can get jobs which pay more money.

10.6 How did urbanisation change Southampton? Part 1

Moving to Southampton in 1840

Here is an example:

The countryside is beautiful they say, but what do they know?
 Early starts to toil for hours though wages are so low
 We work to put bread on our plates and have little left to save
 I've heard the city wants workers, but could I be so brave?
 On my way to Southampton I think of what may be
 Will I work in a factory or unload ships from over the sea?
 Can I find a house and can I find a bride?
 What could a working man achieve if he really tried?
 Now years have passed in my Southampton I reflect on what I've done
 I found a house but it was cheaply built, I have a daughter and a son
 We mourn the babies we lost to disease, but love those who remain
 But would I move from the countryside if I had my time again?

10.7 How did urbanisation change Southampton? Part 2

The Burgess land-use model

- 1 The Burgess land-use model shows us that some cities grow from the middle outwards. Housing was built on the edge of the city centre to house workers when the city first grew, with newer housing being built on the edge of this and the city expanding.
- 2 Southampton somewhat fits the Burgess land-use model. There is a city centre (CBD) with shops and offices, then a ring of older housing. Further out, you find inner suburbs such as Maybush and then outer suburbs with modern housing estates.
- 3 **Name of town/city:** Bristol
Ways in which it fits the Burgess model: There are areas of older housing in the centre of the city, such as in Clifton. There are big, modern housing estates on the edge of the city, such as Harry Stoke.
Ways in which it doesn't fit the Burgess model: There isn't a clear area of CBD in Bristol – for example, there is the harbourside and also Broadmead/Cabot Circus. A lot of new housing has been built in the centre of Bristol, as the harbourside and Temple Quarter have been regenerated.

10.8 Should we challenge calling informal settlements ‘slums’?

Exploring Rochina

1 Answers will depend on areas ‘visited’. Here is an example:

| Location | Description |
|--|---|
| View over Rochina to the centre of Rio in the distance | In the foreground, I can see the roofs of the buildings in Rochina – a lot of them have satellite dishes on them. The roofs are flat and the buildings are mainly brick. In the distance, I can see the skyscrapers of the city centre. There are steep cliffs to the east and I can see mountains in the distance to the north and west. |
| TV Roma | There are a lot of shops along this road. The bakery looks really nice and has a café as well as selling bread. There are people walking on the street and there are several motorbikes parked. There is some colourful street art and the sun is shining. |
| Estra de Gavea | There is a big brick building here which has bars and shops on the ground level. There are a lot of motorbikes on the wide road and some cars. The concrete wall has some signs and graffiti and the area looks quite run-down. There is a pizza restaurant. Overhead there are lots and lots of cables. |
| R. da Alegria | I can see a lot of shops selling fresh fruit along this road and when I follow the road, it comes to a market. There is an armoured car that looks like a police car. The buildings above the shops and bars look like they are people’s flats as they have washing hanging on the balconies. There are lots and lots of wires again. |

- 2 Rochina looks vibrant and colourful. There are a lot of shops, bars and places to eat. The sun is shining and a lot of buildings have canopies to provide shade. People seem to mainly walk and ride motorbikes to get around. There are huge numbers of cables running between buildings.
- 3 I don’t think it is fair to call Rochina a slum as that makes it sound bad and it doesn’t seem to be a bad place to live. This is a place where a lot of people live and they would be unhappy to hear their home called a slum.

10.9 What are sustainable cities?

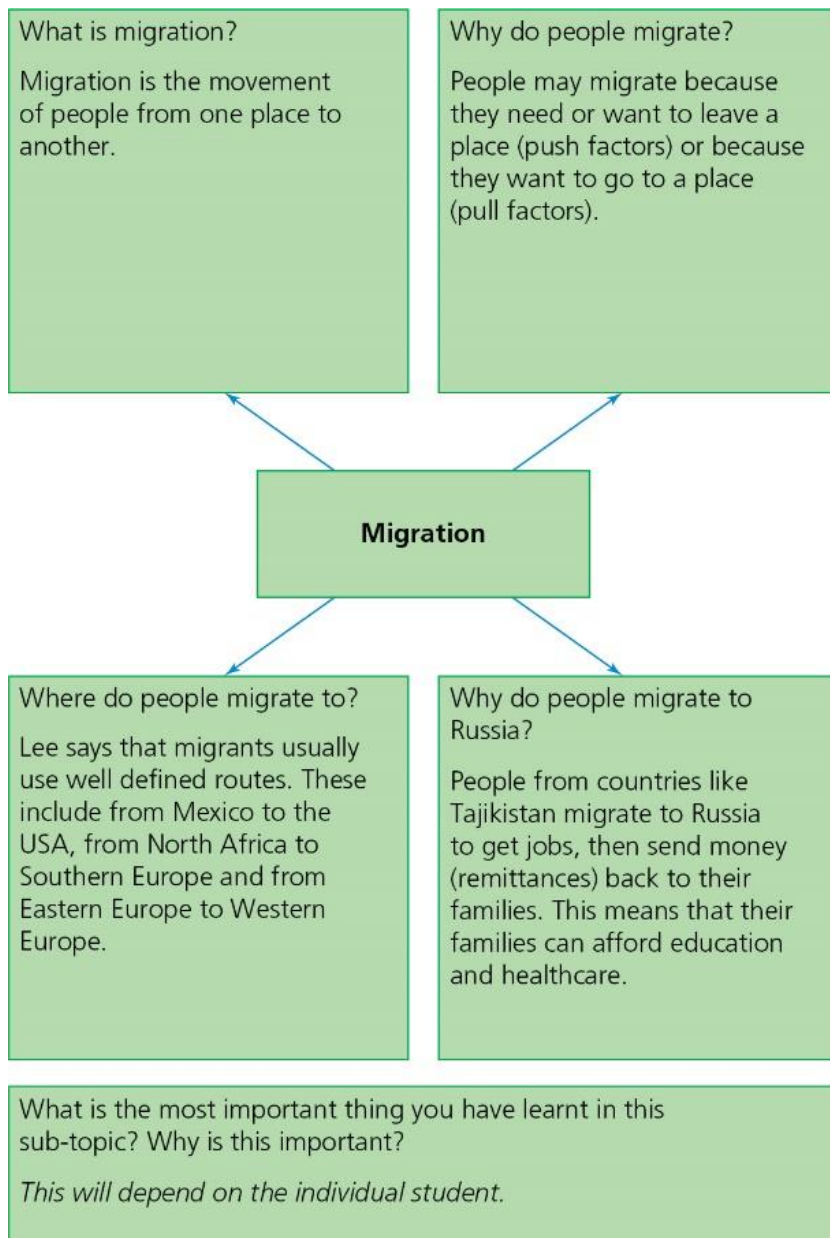
Sustainability in your community

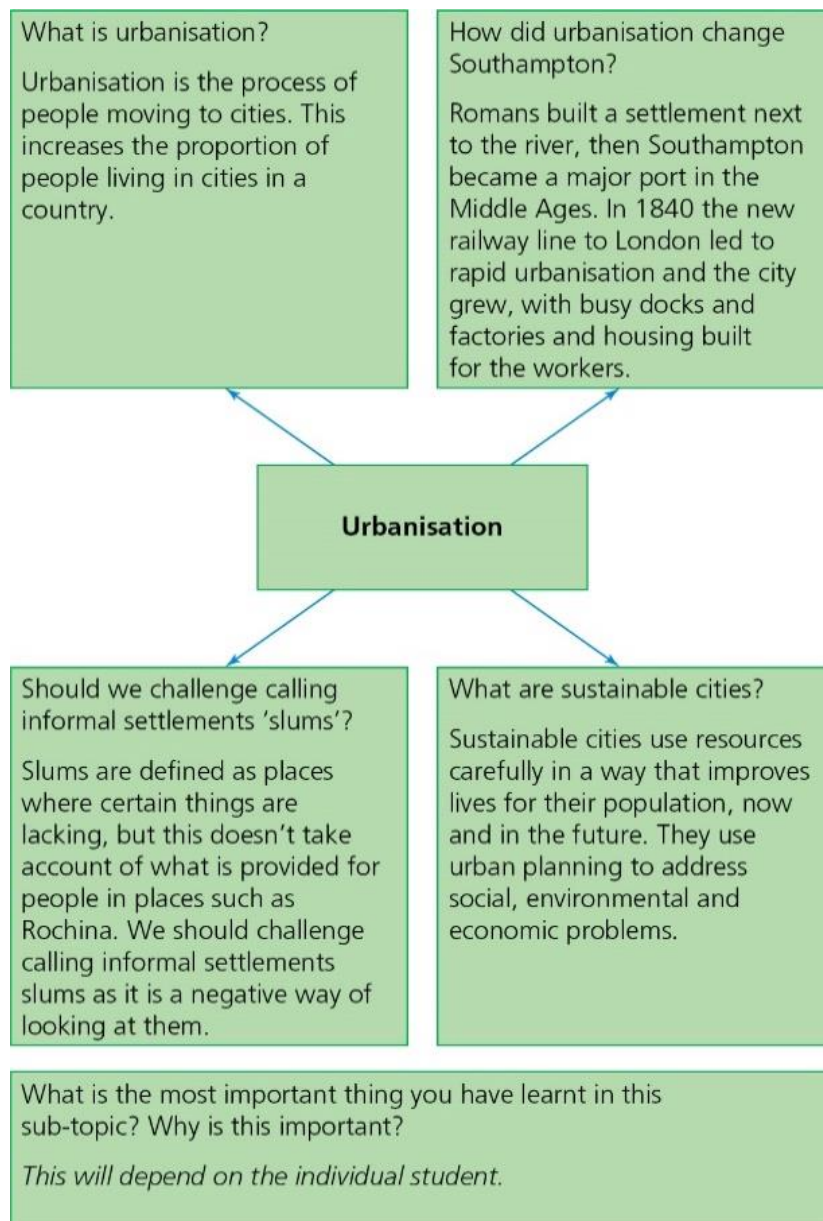
Infographics produced will depend on the local community researched. Aspects likely to be shown include:

- urban greening – providing more access to green areas for people
- encouraging people to walk and cycle
- minimising waste
- improving biodiversity
- tackling the climate crisis.

10.10 Why do people move and what impact does this have? Review

Reviewing migration and urbanisation





11.1 What happens where the land meets the sea? Review

Field sketch

This activity involves a field sketch of a coastline from memory or a photograph. The sketch itself should be drawn in pencil and should show the main features of the view, giving a clear idea of what it is like.

The field sketch should include labels showing:

- the direction you are faced
- the name of the location
- physical and human features, for example how people use the place
- what can be seen and heard.

11.2 What shapes our coasts?

Looking at rock types

- 1 There is white chalk at Flamborough Head.
- 2 *Answers will vary depending on where the student lives. Here is an example:*
I live in Coventry and the rock here is sandstone.
- 3 This is a hard rock – I know this because it is used to make buildings.
- 4 The geology of St Austell Bay in Cornwall is mudstone. This means that it erodes much more rapidly than coastlines made out of rocks like granite and chalk.

11.3 What types of erosion take place at the coast?

Erosion: extended writing

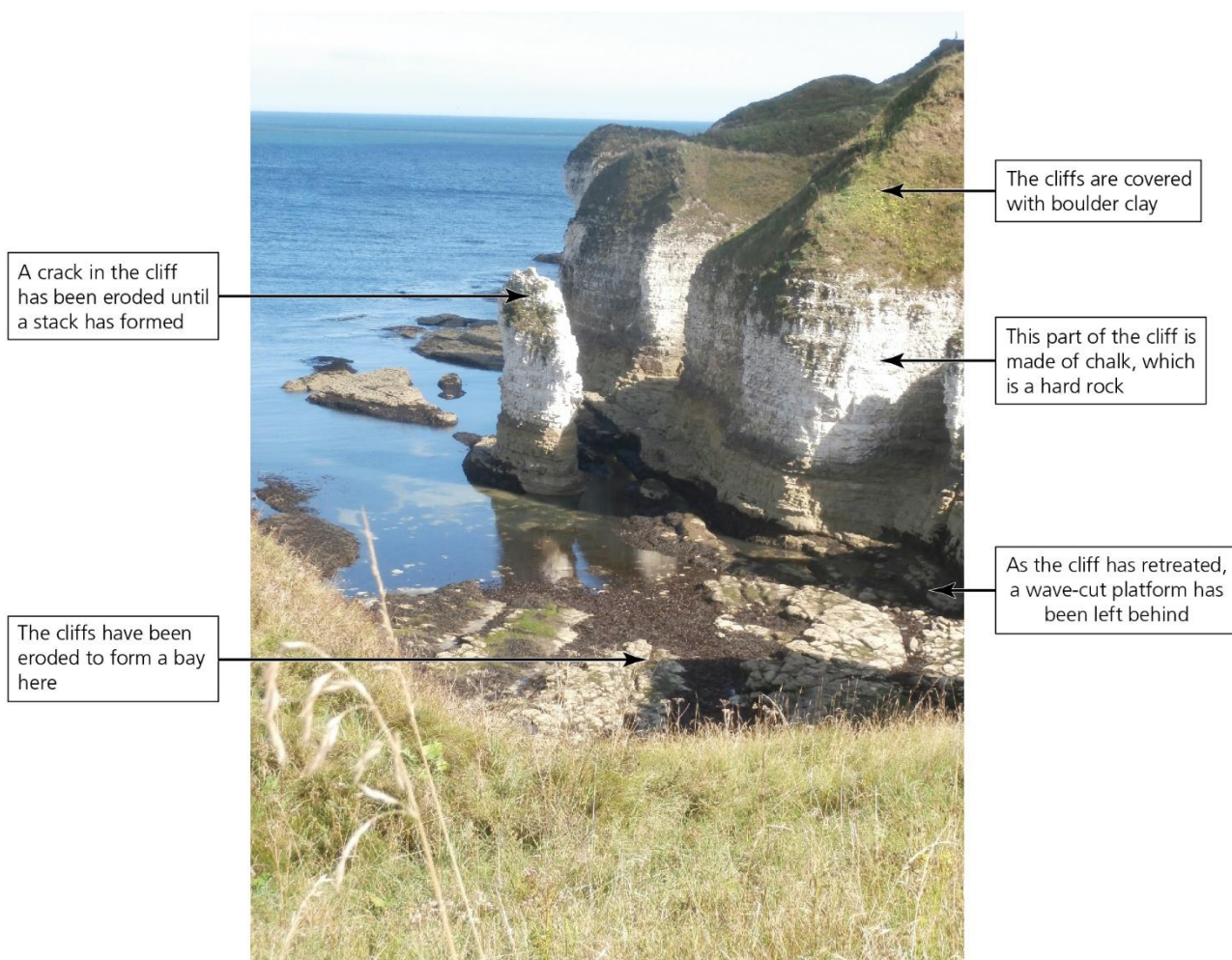
Here is an example:

Once upon a time I was part of something really big! I was part of the chalk cliff at Flamborough Head, sitting right at the top in a layer of glacial till. For years, I watched the waves crash against the coast, the cliff below me being eroded by the force of the water (hydraulic action) and the rocks carried in it (abrasion). Eventually, the rock underneath me had gone, and I fell into the sea. I was much bigger and rougher than I am today, made up of a mixture of clay and boulders. Over time, I met other pieces of rock and banged against them, breaking into pieces, with these pieces then becoming smaller and rounder through attrition. As I changed shape, the sea could carry me more easily and I travelled further along the coastline. One day, I will become a tiny piece of clay, but I will never totally vanish! When I am deposited, I may begin the process of becoming something bigger again!

11.4 What landforms are created by coastal erosion?

Headlands and bays

1



© David Gardner

- 2 This will depend on the coastline chosen. The photographs below show Old Harry Rocks in Dorset, an example of a headland with cave, arch and stack



© Catherine Owen



© Catherine Owen



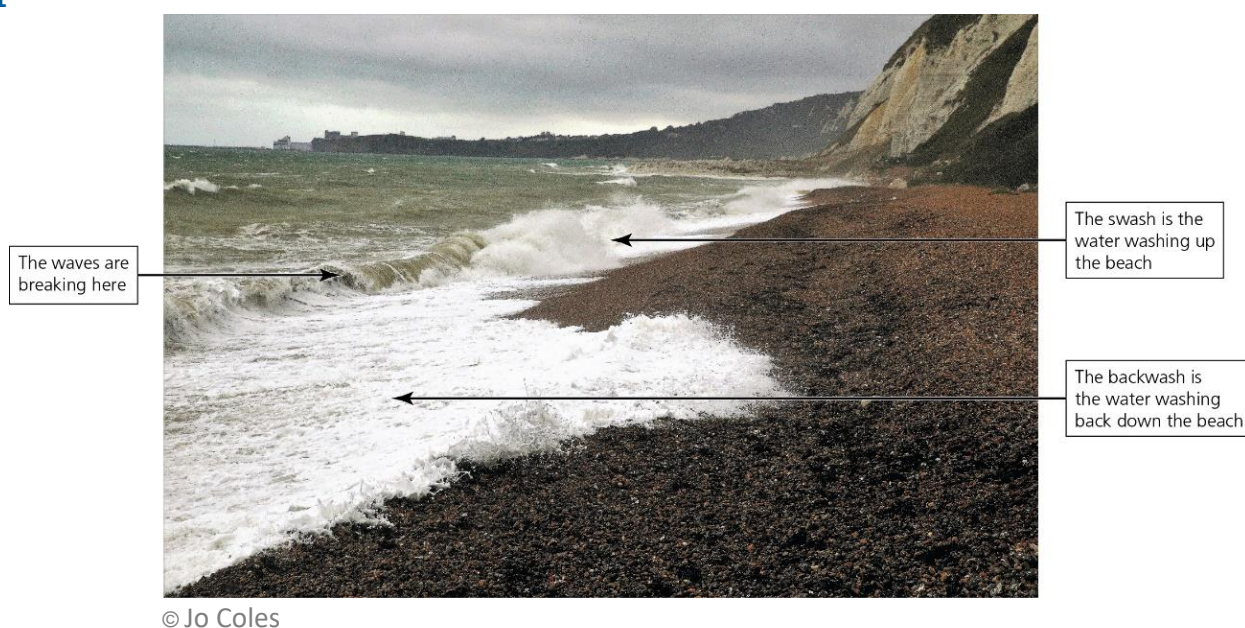
© Catherine Owen

- 3 Thousands of years ago this would still have been a chalk coastline but would have had a different shape. The headland was created as softer rocks were eroded to form Swanage Bay, with headlands either side. Over time, cracks in the chalk making up the headland have been eroded by hydraulic action and abrasion, becoming caves. Sometimes a cave will cut through the headland, forming an arch. If the roof of the arch collapses, it causes a stack, like Old Harry. Old Harry's wife has collapsed and is now a stump. In the future, Old Harry will also become a stump.

11.5 How does transportation change the coastline?

Analysing a photograph

1



- 2 Destructive waves have a weak swash and a strong backwash, so they remove material from the beach, taking it out to sea. This will make the beach flatter over time.
- 3 Beaches protect the land behind them from erosion or flooding, so if the beach becomes smaller and flatter, this protection could be lost.
- 4 Longshore drift moves material along the coastline. In areas where the sediment builds up, the beach will get larger, which will be good for tourists. If there are large waves in an area, it will be popular with surfers but may make the beach dangerous for other users.

11.6 How does deposition change the coastline?

Deposition landform case study

The answer will depend on the coastline chosen. Here is an example for Spurn Head in Yorkshire:

- Spurn Head is located where the Humber Estuary meets the sea on the Yorkshire coastline.
- It was created by material eroded from the Yorkshire coastline being transported along the coast by longshore drift. When the material reaches the Humber Estuary, the movement continues, forming a spit. Material at the end of the spit is removed by the river's flow, so the spit will never reach right across the estuary.
- Spurn Head is a popular tourist attraction, with people visiting the nature reserve and beaches. There is a discovery centre to teach people about the landscape and ecosystem. It is also used to

graze sheep and cattle. There is a lighthouse near the end which dates from Victorian times. There was a lifeboat station there until 2023 and in the past there were military buildings.

- A 1-km section of Spurn Head is covered by the high tide, so the end of the spit becomes an island. If there was a big storm, the end of the spit or the land near this wash-over could be washed away. There are coastal defences on some parts of the spit to reduce erosion.

11.7 How are people affected by the changing Holderness coast?

Changes on the Holderness coast

- 1 The small buildings may be caravans for tourists. The large building may be a farm building. The land in this area is often used for farming and tourism.
- 2 If I lived in Skipsea, I would be sad to see the land lost as it was being used by local people, but I would also respect the power of the sea. If I lived in a house or owned land near to the coast, I would be worried that it might be in danger in the future.
- 3 If I was a member of the Environment Agency, I would recommend that the people in this area are compensated for any land lost and no new development permitted.

11.8 How can people respond to coastal erosion?

Different coastal management strategies

- 1 *The answer will depend on the option chosen by the student.*
- 2 *Here is an example:*

I believe that soft coastal defences are the best option for many parts of the coastline. Building up the beach with sand and keeping sand dunes well maintained provides a natural barrier to protect areas inland from the sea. These strategies work with coastal processes and can even benefit local ecosystems. An example of a place where this approach is very successful is Berrow Sand Dunes in Somerset. Local people monitor the sand dunes and use sand fences to fill any gaps. This area is a Site of Special Scientific Interest and is popular with bird watchers.

However, some areas need hard defences, for example, coastal towns which don't have sand dunes or beaches which can be built up. An example is Burnham-on-Sea, which is very close to Berrow, but is not protected by sand dunes. The sea wall here protects the town from coastal flooding. The best sea defence strategy will depend on the place being defended and it is important to look carefully at the economic, social and environmental costs and benefits before choosing a strategy.

11.9 What should people do in the future at Holderness?

Investigating Spurn Head

- 1 & 2



© A. P. S. (UK)/Alamy Stock Photo

- 3 Spurn Head spit has changed positions many times over hundreds of years because the balance of erosion and deposition changes over time. If there is more material travelling along the coastline from the Yorkshire coast, the spit may get wider or longer. If there are powerful waves in the North Sea, the narrow section of the spit may get washed away.
- 4 Spurn Head is defended to protect its habitat and its history. There are still buildings related to its use in wars and there is a Victorian lighthouse. The spit protects the salt marsh, which is an important habitat for birds. It also protects eelgrass meadows, which are really important to fish.
- 5 I think that Spurn Head should be defended. There is an economic cost in building sea defences, but it is worth it in comparison to the social and environmental benefits. If the spit washed away, the habitat for birds would be lost and the eelgrass meadows would be damaged. Walking along the spit is also good for people's health and well-being. However, the spit also provides economic benefits as tourists visiting it spend money in the local area. Therefore, it is a good idea to keep defending this spit.

11.10 What happens where the land meets the sea? Review

Spurn Head spit – Students should capture the shape of the spit, with its narrow sections in the middle and wider section at the end. They should add annotations to show how material has moved from the mainland along the spit through longshore drift, with the end of the spit curving because of the prevailing wind. They may also label the salt marsh which has formed in the sheltered water behind the spit as deposition as occurred.

Stack in Selwicks Bay – The sketch should show the stack as a separate piece of rock next to the cliff. Annotations will explain how the stack would have once been part of the cliff, but over time erosion has acted on a point of weakness between the stack and the cliff. They may describe the progression over time from a crack to a cave, then an arch and finally a stack.

Chalk cliffs and wave-cut platform in Selwicks Bay – The sketch should show the cliff as a vertical rockface, with the wave-cut platform as a gently sloping/flat area of rock at the base of the cliff. The cliff may be shown to have a wave-cut notch at its base. Annotations should show how the cliff will be eroded by waves at its base, creating a wave-cut notch, with the cliff overhanging the notch. Eventually this notch will get so deep that the cliff above it will collapse. This will cause the cliff to retreat and expose more of the wave-cut platform.

What will happen if sea levels rise?

- 1 Sea levels might rise in the future because of climate change. Glacial ice and ice caps are melting and the water is flowing into the sea, causing sea level rise.
- 2 Most of Spurn Head is predicted to be lost if the sea level rises. Only a small part could be left right at the end if there is a 7-m rise.
- 3 A large amount of land could be covered by the sea in the Holderness area inland, particularly along rivers at Hedon and Barmston.
- 4 The sea level rise will make erosion more severe as the waves will be able to reach further up the cliffs.
- 5 Vulnerable places like sea stacks may be more rapidly eroded, turning into stumps.
- 6 Sea defences may be overtopped if sea levels rise. Some may be built up higher to stop this.
- 7 This answer will depend on the student's view. Here is an example of an answer: Holderness may need a new approach to sea defences in the future. There may be areas which need to be left to retreat. People may need to be compensated for land lost and new development along the coastline should be prevented in vulnerable places.

12.1 Diverse and dynamic: how is Asia transforming?

Exploring Asia

- 1 Students are provided with a space to include photographs/sketches for Asia's longest river (the Yangtze) and the highest mountain (Mt Everest). They then need to add to ideas of their own to show Asia's diversity – this could be the largest city (Tokyo) and the longest bridge (Danyang-Kunshan Grand Bridge).
- 2 Asia is a diverse continent because it covers a third of the surface of the Earth and is home to almost 60% of the world's population. It has 49 countries with people with different cultures and languages. The biomes range from tundra to rainforest and the landscape is extremely varied, with mountain ranges, plateaux and lowlands.

12.2 Why do people in Asia rely on the monsoon climate?

Monsoons

- 1 Season
- 2 Wet season
- 3 More than 60%
- 4 90%
- 5 Difference in temperature
- 6 Land
- 7 High 40s Celsius or even low 50s
- 8 20°C
- 9 Warm air rises, creating a vacuum effect and pulling in cool air
- 10 Southwest
- 11 Himalayan mountains
- 12 They follow a long dry season
- 13 Flooding
- 14 The sun isn't as strong in September and the land has been cooled by the rains

12.3 How do floods threaten lives in Asia?

Decision-making exercise: Floods in Bangladesh

This decision-making exercise will depend on the priorities of the individual student. Here is an example:

| Spending decision | Cost | Reason for choice |
|---|-------------|---|
| Provide emergency food, health and medical services to prevent children under five becoming ill. | \$500,000 | Emergency aid needed to keep children alive is a top priority as lives could be lost and also parents won't be able to concentrate on their own needs if they are worried about their children. |
| Ensure safe drinking water and improved sanitation (toilet and sewage) facilities to the affected population. | \$2,000,000 | Flood water is dirty and could make people ill. Providing clean water will stop the spread of disease. |
| Provide emergency places to live and sleep to | \$2,500,000 | People will need somewhere to live until they can rebuild their homes. If they don't have shelter, they will suffer |

| | | |
|---|-----------|--|
| the people whose homes were destroyed during the floods. | | from the weather. They need somewhere to put the possessions they have kept. |
| Building shelters for children whose parents have died in the floods and provide a safe space for children in the worst affected areas. | \$400,000 | Children are at great risk from poverty and even trafficking after floods. They need to have somewhere safe to go. |

12.4 How did deforestation transform the mountain biome?

The impacts of deforestation

- 1 a
- 2 c
- 3 b
- 4 a and c
- 5 A sketch should be drawn using the photograph, with annotations shown in a similar way to below.



12.5 Why is the population of Asia diverse and dynamic?

Population policies

Students need to choose one of the policies and create a poster to promote it, using bold colours and a clear message.

Policy 1: Posters to encourage families to have more children may include:

- incentives for having more children such as a contribution to pensions
- free services for children such as education and healthcare
- encouragement to think about the country's need for workers.

Policy 2: Posters to encourage people from other countries to move to Japan may include:

- information about how developed Japan is such as average wage (pull factor)
- information about the high quality of life in Japan (pull factor)

- comparison between Japan and other countries to highlight reasons to leave those countries (push factors)
- incentives to move such as moving costs being paid (overcoming obstacles).

12.6 How is urbanisation changing lives in Karnataka, India?

Planning a visit to Bengaluru

1 Choice of attractions will vary from student to student. Here is an example:

| | |
|-------|---|
| Day 1 | Krishnarajendra Market I would visit this market as it would give me an insight into the real Bengaluru. It looks really busy and colourful. I would like to try the street food being sold here and to visit the flower market. |
| Day 2 | Karnataka Chitrakala Parishath I would visit this art gallery because it has a wide range of Indian and international contemporary art and also tribal art. I would like to see the exhibition of paintings of the Himalayas. |
| Day 3 | Lalbagh Botanical Gardens I would visit these gardens early in the morning to hear the bird chorus and would walk around to see the different species of plants. |

- 2 My visit could benefit people living in Bengaluru, as money I spend on food and entrance payments would go into their economy.
- 3 Tourism can bring problems to cities such as Bengaluru because tourists may not respect the local way of life. If too many tourists visit certain places, they can become overcrowded.

12.7 What was the impact of European colonisation of Asia?

China and the British Empire

- 1 The British Government was worried that too much was being bought from China and not enough sold there.
- 2 Opium is a very addictive drug which leads to serious health problems.
- 3 The treaty would have made the Chinese people feel angry as Britain gained many benefits, but China didn't. It damaged their pride.
- 4 We need to think about the past when making trade agreements today as China may remember the way it was treated in the past and be suspicious when dealing with Britain.

12.8 Is China helping to create an interdependent world?

China in the news

The answer will depend on the article selected by the student. Here is an example from Dec 2023:

| | |
|--|--|
| Title | Chinese weather balloon spotted near Taiwan a month ahead of presidential election |
| Newspaper/Website | www.theguardian.com/world/2023/dec/08/chinese-weather-balloon-taiwan-presidential-election-security |
| What does the article say? Summarise it in no more than 50 words. | A weather balloon from China was seen and Chinese aircraft detected in Taiwan's airspace. Some people think this is being used for surveillance. China believes that Taiwan is part of its territory and has been putting pressure on the country. |
| How has this article made you think about China differently? | There is a lot of suspicion about China. The article says that previous weather balloons which were thought to be carrying out surveillance weren't. |
| Is the article trustworthy? Why? | It is quite trustworthy as it is from a well-known newspaper. It quotes information from Taiwan's defence ministry but also says that previous scares were unfounded. |

12.9 How is Asia developing into the most important global economic region?

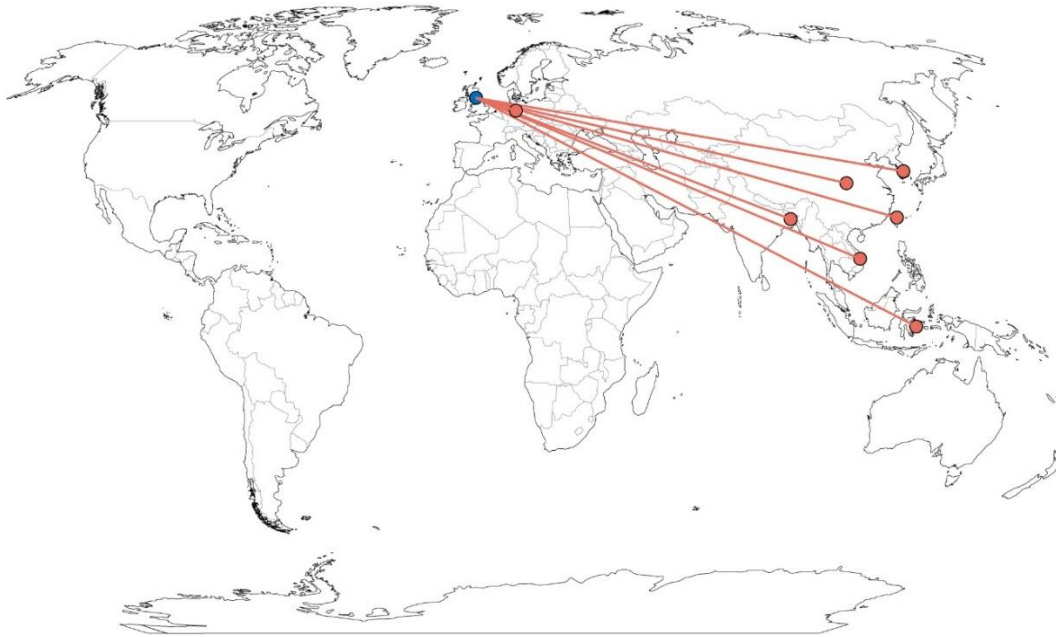
Where is it made?

Answers will depend on where the student's possessions were made. Here is an example:

1

- School top: Bangladesh
- School shoes: Vietnam
- Non-school item of clothing: Bangladesh
- Trainers: Indonesia
- Toothbrush: Germany
- Mobile phone: China
- Bed linen: Bangladesh
- Kettle or toaster: South Korea
- A mug: Taiwan
- Rucksack: China

2 & 3

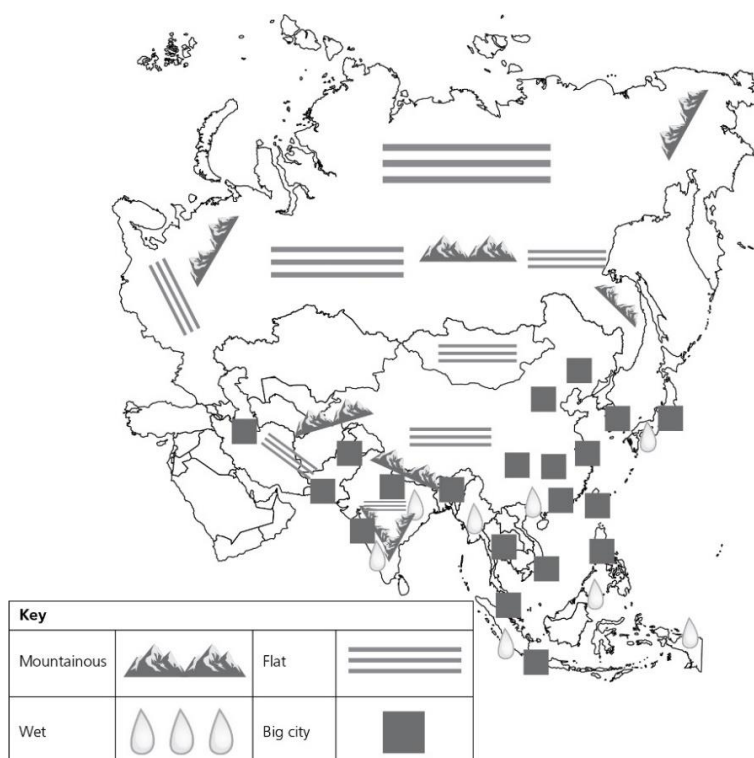


- 4 Most of these items come from Asia, showing that I am very connected to the continent. The country I am most connected to on this map is Bangladesh, as three of my items were made there.

12.10 Diverse and dynamic: how is Asia transforming? Review

Mapping Asia

The first task involves developing an outline map of Asia to show its human and physical features. Students could do these using symbols and a key or could use illustrations. Here is an example:



Information added to the three outline maps showing parts of Asia at different scales will depend on the student. Here is an example:

... Asia at a continental scale

- Very diverse – people, countries, landscapes and climate.
- Developing into the most important economic region.
- Home to many megacities.

... Southern Asia at a regional scale

- Rapidly growing cities, populations and economies.
- Some places suffer floods.
- Monsoon climate.

... Karnataka at a state scale

- Bengaluru is a mega city.
- Rural to urban migration.