Year 10 Work: Week Commencing 22nd June

Last week on GCSEpod you were answering questions on Resource Management. This week's home learning is continuing this theme. Answer the questions below using the information on the following pages. Remember to still do this week's GCSEpod work first though.

Question 1: How are resources distributed across the world

Question 2: Describe why energy is needed

Question 3: Explain why food is needed for economic development

Question 4: Explain why the UK is considered a net importer of food

Question 5: Discuss the reasons for an increase in organic food and farmers markets

Question 6: Evaluate the energy sources that are used worldwide

Keywords

Agribusiness – the application of business skills to agriculture.
Carbon footprint – a measurement of all the greenhouse gases we individually produce, through burning fossil fuels for electricity, transport etc, expressed as tonnes (or kg) of carbon-dioxide equivalent.
Energy mix – the range of energy sources of a region or country, both renewable and non-renewable.
Food miles – a natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
Local food sourcing – a method of food production and distribution that is local, rather than national and/or international. Food is rown (or raised) and harvested close to consumers' homes, then distributed over much shorter distance.
**Organic produce –** food which is produced using environmentally and animal friendly farming methods on organic farms. Artificial fertilisers are banned and farmers develop fertile soil by rotating crops and using compost, manure and clover. It must be free of synthetic additives like pesticides and dyes.
Resource – a stock or supply of something that has a value or purpose. The three most important are food, energy and water.
Resource management – the control and monitoring of resources so that they do not become depleted or exhausted.

Location

Resources are distributed unevenly across the world. Most HICs have plentiful supplies and enjoy a high standard of living. Many of the world's poorer countries, such as in Sub-Saharan Africa, lack resources and struggle to progress or improve quality of life. As population grows, resource management presents challenges.

Hunger Map 2012 – World Food Programme
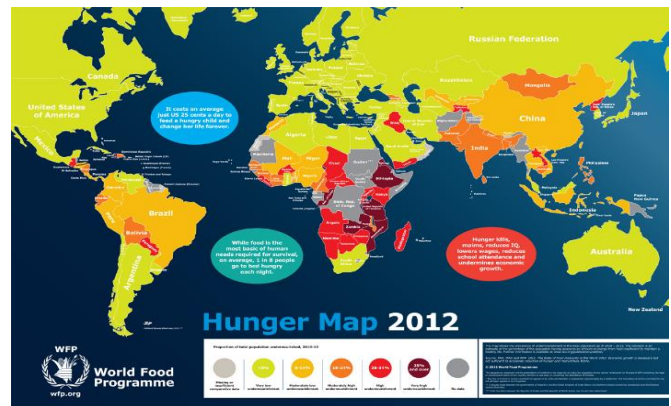
Important Resources

Food – the World Health Organisation (WHO) suggest we need 2000-2400 calories per day to be healthy. Over one billion people fall below this and are described as undernourished.
A further two billion suffer with undernutrition, which can result in a range of diseases. People need to be well fed to be productive at work – so this has economic effects.

Water – water is not only essential for people and animals, also for crops and food supply. As the world's population grows, more people are faced with water shortage. Imbalance in water is mainly due to variations in climate and rainfall. Rainwater needs to be captured and stored or taken from rivers or aquifers deep underground, all of these are very expensive and require high levels of investment. The UN estimates that by 2025 there will be 50 countries facing water scarcity. There are significant differences in water use between low/middle and high-income countries. Low/middle income countries use a higher proportion of water for agriculture compared to high-income countries where most water is used for industry.

Energy – energy is needed for economic development, it provides power for factories and machinery and fuel for transport. In the past many countries could depend on their own energy resources. Today, energy is traded worldwide and energy consumption is increasing. The richest countries use far more than poorer countries in Africa and the Middle East. The Middle East supplies much of the world's oil yet its own consumption is relatively small.

Food in the UK

By 2037 the population of the UK is expected to rise to **73 million**, from **63 million** in 2015. This will increase the future demand for food. Despite the UK's effective farming sector, it is not self-sufficient for food supplies and imports about **40%** of the total food consumed, and this is increasing.

The UK imports so much food because: demand for exotic food is growing, UK climate is unsuitable for some foods and there is demand for seasonal produce all year round.

Importing food causes food miles, shown below. Transporting food is very expensive and importing adds to our carbon footprint.

Water in the UK

Almost **50%** of the UK's water supply is used domestically, but **21%** is wasted through leakage. The Environment Agency suggest demand for water will increase by **5%** by 2020 because of the growing population and more houses being built.

The north and west of the UK have <u>water surplus</u>, where they have a higher supply than is demanded. This is due to high rainfall, plenty of reservoirs and low population density. The south and eat have <u>water deficit</u> where demand exceeds supply. This is because it is densely populated and has the lowest rainfall.

<u>Water stress</u> –where demand exceeds supply, is experienced in more than half of England.

Energy in the UK

Despite increasing demand for electricity in the UK, energy consumption has fallen in recent years, mainly due to the decline of heavy industry and improved energy conservation (**60%** fall in industrial use and **12%** fall in domestic use).

In 1990 almost three-quarters of UK energy came from fossil fuels/non-renewable fuels. By 2014, renewable sources became much more important.

About 75% of the UK's known oil and gas reserves have been exhausted, and by 2020 the UK is likely to be importing 75% of its energy. The UK's energy security is affected as it becomes more dependent on imported energy. The major change in the UK energy mix has been the decline of coal due to concerns about emissions. However, fossil fuels are likely to remain because the UK's reserves will still provide energy, coal imports are cheap, existing power stations se fossil fuels and shale gas deposits will be exploited in the future.

1990
Renewable 4.3%
Nuclear 12.4%
Coal 27.4%
Oil 38%
Gas 18%

2013
Renewable 11.9%
Nuclear 13.7%
Coal 17.3%
Oil 33.7%
Gas 23.4%

Average Household Water Use UK (Waterwise)
Toilet 30%
Baths and taps 21%
Clothes washing 13%
Showers 12%
Washing up 8%
Outdoor 7%
Other 5%
Drinking 4%