



GEOGREVISE

by internet geography

STEP 1 – REVIEW YOUR LEARNING

Before you start your revision, you need to be clear about what it is you need to revise. This means going over everything covered in the unit you have studied then deciding how much you understand. This will give you an idea of what areas you need to focus your revision on. Complete the challenge of resource management personal learning check list (PLC) to check what you feel confident about and what you need to work on.

STEP 2 – REVISION

Technique 1 - Revision Cards

1. Make notes on an area of study. This could involve highlighting information in a revision book or writing information out. Successful students avoid copying huge chunks of text. They read the information - then summarise it.
2. Once you have gathered notes summarise your notes on revision cards - blank postcards or post-it notes are good for this. You can then stick them all around your bedroom, toilet, bathroom etc! See an example here: <https://www.internetgeography.net/revision-techniques/>
3. Read your cards through regularly. Once you're confident about knowing the information write key words about the topic on a card. Then revise from these. As your knowledge base builds up you will need fewer prompts to remember information. BRAIN SCIENCE ALERT: By displaying this information and regularly reading it you will create stronger connections between the neurons in your brain which will help you retain information.

Technique 2 - Mind Maps A mind map is a spider diagram that contains information in the form of pictures and text. Mind maps can be used to plot information relevant to the different topics in geography. To find out more on mind mapping see this page: <https://www.internetgeography.net/revision-techniques/>

Technique 3 - Asking questions when taking notes This technique involves you asking questions when making notes. The example below considers the main features of earthquakes.

	What	When	Why	Where	Who	So what?
Earthquakes						

Question cues you can use are what?, when?, why?, where?, who? and how? There are more - can you think of any?

Technique 4 - Change the form of information

Your text books contain a lot of information. Some people can read this information and remember it! If you find it hard to retain information that you read, then do something with it. For example, take a piece of text and transform it into a diagram.

Technique 5 - Teach It!

Another useful method of learning information is to try and teach someone else what you have learnt.

A good method to use is to write down the key points of what has been learnt over a set period e.g. 3 lessons and try to teach the other person, who questions everything he or she cannot clearly understand.

Try also setting a test on what you have taught. The other person's answers will clarify your own thinking!

Technique 6 - What would you tell your brother?

Simplify some text about the topic you are revising and write down what you would tell someone younger than you.

Technique 7 - Condense it

Read a paragraph of text and condense it into one sentence.

Technique 8 - Condense it with a friend

Complete technique 5 and/or 6 with a friend. Compare your answers and discuss your choices.

Resources to support revision for this unit are available here:

www.internetgeography.net/topics/coasts/

STEP 3 – RETRIEVAL PRACTICE

Improve learning by reducing forgetting using retrieval practice

Retrieval practice involves retrieving and using knowledge. Through thinking about and using what we know we strengthen learning. Low stakes quizzes, flashcards and quick writing can be used to improve learning. This booklet contains questions for retrieval practice from p5. Ask a friend or parent to quiz you using the questions.

STEP 4 – EXAM QUESTIONS

Once you're feeling confident have a go at completing some past exam papers. Your teacher will be able to provide you with these.

The Challenge of Resource Management PLC

Red = Not confident at all
 Amber = Some confidence
 Green = Very confident



	Red	Amber	Green
Food, water and energy are fundamental to human development			
I know how important food, water and energy are to economic and social well-being.			
I have an overview of global inequalities in the supply and consumption of resources.			
The changing demand and provision of resources in the UK create opportunities and challenges. An overview of resources in relation to the UK: Food			
I know there is a growing demand for high-value food exports from low income countries.			
I know there is a growing all-year demand for seasonal food and organic produce.			
I understand how large carbon footprints are associated with the increased number of 'food miles' travelled and moves towards local sourcing of food.			
I understand the trend towards agribusiness.			
The changing demand and provision of resources in the UK create opportunities and challenges. An overview of resources in relation to the UK: Water			
I know the changing demand for water in the UK.			
I can discuss water quality and pollution management.			
I know how the UK matches supply and demand for water and the areas of deficit and surplus.			
I understand the need for transfer to maintain water supplies.			
The changing demand and provision of resources in the UK create opportunities and challenges. An overview of resources in relation to the UK: Energy			
I know how the energy mix in the UK is changing from reliance on fossil fuels and the growing significance of renewables.			
I know how supplies of coal, gas and oil have reduced in the UK.			
I know the economic issues associated with exploitation of energy issues.			
I know the environmental issues associated with the exploitation of energy resources.			

You will have studied either food, water or energy resources in depth. You only need to complete your PLC for the area you have studied.

Food

	Red	Amber	Green
Demand for food resources is rising globally but supply can be insecure, which may lead to conflict.			
I know the global patterns of calorie intake and food supply.			
I know the reasons for increasing food consumption (economic development and rising population).			
I know the factors affecting food supply: climate, technology, pests and disease, water stress, conflict, poverty.			
I know the impacts of food insecurity – famine, undernutrition, soil erosion, rising prices, social unrest.			
Different strategies can be used to increase food supply.			
I can give an overview of strategies to increase food supply including irrigation, aeroponics and hydroponics, the new green revolution and use of biotechnology, appropriate technology.			
I know an example of a large-scale agricultural development to show how it has both advantages and disadvantages.			
I know the potential for sustainable food supplies: organic farming, permaculture, urban farming initiatives, fish and meat from sustainable sources, seasonal food consumption, reduced waste and losses.			
I know an example of a local scheme in an LIC or NEE to increase sustainable supplies of food.			

Water

	Red	Amber	Green
Demand for water resources is rising globally but supply can be insecure, which may lead to conflict.			
I know the global patterns of water supply and deficit.			
I know the reasons for increasing water consumption: economic development and rising population.			
I know the factors affecting water availability: climate, geology, pollution of supply, over-abstraction, limited infrastructure, poverty.			
I know the impacts of water insecurity – waterborne disease and water pollution, food production, industrial output, potential for conflict where demand exceeds supply.			
Different strategies can be used to increase water supply.			
I can give an overview of strategies to increase water supply including diverting supplies and increasing storage, dams and reservoirs, water transfers and desalination.			
I know an example of a large scale water transfer scheme to show how its development has both advantages and disadvantages.			
I know the potential for sustainable water supplies: water conservation, groundwater management, recycling, 'grey' water.			
I know an example of a local scheme in an LIC or NEE to increase sustainable supplies of water.			

Energy

	Red	Amber	Green
Demand for energy resources is rising globally but supply can be insecure, which may lead to conflict.			
I know the global distribution of energy consumption and supply.			
I know the reasons for increasing energy consumption: economic development, rising population, technology.			
I know the factors affecting energy supply: physical factors, cost of exploitation and production, technology and political factors.			
I know the impacts of energy insecurity – exploration of difficult and environmentally sensitive areas, economic and environmental costs, food production, industrial output, potential for conflict where demand exceeds supply.			
Different strategies can be used to increase energy supply.			
I can give an overview of strategies to increase energy supply including renewable (biomass, wind, hydro, tidal, geothermal, wave and solar) and non-renewable (fossil fuels and nuclear power) sources of energy.			
I know an example to show how the extraction of a fossil fuel has both advantages and disadvantages.			
I know the potential for sustainable energy supplies: individual energy use and carbon footprints. Energy conservation: designing homes, workplaces and transport for sustainability, demand reduction, use of technology to increase efficiency in the use of fossil fuels.			
I know an example of a local renewable energy scheme in an LIC or NEE to provide sustainable supplies of energy.			



Retrieval Practice

FOOD, WATER AND ENERGY ARE FUNDAMENTAL TO HUMAN DEVELOPMENT

1. What are resources?
2. How many calories does the average person need to consume in a day?
3. Identify 3 consequences of not eating enough calories each day.
4. Identify two consequences of over eating.
5. How much water makes up a human body?
6. Why do our bodies need water?
7. How much water should the average person consume each day?
8. Identify three other uses of water.
9. What is a primary energy?
10. Give an example of a primary energy
11. What is a secondary energy?
12. Give an example of a secondary energy.
13. Is the global distribution of resources equal or unequal?
14. What does the balance between the supply and demand of resources affect?
15. What is food security?
16. What is food insecurity?
17. How do wealthier countries make food resources more affordable?
18. What is a food surplus?
19. What is a food deficit?
20. There is a fixed amount of water on the planet. Identify two stores of water on Earth.
21. Some water circulates the planet. What is this process known as?
22. What is a water surplus?
23. What is a water deficit?
24. How can a water surplus occur?
25. How can a water deficit occur?
26. How can a water surplus cause problems?
27. How can a water deficit cause problems?
28. Which type of countries consume the most energy?
29. Which types of countries use less energy?
30. What is a fossil fuel?
31. What is energy insecurity?
32. Countries that produce a high proportion of the energy they consume are said to be what?

THE CHANGING DEMAND AND PROVISION OF RESOURCES IN THE UK CREATE OPPORTUNITIES AND CHALLENGES. AN OVERVIEW OF RESOURCES IN RELATION TO THE UK: FOOD

1. There is enough food to feed everyone on the planet. However, 1 billion people experience food insecurity. Why is this?
2. Does the U.K. have food security?
3. What proportion of the UK's food is imported?
4. Why has there been growing demand for food imports in the U.K.?
5. What is organic food?
6. Why has the consumption of organic food increased in the U.K.?
7. What initially happens to yields when a farm changes to organic?
8. Why do some people believe organic farming is unsustainable?

THE CHANGING DEMAND AND PROVISION OF RESOURCES IN THE UK CREATE OPPORTUNITIES AND CHALLENGES. AN OVERVIEW OF RESOURCES IN RELATION TO THE UK: WATER

1. Approximately what proportion of people experience water insecurity around the world?
2. Does the U.K. have a water surplus or deficit?
3. Which is wettest, the east or west of the U.K.?
4. How is the relationship between water surplus and population density in the U.K.?
5. What has been developed to transport water from areas of surplus to areas of deficit in the U.K.?
6. Give an example of a water transfer scheme in the U.K.
7. What has happened to water demand in the U.K.?
8. What is a water footprint?

THE CHANGING DEMAND AND PROVISION OF RESOURCES IN THE UK CREATE OPPORTUNITIES AND CHALLENGES. AN OVERVIEW OF RESOURCES IN RELATION TO THE UK: ENERGY

1. What is meant by the term energy mix?
2. Give three examples of energy that contribute towards the UK's energy mix.
3. It was once thought global supplies of fossil fuels were running out. What developments have led to the discovery of new reserves?
4. Where are there large, barely tapped reserves of fossil fuels?
5. True or false? It is estimated that gas will last another 50 years and coal another 112 years.
6. Where does 40% of the UK's domestic supply of gas come from?
7. Renewable energy accounts for 10% of the UK's energy mix. What is its target for 2020?
8. How is 50% of the UK's renewable energy generated?
9. Identify 2 economic issues associated with the exploitation of energy resources in the U.K.
10. Identify 2 environmental issues associated with the exploitation of energy resources in the U.K.

Food

DEMAND FOR FOOD RESOURCES IS RISING GLOBALLY BUT SUPPLY CAN BE INSECURE, WHICH MAY LEAD TO CONFLICT

1. Where are the majority of the world's cereal, rice and sugar grown?
2. Which continent is the greatest producer of oil crops?
3. True or false? European countries grow the most barley.
4. What is food energy intake measured in?
5. Which continent has the lowest calorie intake per person per day?
6. Which two continents have the highest calorie intake per person per day?
7. Give two reasons why global calorie consumption has been increasing over the last 50 years
8. What is malnourishment?
9. What is the global hunger index?
10. Identify two of the three measures of the global hunger index.
11. Which continent has the highest number of countries where malnourishment exists
12. Identify four factors that affect global food supply.
13. Give two impacts of food insecurity.

DIFFERENT STRATEGIES CAN BE USED TO INCREASE FOOD SUPPLY

1. Describe two strategies for increasing food supply
2. What is aeroponics?
3. What is hydroponics?
4. What did the new green revolution involve?
5. What is biotechnology?
6. What is appropriate technology?
7. Identify a case study of a large-scale agricultural development.
8. Give the advantages of the project.
9. Give the disadvantages of the project.
10. What is permaculture?
11. Identify four methods of sustainable farming.
12. Explain how two of these methods are sustainable.

Water

DEMAND FOR WATER RESOURCES IS RISING GLOBALLY BUT SUPPLY CAN BE INSECURE, WHICH MAY LEAD TO CONFLICT

1. True or false? Generally, countries along the equator have enough water.
2. True or false? Generally, countries along 30° north of the Equator have a water surplus.
3. True or false? Generally, countries along 30° south of the Equator experience some water surplus.
4. True or false? Countries with the highest latitudes have a water deficit.
5. Give two reasons for increasing global water consumption.
6. Identify a location experiencing water deficit.

7. Identify two reasons why your chosen location is experiencing water deficit.
8. List 4 impacts of drought in the area you have studied.
9. Identify four factors that affect water availability.
10. Give 4 impacts of water insecurity.
11. Describe two impacts of water insecurity.

DIFFERENT STRATEGIES CAN BE USED TO INCREASE WATER SUPPLY

1. Identify three strategies to increase water supply.
2. Describe one strategy to increase water supply.
3. Identify an example of a water transfer scheme.
4. What are the advantages of the water transfer scheme?
5. What are the disadvantages of the water transfer scheme?
6. Identify three sustainable solutions to water security.
7. What is grey water and how is it a sustainable source of water?
8. Identify a cases study of a water management scheme in an LIC.
9. Give an outline of the approach.
10. Describe three benefits of the scheme.

Energy

DEMAND FOR ENERGY RESOURCES IS RISING GLOBALLY BUT SUPPLY CAN BE INSECURE, WHICH MAY LEAD TO CONFLICT

1. What is an energy surplus?
2. What is an energy deficit?
3. True or false? There is an even global distribution of energy supply and consumption.
4. Identify two countries that produce the most oil.
5. Identify two countries with the largest coal reserves.
6. Identify two countries with the largest natural gas reserves.
7. Where does 40% of the UK's natural gas come from?
8. Identify two countries with the largest uranium reserves.
9. What affects a country's potential to produce renewable energy?
10. Identify 4 types of renewable energy.
11. What is predicted to happen to energy consumption in the future?
12. Where will the growth in energy consumption be the greatest in the future?
13. Identify 4 reasons for the rise in global energy consumption.
14. Give four factors that affect energy supply.
15. What is meant by the term energy security?
16. What is meant by the term energy insecurity?
17. Give four impacts of energy insecurity.

DIFFERENT STRATEGIES CAN BE USED TO INCREASE WATER SUPPLY

1. Renewable energies offer a way to increase energy supplies. What are the two main issues associated with developing renewable energy?
2. Identify two types of renewable energy and provide a brief description of what it involves.
3. The use of non-renewable energy can be made more efficient. Give an example of this.
4. Identify a case study for the extraction of fossil fuels.
5. Give three advantages of the scheme.
6. Give three disadvantages of the scheme.
7. Identify three solutions to energy insecurity that are more sustainable.
8. Select one solution and describe what it involves and explain how it is sustainable.
9. Identify a case study to managing energy in a low or middle-income country (MIC & LIC).
10. Give a brief description of the scheme.
11. Identify three successes associated with the scheme.

Answers

FOOD, WATER AND ENERGY ARE FUNDAMENTAL TO HUMAN DEVELOPMENT

1. Resources are things that people use. Some are essential for survival while others are needed to maintain a standard of living.
2. 2000-2500 calories
3. Weight loss, lack of energy and difficult to find work. There are also a range of health issues that can be caused by not consuming enough calories such as malnutrition.
4. Weight gain, high blood pressure, high cholesterol, cancer and difficulty getting a job.
5. 2/3rds
6. Absorb nutrients and get rid of waste.
7. 1.6 to 2 litres per day.
8. Cleaning, growing food, energy production, cleaning, cooling, raw material production, leisure activities and any other relevant uses.
9. Primary energy includes sources such as fossil fuels or the wind that have been used to produce electricity.
10. Coal, oil, gas, wind, solar, tidal and nuclear.
11. A secondary energy, such as electricity, is used to heat homes and offices, cook food and power transport.
12. Electricity.
13. Unequal
14. A country's wealth and security.
15. When people have enough nutritious and affordable food to eat.
16. Food insecurity is when people go hungry or are malnourished.
17. They import food and subsidise farming.
18. A food surplus is when there is more than enough food to go around.
19. When a country struggles to grow enough to feed people and cannot afford to subsidise farming or import more food.
20. Oceans, ice caps, glaciers, lakes and reservoirs.
21. Water cycle
22. When an area has more water than it needs.
23. When an area has too little water to meet its needs.
24. Increase in extreme weather events.
25. A drought, increase in evaporation or rapid increase in population.
26. It can lead to flooding.
27. Crops cannot be irrigated, people suffer dehydration and water rationing can come into effect.
28. High income countries (HICs) and new emerging economies (NEEs)
29. Low income countries (LICs)
30. A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
31. When a country consumes more energy that it produces.
32. Energy secure.

THE CHANGING DEMAND AND PROVISION OF RESOURCES IN THE UK CREATE OPPORTUNITIES AND CHALLENGES. AN OVERVIEW OF RESOURCES IN RELATION TO THE UK: FOOD

1. Food supply and consumption are not evenly distributed.
2. Yes
3. 40%
4. People want to consume food out of season.
5. Food produced without using any chemicals such as pesticides and fertilisers.
6. More people want to eat food that hasn't been sprayed with chemicals.
7. They drop. However, they then recover.
8. Because it can lead to greater use land area.

THE CHANGING DEMAND AND PROVISION OF RESOURCES IN THE UK CREATE OPPORTUNITIES AND CHALLENGES. AN OVERVIEW OF RESOURCES IN RELATION TO THE UK: WATER

1. 80%
2. Water surplus, although there are variations in the supply and demand for water across the UK.
3. West
4. Water surplus is greatest in the west of the country in north wales and the north west of the country. Water demand is greatest in the south east of England.
5. Large scale water transfer schemes.
6. Kielder reservoir and the River Tees and Tyne in England. Also, the River Severn. Any other relevant water transfer scheme allowed.
7. It has increased as more people wash cars, take longer showers and water their gardens.
8. A water footprint is a is a measure of the total water used both within the UK and in other countries through imported products.

THE CHANGING DEMAND AND PROVISION OF RESOURCES IN THE UK CREATE OPPORTUNITIES AND CHALLENGES. AN OVERVIEW OF RESOURCES IN RELATION TO THE UK: ENERGY

1. It is the mixture of primary energy sources.
2. Gas, coal, oil, solar, wind, tidal, HEP and nuclear.
3. Developments in new technology.
4. South America, Africa and the Artic.
5. True
6. The North Sea
7. 15%
8. Wind
9. It is expensive to generate electricity, maintenance and running costs, repairing damage to structures and disposing of waste (and any other appropriate answers).
10. CO2 emissions, waste products such as ash, high levels of radiation, visual pollution and the impact on marine ecosystems by tidal power and HEP dams.

Food

DEMAND FOR FOOD RESOURCES IS RISING GLOBALLY BUT SUPPLY CAN BE INSECURE, WHICH MAY LEAD TO CONFLICT

1. Asia
2. South America
3. True
4. Calories (kcal)
5. Africa
6. Europe and North America
7. Economic development in LICs and NEE and population growth.
8. A lack of proper nutrition, caused by not having enough to eat, not eating enough of the right things, or being unable to use the food that one does eat.
9. It is a measure of hunger where a country is given a score between 0 (no one goes hungry) to 100 (which is everyone is hungry).
10. Undernourishment, number of children underweight and child mortality.
11. Africa
12. Climates, technology, pest and disease, water stress, conflict and poverty.
13. Famine, soil erosion, rising prices and social unrest.

DIFFERENT STRATEGIES CAN BE USED TO INCREASE FOOD SUPPLY

1. Irrigation – when crops are watered, Aeroponics – suspending crops in the air and spraying their roots, hydroponics – growing plants in a porous material and allowing water containing nutrients to filter through, biotechnology – genetically modifying plants to increase yields, appropriate technology – affordable and easy to use techniques.
2. Aeroponics – suspending crops in the air and spraying their roots
3. Hydroponics – growing plants in a porous material and allowing water containing nutrients to filter through,
4. Using different seeds to help specific areas such as drought resistant crops. There is also a focus on improving the nutritional value of crops.
5. Selective breeding or genetic modification.
6. Using suitable machinery and techniques that are affordable and may improve yields for the community.
7. Answers could include Almeria, Spain, Kilombero Plantations in Tanzania, urban farming in Cape Town, South Africa, Green Revolution in Ghana and any other relevant case study.
8. Advantages could include providing jobs for local people, training, housing, increased income in the area etc.
9. Use of chemicals on the natural environment, increased land values, impact on developing sustainable food supplies, especially in LICs and any other relevant disadvantages.
10. Permaculture is farming in a sustainable and self-sufficient manner.
11. Organic farming, urban farming, sustainable meat and fish, seasonal food consumption and reduction of food waste.
- 12.

Organic farming

Organic farming involves using natural methods to grow foods. This includes using organic fertilisers and pesticides like animal slurry and natural predators and no artificial fertilisers or pesticides. It is environmentally sustainable because it doesn't pollute the environment.

Urban farming initiatives

Urban farming involves growing food using space in and around cities. Urban farming plots can produce more food than equivalent areas of farmland. It is sustainable because it helps to reduce food miles, which is better for the environment.

Sustainable fish and meat

Sustainable fishing involves catching fewer fish. Better net designs and a return to traditional fishing methods are examples of sustainable fishing.

Meat production is resource-heavy. 6.5 kg of grain and over 13,000 litres of water are needed to rear every kilogram of beef. Feeding grain to cattle reduces the time it takes them to grow, however it means there is less grain for people to eat. Sustainable meat production involves using grass as animal feed.

Seasonal food consumption

In the past, people ate food that was in season, eg cabbages during the winter and salad crops during the summer. Food is now available out of season thanks to heated greenhouses to produce it in the UK and cold storage to transport it to the UK. Seasonal food consumption reduces food miles and electricity use.

Reduction of food waste

Developed nations waste a lot of food. Buying only the food that is needed is more sustainable as there is more food left to feed others.

Water

DEMAND FOR WATER RESOURCES IS RISING GLOBALLY BUT SUPPLY CAN BE INSECURE, WHICH MAY LEAD TO CONFLICT

1. True
2. False
3. True
4. False
5. Population growth and economic development.
6. Answers could include California, sub-saharan countries and Australia along with any other appropriate answer.
7. Answers could include increased temperatures lead to greater evaporation, falling rain levels, population growth, greater water extraction and any other relevant answer.
8. Answers could include a decrease in groundwater levels leading to subsidence, sea water intrusion into aquifers, fires, ecosystem damage, soil erosion and any other relevant answer.
9. Climate, geology, pollution, over-abstraction, limited infrastructure, poverty and any other relevant answer.
10. Lack of clean piped water, waterborne diseases, lower food production, lack of water to operate factories, conflict.
11. Lack of clean piped water - water insecurity leads to a lack of clean, piped water. This means many children across Africa spend hours collecting water rather than going to school.

Waterborne disease - drinking or using dirty water puts people at risk of waterborne diseases and illnesses, such as diarrhoea, malaria and schistosomiasis.

Food production - water insecurity can lead to lower levels of food production. Crops that are irrigated can increase yields by up to 400%. However, places that do not have enough water to irrigate crops have less food available to eat and sell.

Industrial output – water is needed in most manufacturing processes. A lack of water means factories cannot be developed leading to countries having to import goods.

Conflicts - water is a source of conflict in some parts of the world. Seizing dams is a powerful way of controlling water and electricity supplies.

DIFFERENT STRATEGIES CAN BE USED TO INCREASE WATER SUPPLY

1. Dams and reservoirs, water transfers and desalination plants

2.

Dams and reservoirs

Dams block the flow of water in rivers and build up reservoirs which can provide drinking water all year round. Dams also prevent flooding.

Water transfers

This involves moving water from an area of surplus to an area of water deficit. Water stored in reservoirs can be moved by pipes, canals and rivers to different parts of the country.

Desalination plants

Desalination plants remove salt from sea water to make it safe to drink. Desalination plants are very expensive to set up and run. Israel is leading on the development of affordable desalination plants.

3. Answers could include Kielder reservoir water transfer scheme, Nevada water transfer and any other relevant case study.
4. Answers could include the generation of HEP, reducing water insecurity, development of jobs and tourism. Any other relevant answers should be accepted.
5. Answers could include the environmental impact such as disrupted breeding patterns for fish, people losing their homes due to flooding to create the reservoir, farmland and habitats destroyed due the land being flooded when the dam is constructed.
6. Water conservation, groundwater management, grey water.
7. Grey water is water that is not yet pure. It is either untreated rainwater or is water that has been used previously. Some uses of water do not require water that has been purified, such as flushing toilets. Some companies now capture rainwater and use it to flush toilets in their offices. Households can capture rainwater and use it to water gardens.
8. Examples could include The Mtumba Approach.
9. An outline of the issues people were facing before the introduction of the project will be given along with the steps taken to overcome the problem of providing clean water.
10. Benefits could include local people becoming ill less often as water is now clean. Improvements in education relating to the safe use of water. The improvements made for local people such as improved sanitation. The project being rolled out to other communities. Any other relevant answer should be accepted.

Energy

DEMAND FOR ENERGY RESOURCES IS RISING GLOBALLY BUT SUPPLY CAN BE INSECURE, WHICH MAY LEAD TO CONFLICT

1. An energy surplus is when an area can produce more energy than it needs and therefore can sell it to other areas.
2. When a country does not have enough energy to meet its needs.
3. False
4. Saudi Arabia, Russia and the USA
5. USA, Russia and China
6. Russia, Iran and Qatar
7. The North Sea
8. Australia, Kazakhstan and Russia
9. What affects a country's potential to produce renewable energy?
10. Wind, solar, tidal, wave power, HEP and geothermal power.
11. It will increase. Estimates suggest this could be 56% by 2040.
12. It will largely take place in developing countries (LICs / NEEs).
13. Economic development, population growth, development of technology and affluence (increase in the standard of living).
14. Physical factors such as the right geology for fossil fuels, cost of exploitation and production, technology, political factors such as war and corruption.
15. Consumers have access to the energy they need as a price that avoids volatility.
16. Energy insecurity is when consumers do not have access to the energy they need or are priced out of an energy supply.
17. Damage to environmentally sensitive areas, environmental costs such as the release of greenhouse gases, loss of habitats, noise and visual pollution, use of valuable farm land, conflict and lower industrial output.

DIFFERENT STRATEGIES CAN BE USED TO INCREASE WATER SUPPLY

1. They are expensive and/or less efficient at producing energy than fossil fuels.
2. Identify two types of renewable energy and provide a brief description of what it involves.
3. Biomass, HEP, Wave and tidal power, geothermal power, solar power and wind power.

Biomass - This involves burning material derived from living things. Burning the material produces electricity.

HEP – Water is trapped in a reservoir behind a dam. As it flows through the dam it turns a turbine generating electricity.

Wave and tidal power involve generating energy from the sea. A turbine is turned as water flows through it, generating electricity.

Geothermal energy involves uses heat within the Earth to generate electricity.

Solar Power – this involves using solar panels installed on buildings or in fields that turn sunlight into electricity.

Wind power – wind turbines convert the movement of air into electricity.

4. Answers could include coal mining in the Northumberland. Any other appropriate case study should be accepted.
5. Advantages could include the creation of jobs and the associated benefits for the local community, tourism opportunities when the scheme opens/closes, use of resources within the country reducing pollution in the transportation of fossil fuels.
6. Answers could include the impact on the environment, congestion, increase in carbon emissions, health problems associated with the extraction of the fossil fuel.
7. Carbon footprints, energy conservation and better technology.

8.

Carbon footprint – using less energy to reduce carbon footprint. This could also include using more public transport, walking or cycling. Also buying locally produced food will reduce food miles.

Energy conservation – using energy-saving measures such as wall and loft insulation, smart meters and turning heating down. Also, local councils could promote energy conservation by creating cycle lands and introducing congestion charges.

Better technology – Using more energy efficient appliances, switch to electric vehicles and increasing vehicle excise duty for cars that are heavy polluters.

9. An example is Centrosolar panels in Kenya. Other, appropriate examples should be accepted.
10. The description will give an outline of the problems faced along with the steps taken to solve them.
11. Successes could include benefits for local people and schools, surplus energy being sold for profit, a model for rolling it out to other places or on a larger, national scale. It is an example of appropriate technology.