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Description automatically generated

**The Challenge of Resource Management**

**Multiple choice knowledge checker**

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| 1. | Which of the following are key resources for human well-being? | |
| ⭘ | A. | Food |
| ⭘ | B. | Water |
| ⭘ | C. | Energy |
| ⭘ | D. | They all are |

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| 2. | Which key resource is being described below?  This resource provides us with energy which is needed to work and enjoy ourselves. We measure this resource in calories. | |
| ⭘ | A. | Food |
| ⭘ | B. | Water |
| ⭘ | C. | Energy |
| ⭘ | D. | They all are |

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| 3. | Which key resource is being described below?  The average person in the UK uses 150 litres of this a day | |
| ⭘ | A. | Food |
| ⭘ | B. | Water |
| ⭘ | C. | Energy |
| ⭘ | D. | They all are |

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| 4. | Which key resource is being described below?  It heats our homes, is used to manufacture goods, process food and power transport. | |
| ⭘ | A. | Food |
| ⭘ | B. | Water |
| ⭘ | C. | Energy |
| ⭘ | D. | They all are |

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| 5. | How many calories should the average adult consume each day? | |
| ⭘ | A. | 1000-1500 |
| ⭘ | B. | 1500-2000 |
| ⭘ | C. | 2000-2500 |
| ⭘ | D. | 2500-3000 |

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| 6. | If a country has abundant resources what is the likely outcome? | |
| ⭘ | A. | Economies develop, societies thrive and people enjoy a good quality of life. |
| ⭘ | B. | Economies develop, societies thrive and people experience a poor quality of life. |
| ⭘ | C. | Economies struggle to develop, societies thrive and people enjoy a good quality of life. |
| ⭘ | D. | Economies struggle to develop, societies thrive and people experience a poor quality of life. |

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| 7. | True or false? There is growing pressure on resources as the world’s population grows. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 8. | Which of the following statements best describes water use in the UK? | |
| ⭘ | A. | 75% of water is used in industry, 22% for domestic purposes and 3% in agriculture. |
| ⭘ | B. | 75% of water is used in industry, 15% for domestic purposes and 10% in agriculture. |
| ⭘ | C. | 70% of water is used in industry, 27% for domestic purposes and 3% in agriculture. |
| ⭘ | D. | 65% of water is used in industry, 32% for domestic purposes and 3% in agriculture. |

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| 9. | True or false? The introduction of machinery during the industrial and agricultural revolution led to huge improvements in economic and social well-being. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 10. | Which of the following are examples of fossil fuels? You can choose more than one. | |
| ⭘ | A. | Coal |
| ⭘ | B. | Oil |
| ⭘ | C. | Gas |
| ⭘ | D. | Solar |

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| 11. | True or false? The use of renewable energy such as water, wind and solar is increasingly being used to meet our energy needs. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 12. | True or false? Global resources are evenly distributed across the world | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 13. | Which of the following regions have a food surplus? (You can select more than one answer) | |
| ⭘ | A. | Europe |
| ⭘ | B. | Africa |
| ⭘ | C. | North America |
| ⭘ | D. | Asia |

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| 14. | Which of the following are reasons for undernourishment and undernutrition in places in Africa? | |
| ⭘ | A. | Hostile physical conditions, low levels of technology and political stability. |
| ⭘ | B. | Hostile physical conditions, low levels of technology and political instability. |
| ⭘ | C. | Ideal physical conditions, low levels of technology and political instability. |
| ⭘ | D. | Hostile physical conditions, high levels of technology and political instability. |

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| 15. | Which of the following regions are prone to water shortage? | |
| ⭘ | A. | Northern Europe |
| ⭘ | B. | Africa and parts of the Middle East |
| ⭘ | C. | North America and South East Asia |
| ⭘ | D. | Western Europe and the Middle East |

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| 16. | True or false? *In some parts of Africa people have to spend a lot of time gathering water which has a positive impact on economic development and social well-being.* | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 17. | Energy resources, particularly non-renewables are… | |
| ⭘ | A. | evenly distributed around the world. |
| ⭘ | B. | unevenly distributed around the world. |

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| 18. | In theory, renewable resources are evenly distributed around the world, however… | |
| ⭘ | A. | the high costs of development meant that many LICs are unable to use these resources. |
| ⭘ | B. | the high costs of development meant that many MICs are unable to use these resources. |

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| 19. | True or false? The UK has a resource surplus. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 20. | Which of the following explains the UKs early and continued economic development in terms of food production? | |
| ⭘ | A. | Low rainfall, mild temperatures, fertile soils, gentle relief and advanced technology. |
| ⭘ | B. | Plenty of rainfall, cold temperatures, fertile soils, gentle relief and advanced technology. |
| ⭘ | C. | Plenty of rainfall, mild temperatures, infertile soils, gentle relief and advanced technology. |
| ⭘ | D. | Plenty of rainfall, mild temperatures, fertile soils, gentle relief and advanced technology. |

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| 21. | Which of the following explains the UKs early and continued economic development in terms of energy? | |
| ⭘ | A. | Small fossil fuel resources, several nuclear power plants and the potential for a range of renewable energies. |
| ⭘ | B. | Large fossil fuel resources, several nuclear power plants and the potential for a range of renewable energies. |
| ⭘ | C. | Large fossil fuel resources, several nuclear power plants and the limited potential for a range of renewable energies. |
| ⭘ | D. | Large fossil fuel resources, no nuclear power plants and the potential for a range of renewable energies. |

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| 22. | What is meant by the term ‘food miles’? | |
| ⭘ | A. | Food miles is the distance food is transported from the time of its production until it reaches a processing factory. |
| ⭘ | B. | Food miles is the distance food is transported from the time of its production until it reaches the consumer. |
| ⭘ | C. | Food miles is the distance food is transported from the time of its production until it reaches and airport or port |

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| 23. | True or false? It can be cheaper for food to be grown in an LIC and transported to the UK than it is to grow in this country. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 24. | What has led to an all-year demand for seasonal food in the UK? | |
| ⭘ | A. | Consumption demand |
| ⭘ | B. | Consumer demand |
| ⭘ | C. | Consultant demand |
| ⭘ | D. | Diet demand |

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| 25. | Which of the following are benefits to Kenyan farmers of exporting food to the UK? (you can select more than one) | |
| ⭘ | A. | Jobs are created in Kenya, for example in transport and packaging. |
| ⭘ | B. | Taxes paid go to the government which can then fund facilities such as schools and hospitals. |
| ⭘ | C. | The amount of land used to produce local food reduces. |
| ⭘ | D. | Considerable amounts of water is used, often where its supply is limited. |

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| 26. | Why is there an increasing demand for organic produce in the UK? (you can select more than one) | |
| ⭘ | A. | They are better for the environment as chemical pesticides and fertilisers are used. |
| ⭘ | B. | They are better for the environment as chemical pesticides and fertilisers are not used. |
| ⭘ | C. | They are healthier |
| ⭘ | D. | Animals are not fed drugs. |

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| 27. | Why is organic produce expensive? | |
| ⭘ | A. | Yields tend to be lower and production is more expensive. |
| ⭘ | B. | Yields tend to be higher and production less expensive. |
| ⭘ | C. | Yields tend to be higher and production is more expensive. |

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| 28. | True or false? Some foods grown in the UK have a higher carbon footprint than if they were imported due to the requirement of heated greenhouses. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 29. | True or false? Boats have higher carbon emissions than planes which is why most produce is transported by air. | |
| ⭘ | A. | ﻿True |
| ⭘ | B. | False |

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| 30. | What does local food sourcing involve? (you can select more than one) | |
| ⭘ | A. | Eating seasonal food |
| ⭘ | B. | Eating locally produced food from farmers’ markets or farm shops. |
| ⭘ | C. | Home growing food |
| ⭘ | D. | Importing only foods that cannot be grown in the UK |

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| 31. | What is agribusiness? | |
| ⭘ | A. | Increasing the size of farms by reducing hedgerows, combining smaller farms and increasing the use of mechanisation and chemicals. |
| ⭘ | B. | Decreasing the size of farms by increasing hedgerows, encouraging smaller farms and reducing the use of mechanisation and chemicals. |
| ⭘ | C. | Using farming techniques that involve more environmentally friendly approaches including rotating crops and not injecting animals with hormones. |
| ⭘ | D. | A type of farming that involves encouraging people to grow their own food and selling excess produce. |

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| 32. | True or false? Agribusiness is beneficial to the environment. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 33. | What is seasonal produce? | |
| ⭘ | A. | Seasonal produce refers to food that is imported from other countries. |
| ⭘ | B. | Seasonal produce is food that is grown every season. |
| ⭘ | C. | Seasonal produce refers to the times of year when the harvest or the flavour of a given type food is at its peak |
| ⭘ | D. | All of the above |

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| 34. | Which of the following best describes the UK’s changing demand for water? | |
| ⭘ | A. | The amount of water used by the average household has increased by 20% since 1985. |
| ⭘ | B. | The amount of water used by the average household has decreased by 70% since 1985. |
| ⭘ | C. | The amount of water used by the average household has increased by 70% since 1985. |
| ⭘ | D. | The amount of water used by the average household has increased by 40% since 1985. |

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| 35. | Which of the following are reasons for the increasing demand for water in the UK? (you ca select more than one) | |
| ⭘ | A. | Increase in the population of the UK |
| ⭘ | B. | Increasing demand due to wealth (more people are buying water-intensive appliances) |
| ⭘ | C. | Increasing demand for out-of-season food. |
| ⭘ | D. | Falling rainfall levels. |

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| 36. | Where are the areas of water deficit and surplus in the UK? | |
| ⭘ | A. | West = water surplus, south east – water deficit |
| ⭘ | B. | South east = water surplus, west – water deficit |
| ⭘ | C. | South = water surplus, north – water deficit |

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| 37. | Which of the following is a social reason for not developing a national grid for water so that water would flow through pipes from areas of surplus to areas of deficit? | |
| ⭘ | A. | Enormous cost to install |
| ⭘ | B. | Local communities would be displaced |
| ⭘ | C. | Ecology would be affected by dams and reservoirs |
| ⭘ | D. | Increased carbon emissions caused by pumping water |

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| 38. | Which of the following is an example of a water transfer scheme in the UK? | |
| ⭘ | A. | Kielder |
| ⭘ | B. | Keld |
| ⭘ | C. | Thames |
| ⭘ | D. | Humber |

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| 39. | What % of UK water is classified as ‘good status’ under the EU Water Framework Directive? | |
| ⭘ | A. | 17% |
| ⭘ | B. | 27% |
| ⭘ | C. | 37% |
| ⭘ | D. | 47% |

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| 40. | Which of the following is not a cause of water pollution in the UK? | |
| ⭘ | A. | Chemical pesticides and fertilisers from farmland |
| ⭘ | B. | Oil from boats and ships |
| ⭘ | C. | Hot water from cooling processes pumped into rivers |
| ⭘ | D. | Water transfer schemes |

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| 41. | Which of the following is a social impact of water pollution in the UK? | |
| ⭘ | A. | Pesticides kill aquatic life |
| ⭘ | B. | Toxins, that contaminate shellfish or fish can cause birth defects and cancer. |
| ⭘ | C. | Fertilisers lead to eutrophication |
| ⭘ | D. | Increased water temperature can lead to the death of wildlife. |

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| 42. | Which of the following is not a strategy for managing water quality and pollution? | |
| ⭘ | A. | Legislation |
| ⭘ | B. | Education |
| ⭘ | C. | Waste treatment plants |
| ⭘ | D. | Household filters |

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| 43. | Which of the following is a governmental method of managing water quality and pollution? | |
| ⭘ | A. | Creating legislation |
| ⭘ | B. | Constructing green roofs on buildings that filter out pollutants |
| ⭘ | C. | Development of waste treatment plants |

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| 44. | What has happened to the demand for energy in the UK since 1970? | |
| ⭘ | A. | The demand for energy has increased by 6% |
| ⭘ | B. | The demand for energy has increased by 12% |
| ⭘ | C. | The demand for energy has decreased by 6% |
| ⭘ | D. | The demand for energy has decreased by 12% |

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| 45. | Which of the following areas has experienced an increase in demand for energy in the UK since 1970? | |
| ⭘ | A. | Heavy industry |
| ⭘ | B. | Domestic |
| ⭘ | C. | Transport |

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| 46. | True or false? Heavy industry in the UK uses 60% less energy now than in 1970? | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 47. | The energy mix for the UK at 11am on 18th August 2019 was:  Nuclear 21.6% Gas 12.6% Coal 0.0%  Wind 33.0% Solar 19.5% Hydro 1.5% Biomass 4.7% Import 6.7% Storage 0.0% Other 0.4%  Which of the following statements is true? | |
| ⭘ | A. | The majority of the energy produced involved using non-renewable energy sources. |
| ⭘ | B. | The majority of the energy produced involved using renewable energy sources. |

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| 48. | True or false? Nuclear energy is a non-renewable energy resource; however, it does not contribute greenhouse gases. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 49. | True or false? Renewable energy sources contribute to climate change. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 50. | Which of the following are examples of fossil fuels? (you can select more than one) | |
| ⭘ | A. | Coal |
| ⭘ | B. | Oil |
| ⭘ | C. | Natural gas |
| ⭘ | D. | Nuclear energy |

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| 51. | Why is the UK becoming less reliant on fossil fuels in energy production? | |
| ⭘ | A. | Declining reserves of coal, oil and gas in the UK |
| ⭘ | B. | Existing nuclear energy power stations are due to close by 2023 |
| ⭘ | C. | Targets for greenhouse gas emissions |
| ⭘ | D. | All of the above |

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| 52. | Which of the following is an environmental issue associated with fossil fuels? | |
| ⭘ | A. | Non-renewable energy sources are unsustainable, the economic cost of extraction will become too high. |
| ⭘ | B. | Miners suffer job-related diseases. |
| ⭘ | C. | Carbon dioxide is released leading to climate change and acid rain. |
| ⭘ | D. | There are significant costs associated with dealing with the effects of climate change. |

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| 53. | True or false? An economic impact of using nuclear energy as a source of energy are the high costs associated with transporting and storing nuclear waste. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 54. | Which of the following are environmental issues associated with renewable energy resources? (you can select more than one) | |
| ⭘ | A. | Many renewables are considered unattractive and ruin views in the countryside and the coast. |
| ⭘ | B. | Wind turbines affect bird migration and bat life. |
| ⭘ | C. | Tourism declines as environments lose their visual attraction. |
| ⭘ | D. | Hydroelectric dams flood land upstream, changing the landscape and wildlife. |

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| 55. | Which of the following are economic issues associated with renewable energy resources? (you can select more than one) | |
| ⭘ | A. | Biomass means land is not used for food production, potentially increasing costs. |
| ⭘ | B. | Low profitability is a concern. |
| ⭘ | C. | Cost of construction rises in remote areas. |
| ⭘ | D. | Biomass reduces biodiversity. |

**Optional Unit: Food**

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| 56. | True or false? The world produces enough food to feed everyone on the planet | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 57. | What is food insecurity? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. |
| ⭘ | B. | Being without reliable access to a sufficient quantity of affordable, nutritious food. |
| ⭘ | C. | When people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system. |
| ⭘ | D. | A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death. |

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| 58. | What is famine? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. |
| ⭘ | B. | Being without reliable access to a sufficient quantity of affordable, nutritious food. |
| ⭘ | C. | When people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system. |
| ⭘ | D. | A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death. |

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| 59. | What is undernutrition? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. |
| ⭘ | B. | Being without reliable access to a sufficient quantity of affordable, nutritious food. |
| ⭘ | C. | When people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system. |
| ⭘ | D. | A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death. |

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| 60. | What is food security? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life. |
| ⭘ | B. | Being without reliable access to a sufficient quantity of affordable, nutritious food. |
| ⭘ | C. | When people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system. |
| ⭘ | D. | A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death. |

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| 61. | Which of the following statements about calorie intake is not true? | |
| ⭘ | A. | On average people need 2500 calories per day |
| ⭘ | B. | Calorie intake around the world is uneven |
| ⭘ | C. | The highest calorie intake is in North America and Europe |
| ⭘ | D. | The lowest calorie intake is in Australasia. |

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| 62. | Which of the following regions experience food insecurity? | |
| ⭘ | A. | Africa, the Middle East and parts of Asia |
| ⭘ | B. | Europe, the Middle East and parts of Asia |
| ⭘ | C. | South America, the Middle East and parts of Asia |
| ⭘ | D. | Africa, the Middle East and parts of Europe |

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| 63. | Which of the following is not a reason for rapid economic development causing an increase demand for food? | |
| ⭘ | A. | As people become richer, they can afford to buy a greater quantity and variety of food. |
| ⭘ | B. | Meat consumption increases with economic development. |
| ⭘ | C. | Demand for convenience and highly processed foods increases with economic development. |
| ⭘ | D. | Economic development reduces the amount of food produced. |

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| 64. | True or false? The world’s population has increased rapidly since 1950. Most of this growth has been in LICs and NEEs where food production is low and many people suffer from food insecurity. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 65. | Which of the following are factors that can affect food supply? (you can select more than one answer) | |
| ⭘ | A. | Climate |
| ⭘ | B. | Technology |
| ⭘ | C. | Pests and diseases |
| ⭘ | D. | Water stress |
| ⭘ | E. | Conflict |
| ⭘ | F. | Poverty |

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| 66. | Which of the following is not a climatic factor that affects food supply? | |
| ⭘ | A. | Droughts |
| ⭘ | B. | Climate change |
| ⭘ | C. | Floods |
| ⭘ | D. | Lack of irrigation |

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| 67. | Which of the following are examples of technology that can affect food supply? (you can select more than one answer) | |
| ⭘ | A. | Lack of irrigation |
| ⭘ | B. | Lack of storage facilities |
| ⭘ | C. | Lack of transport infrastructure |
| ⭘ | D. | Locusts devastating crops |

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| 68. | True or false? Water stress is caused by a lack of water security, together with drought, climate change and the expense of large-scale water transfer projects. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 69. | Which of the following is not an example of how poverty can have an effect on food supply? | |
| ⭘ | A. | Farmers cannot afford high-quality seeds |
| ⭘ | B. | A lack of balanced diet reduces a farmer’s ability to work |
| ⭘ | C. | Drought |
| ⭘ | D. | A lack of machinery that would enable greater yields |

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| 70. | Which of the following is not an example of the impacts of food insecurity? | |
| ⭘ | A. | Famine and under nourishment |
| ⭘ | B. | Soil erosion |
| ⭘ | C. | Rising prices |
| ⭘ | D. | Social unrest |
| ⭘ | E. | They all are |

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| 71. | Which of the following are strategies that can be used to increase food supply? | |
| ⭘ | A. | Irrigation |
| ⭘ | B. | Aeroponics and hydroponics |
| ⭘ | C. | New green revolution use of technology |
| ⭘ | D. | Biotechnology |
| ⭘ | E. | Appropriate technology |
| ⭘ | F. | Reducing farm sizes |

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| 72. | Identify the strategy for increasing food supply described below:  This is a controversial scientific approach aimed at increasing yields by genetically modifying products or processes. | |
| ⭘ | A. | Irrigation |
| ⭘ | B. | Aeroponics and hydroponics |
| ⭘ | C. | New green revolution use of technology |
| ⭘ | D. | Biotechnology |
| ⭘ | E. | Appropriate technology |

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| 73. | Identify the strategy for increasing food supply described below:  A modern scientific technique to grow crops without using soil. | |
| ⭘ | A. | Irrigation |
| ⭘ | B. | Aeroponics and hydroponics |
| ⭘ | C. | New green revolution use of technology |
| ⭘ | D. | Biotechnology |
| ⭘ | E. | Appropriate technology |

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| 74. | Identify the strategy for increasing food supply described below:  Abstracting water from a river or aquifer to provide water then there is not enough available naturally. | |
| ⭘ | A. | Irrigation |
| ⭘ | B. | Aeroponics and hydroponics |
| ⭘ | C. | New green revolution use of technology |
| ⭘ | D. | Biotechnology |
| ⭘ | E. | Appropriate technology |

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| 75. | Identify the strategy for increasing food supply described below:  An approach that is sustainable and environmentally friendly. It promotes nutrient recycling, crop rotation and mixed farming. | |
| ⭘ | A. | Irrigation |
| ⭘ | B. | Aeroponics and hydroponics |
| ⭘ | C. | New green revolution use of technology |
| ⭘ | D. | Biotechnology |
| ⭘ | E. | Appropriate technology |

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| 76. | Identify the strategy for increasing food supply described below:  The use of low-technology solutions, often with the support of NGOs and charities. | |
| ⭘ | A. | Irrigation |
| ⭘ | B. | Aeroponics and hydroponics |
| ⭘ | C. | New green revolution use of technology |
| ⭘ | D. | Biotechnology |
| ⭘ | E. | Appropriate technology |

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| 77. | True or false? Hydroponics and aeroponics are the same agricultural techniques. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 78. | Which of the following statements is correct? | |
| ⭘ | A. | “Food loss” refers to food that spills, spoils, incurs an abnormal reduction in quality such as bruising or wilting, or otherwise gets lost before it reaches the consumer. ... Food waste typically, but not exclusively, takes place at the retail and consumption stages in the food value chain |
| ⭘ | B. | “Food waste” refers to food that spills, spoils, incurs an abnormal reduction in quality such as bruising or wilting, or otherwise gets wasted before it reaches the consumer. ... Food loss typically, but not exclusively, takes place at the retail and consumption stages in the food value chain. |

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| 79. | Which of the following is not a strategy for reducing food waste? | |
| ⭘ | A. | Introducing refrigerated storage. |
| ⭘ | B. | Improving the transport infrastructure. |
| ⭘ | C. | Processing food to lengthen its shelf-life |
| ⭘ | D. | Tackling pests in the field with pesticides. |

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| 80. | Which sustainable food initiative leads to an initial decline in yields? | |
| ⭘ | A. | Reducing food waste |
| ⭘ | B. | Urban farming |
| ⭘ | C. | Organic farming |

**Optional Unit: Water**

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| 56. | True or false? The availability of water is equal across the world. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 57. | What is water insecurity? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, water to maintain a healthy and active life. |
| ⭘ | B. | When water availability is not enough to ensure the population of an area enjoys good health, livelihood and earnings. This can be caused by water insufficiency or poor water quality |
| ⭘ | C. | When people do not have enough water to cover their needs for or to maintain a healthy immune system. |
| ⭘ | D. | A widespread, serious, shortage of water. In the worst cases it can lead to death. |

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| 58. | What is water deficit? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, water to maintain a healthy and active life. |
| ⭘ | B. | Where water supply is greater than demand. |
| ⭘ | C. | Where water supply is lower than demand. |
| ⭘ | D. | The quality of water in terms of the chemical, physical and biological content of water. |

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| 59. | What is water surplus? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, water to maintain a healthy and active life. |
| ⭘ | B. | Where water supply is greater than demand. |
| ⭘ | C. | Where water supply is lower than demand. |
| ⭘ | D. | The quality of water in terms of the chemical, physical and biological content of water. |

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| 60. | What is water security? | |
| ⭘ | A. | When people at all times have access to sufficient, safe, water to maintain a healthy and active life. |
| ⭘ | B. | When water availability is not enough to ensure the population of an area enjoys good health, livelihood and earnings. This can be caused by water insufficiency or poor water quality |
| ⭘ | C. | When people do not have enough water to cover their needs for or to maintain a healthy immune system. |
| ⭘ | D. | A widespread, serious, shortage of water. In the worst cases it can lead to death. |

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| 61. | Which of the following statements about water intake is not true? | |
| ⭘ | A. | On average people need 2 litres of water per day to survive. |
| ⭘ | B. | Water consumption around the world is uneven. |
| ⭘ | C. | Water consumption around the world is even. |

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| 62. | Which of the following is not a reason for rapid economic development causing an increase demand for water? | |
| ⭘ | A. | Farming becomes more intensive, leading to an increased demand for water. |
| ⭘ | B. | Processing and manufacturing industries develop and require large quantities of water. |
| ⭘ | C. | As urbanisation occurs, there is a greater demand for water for drinking, washing and sanitation. |
| ⭘ | D. | As people become wealthier their demand for water decreases. |

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| 63. | True or false? The world’s population has increased rapidly since 1950. Most of this growth has been in LICs and NEEs where countries already suffer from a water deficit or water stress. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 64. | Which of the following are factors that can affect water availability? (you can select more than one answer) | |
| ⭘ | A. | Climate |
| ⭘ | B. | Geology |
| ⭘ | C. | Pollution of supply |
| ⭘ | D. | Over-abstraction |
| ⭘ | E. | Limited infrastructure |
| ⭘ | F. | Poverty |

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| 65. | True or false? Areas of low rainfall may experience water stress. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 66. | True or false? Water stress is caused by a lack of water security, together with drought, climate change and the expense of large-scale water transfer projects. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 67. | Aquifers are extremely important sources of water in many parts of the world. What does this relate to? | |
| ⭘ | A. | Climate |
| ⭘ | B. | Geology |
| ⭘ | C. | Over-abstraction |
| ⭘ | D. | Limited infrastructure |

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| 68. | Which of the following is not an example of the impacts of water insecurity? | |
| ⭘ | A. | Waterborne disease and water pollution |
| ⭘ | B. | Food production |
| ⭘ | C. | Industrial output |
| ⭘ | D. | Potential for conflict |
| ⭘ | E. | They all are |

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| 69. | Which of the following is not a strategy that can be used to increase water supply? | |
| ⭘ | A. | Water diversion and increasing storage |
| ⭘ | B. | Dam and reservoir construction |
| ⭘ | C. | Water transfers |
| ⭘ | D. | Desalination |
| ⭘ | E. | Hydroponics |

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| 70. | True or false? In parts of the world with high rates of evaporation surface water is diverted underground to be stored in aquifers. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 71. | Identify the strategy for increasing water supply described below:  Vast amounts of water is stored on the surface of the earth. | |
| ⭘ | A. | Water diversion and increasing storage |
| ⭘ | B. | Dam and reservoir constructions |
| ⭘ | C. | Water transfers |
| ⭘ | D. | Desalination |
| ⭘ | E. | Permaculture |

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| 72. | Identify the strategy for increasing water supply described below:  Using canals or pipelines to move water from areas of surplus to deficit. | |
| ⭘ | A. | Water diversion and increasing storage |
| ⭘ | B. | Dam and reservoir constructions |
| ⭘ | C. | Water transfers |
| ⭘ | D. | Desalination |
| ⭘ | E. | Permaculture |

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| 73. | Identify the strategy for increasing water supply described below:  Extracting salt from sea water to create fresh drinking water. | |
| ⭘ | A. | Water diversion and increasing storage |
| ⭘ | B. | Dam and reservoir constructions |
| ⭘ | C. | Water transfers |
| ⭘ | D. | Desalination |
| ⭘ | E. | Permaculture |

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| 74. | Which of the following is not an example of the problems associated with desalinisation? | |
| ⭘ | A. | Extremely expensive |
| ⭘ | B. | Consumes a significant amount of energy |
| ⭘ | C. | It is only really an option for HICs |
| ⭘ | D. | People often have to move home and large areas of land are flooded. |

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| 75. | Identify the strategy for achieving sustainable water supplies:  Treating water and then reuse it for irrigation, electricity generation and industrial processes. | |
| ⭘ | A. | Water conservation |
| ⭘ | B. | Groundwater management |
| ⭘ | C. | Water recycling |
| ⭘ | D. | Grey water |

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| 76. | Identify the strategy for achieving sustainable water supplies:  Reusing domestic wastewater for other purposes e.g. capturing water from the roof and using it to flush the toilet. | |
| ⭘ | A. | Water conservation |
| ⭘ | B. | Groundwater management |
| ⭘ | C. | Water recycling |
| ⭘ | D. | Grey water |

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| 77. | Identify the strategy for achieving sustainable water supplies:  Reducing waste and using water more sparingly. | |
| ⭘ | A. | Water conservation |
| ⭘ | B. | Groundwater management |
| ⭘ | C. | Water recycling |
| ⭘ | D. | Grey water |

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| 78. | Identify the strategy for achieving sustainable water supplies:  Balancing water extraction from aquifers with natural and artificial recharge. | |
| ⭘ | A. | Water conservation |
| ⭘ | B. | Groundwater management |
| ⭘ | C. | Water recycling |
| ⭘ | D. | Grey water |

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| 79. | True or false? A sustainable water supply does not cause damage to the natural environment, involves and benefits local people, supports the local economy and can be adopted by both HICs and LICs | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 80. | Which of the following are examples of water conservation strategies? (you can select more than one) | |
| ⭘ | A. | Installation of water meters |
| ⭘ | B. | Using more efficient irrigation strategies |
| ⭘ | C. | Preventing water pollution in rivers |
| ⭘ | D. | Reducing leakages |

**Optional Unit: Energy**

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| 56. | True or false? Global patterns of energy consumption and production are even. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 57. | What is energy insecurity? | |
| ⭘ | A. | The ability of a country to be able to provide energy for their citizens at an affordable price. |
| ⭘ | B. | When a country has low reserves and limited ability to produce energy for their citizens at a reasonable price. |
| ⭘ | C. | The difference between the energy that countries can provide for their citizens (the supply) and how much energy is actually needed (the demand) |
| ⭘ | D. | The capacity or power to do work. |

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| 58. | What is an energy gap? | |
| ⭘ | A. | The ability of a country to be able to provide energy for their citizens at an affordable price. |
| ⭘ | B. | When a country has low reserves and limited ability to produce energy for their citizens at a reasonable price. |
| ⭘ | C. | The difference between the energy that countries can provide for their citizens (the supply) and how much energy is actually needed (the demand) |
| ⭘ | D. | The capacity or power to do work. |

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| 59. | What is energy security? | |
| ⭘ | A. | The ability of a country to be able to provide energy for their citizens at an affordable price. |
| ⭘ | B. | When a country has low reserves and limited ability to produce energy for their citizens at a reasonable price. |
| ⭘ | C. | The difference between the energy that countries can provide for their citizens (the supply) and how much energy is actually needed (the demand) |
| ⭘ | D. | The capacity or power to do work. |

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| 60. | What is energy? | |
| ⭘ | A. | The ability of a country to be able to provide energy for their citizens at an affordable price. |
| ⭘ | B. | When a country has low reserves and limited ability to produce energy for their citizens at a reasonable price. |
| ⭘ | C. | The difference between the energy that countries can provide for their citizens (the supply) and how much energy is actually needed (the demand) |
| ⭘ | D. | The capacity or power to do work. |

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| 61. | Which of the following statements about energy is not true? | |
| ⭘ | A. | Energy is required for a range of activities including heating, lighting and producing food. |
| ⭘ | B. | As a country develops, increasing amounts of energy are required. |
| ⭘ | C. | As a country develops, its demand for energy reduces. |

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| 62. | Which of the following regions contain countries with rich energy resources? | |
| ⭘ | A. | North America, Europe, Australasia and parts of the Middle East |
| ⭘ | B. | Europe, the Middle East and parts of Asia |
| ⭘ | C. | South America, the Middle East and parts of Asia |
| ⭘ | D. | Africa, the Middle East and parts of Europe |

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| 63. | Which of the following statements in not true? | |
| ⭘ | A. | Both HICs and LICs can experience energy insecurity. |
| ⭘ | B. | Countries with the lowest levels of energy insecurity are those with high levels of resources such as Canada, Russia and Saudi Arabia. |
| ⭘ | C. | Even some countries with a high energy supply can experience insecurity due to high demand. |
| ⭘ | D. | Only LICs and NEEs experience energy insecurity. |

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| 64. | Which of the following is not a reason for increasing energy consumption? | |
| ⭘ | A. | Economic development – as a country develops the demand for energy increases. |
| ⭘ | B. | Rising population – the growth in world population has increased demand for energy. |
| ⭘ | C. | Technology – developments have led to a greater range of products that use energy, especially in the home. |
| ⭘ | D. | Grey water – more energy Is required to recycle grey water. |

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| 65. | True or false? The world’s population has increased rapidly since 1950. Most of this growth has been in LICs and NEEs where energy production is low and many people suffer from energy insecurity. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 66. | Which of the following are examples of the way technology that can affect energy supply? (you can select more than one answer) | |
| ⭘ | A. | Technology enables fossil fuels to be extracted from challenging environments. |
| ⭘ | B. | Renewable energy technology has now become more efficient and cost-effective. |
| ⭘ | C. | Improvements in the efficiency of vehicle engines have reduced fuel consumption |
| ⭘ | D. | Technological advances have led to more effective energy conservation both in the workplace and at home. |

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| 67. | Which of the following are examples of how economic development has led to the rising demand for energy? (you can select more than one answer) | |
| ⭘ | A. | Agriculture becomes more intensive requiring large quantities of energy to power machinery. |
| ⭘ | B. | Rapid industrialisation in LICs and NEEs is increasing the demand for energy in factories etc. |
| ⭘ | C. | As car ownership increases with economic development there is a greater demand for energy. |
| ⭘ | D. | Urbanisation, caused by economic development, increases the demand for domestic energy. |

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| 68. | Which of the following is not an example of a factor that affects energy availability? | |
| ⭘ | A. | Physical factors |
| ⭘ | B. | Cost of exploitation and production |
| ⭘ | C. | Technology |
| ⭘ | D. | Political factors |
| ⭘ | E. | Water stress |

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| 69. | Which of the following are impacts of energy insecurity? | |
| ⭘ | A. | Exploration in sensitive environments |
| ⭘ | B. | Economic and environmental costs |
| ⭘ | C. | Food production |
| ⭘ | D. | Industrial output |
| ⭘ | E. | Reduced farm sizes |
| ⭘ | F. | Conflict |

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| 70. | Which of the following are examples of impacts of energy exploration in sensitive environments? (you can select more than one) | |
| ⭘ | A. | Drilling for oil and gas in Alaska and Siberia threatens fragile polar and tundra environments. |
| ⭘ | B. | In tropical regions, rainforests have been cleared to make way for biofuel production. |
| ⭘ | C. | Construction of wind and solar farms is controversial especially in attractive landscapes. |
| ⭘ | D. | Construction of dams and reservoirs has limited impact on the natural environment. |

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| 71. | True or false? There are two main strategies for increasing energy supply. These are:   1. Continue to develop non-renewable fossil fuels and nuclear power 2. Develop further alternative energy resources | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 72. | Which of the following is not an example of a renewable energy resource? | |
| ⭘ | A. | Biomass |
| ⭘ | B. | Wind |
| ⭘ | C. | HEP |
| ⭘ | D. | Nuclear |
| ⭘ | E. | Solar |

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| 73. | Which of the following is not an example of an advantage of hydro-electric power? | |
| ⭘ | A. | Very efficient and effective. |
| ⭘ | B. | Can involve low-tech organic matter. |
| ⭘ | C. | Well suited to remote, mountainous environments. |
| ⭘ | D. | Micro-hydro schemes can supply small, isolated communities. |

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| 74. | Which of the following is not a disadvantage of solar energy? | |
| ⭘ | A. | Dependent on sunshine amounts. |
| ⭘ | B. | Expensive to construct. |
| ⭘ | C. | Controversial use of fields instead of growing food. |
| ⭘ | D. | May affect marine ecosystems. |

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| 75. | True or false? Over 75% of the global renewable energy produced is generated by hydro-electric power. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 76. | Identify the advantages of geothermal energy production. (you can select more than one) | |
| ⭘ | A. | Very effective in volcanic areas. |
| ⭘ | B. | Hot water can be used for industrial processes, swimming pools and heating. |
| ⭘ | C. | Hot water can affect ecology. |
| ⭘ | D. | Involves reservoir construction. |

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| 77. | True or false? Non-renewable energy resources will become too expensive to be extracted. | |
| ⭘ | A. | True |
| ⭘ | B. | False |

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| 78. | Which of the following statements is correct? | |
| ⭘ | A. | Nuclear energy accounts for about 12 per cent of global electricity generation. |
| ⭘ | B. | Nuclear energy accounts for about 22 per cent of global electricity generation. |

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| 79. | Which of the following is not an advantage of natural gas? | |
| ⭘ | A. | It is significantly cleaner than oil and coal. |
| ⭘ | B. | It does not create waste, such as coal ash. |
| ⭘ | C. | Fracking has been linked to subsidence. |
| ⭘ | D. | Huge global reserves. |

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| 80. | Which of the following is not a disadvantage of natural gas? | |
| ⭘ | A. | Leaks can lead to explosions. |
| ⭘ | B. | Infrastructure is expensive |
| ⭘ | C. | Political issues can affect transportation. |
| ⭘ | D. | It disperses quickly in the air. |

**Answers**

1 - D

2 - A

3 - B

4 - C

5 - C

6 - A

7 - A

8 - A

9 - A

10 – A, B and C

11 - A

12 - B

13 – A, C and D

14 - B

15 - B

16 – B

17 – B

18 – A

19 – A

20 – D

21 – B

22 – B

23 – A

24 – B

25 – A & B

26 – B, C and D

27 – A

28 – A

29 – B

30 – A, B , C and D

31 – A

32 – B

33 – C

34 – C

35 – A, B and C

36 – A

37 – B

38 – A

39 – B

40 – D

41 – B

42 – D

43 – A

44 – D

45 – C

46 – A

47 – B

48 – A

49 – B

50 – A, B, C and D

51 – D

52 – C

53 – A

54 – A, B and D

55 – A, B and C

**Optional Unit – Food**

56 – A

57 – B

58 – D

59 – C

60 – A

61 – D

62 – A

63 – D

64 – A

65 – A, B, C, D E and F

66 – D

67 – A, B and C

68 – A

69 – C

70 – E

71 – A, B, C, D and E

72 – D

73 – B

74 – A

75 – C

76 – E

77 – B

78 – A

79 – D

80 – C

**Optional Unit – Water**

56 – B

57 – B

58 – C

59 – B

60 – A

61 – C

62 – D

63 – A

64 - A, B, C, D E and F

65- A

66 – A

67 – B

68 – E

69 – E

70 – A

71 – E

72 – C

73 – D

74 – D

75 – C

76 – D

77 – A

78 – B

79 – A

80 – A, B, C and D

**Optional Unit – Energy**

56 – B

57 – B

58 – C

59 – A

60 – D

61 – C

62 – A

63 – D

64 – D

65 – A

66 – A, B, C and D

67 - A, B, C and D

68 – E

69 – E

70 – D

71 – A

72 – D

73 – B

74 – D

75 – A

76 – A & B

77 – A

78 – A

79 – C

80 – D