

Lithosphere Test 4 Review:

This is a big test and the most involved one we've had for the lithosphere! Review questions are due the day of the test and are worth 20 points. The accompanying Cambridge questions are due **the day before the test** as we will go over it then. That portion is worth 20 points, making this entire review worth 40 points.

Resources of the Lithosphere:

1. Distinguish between renewable and nonrenewable resources.
2. Why are lithosphere resources important?
3. What are fossil fuels and how, in general, are they formed?
4. Why do we rely primarily on fossil fuels?
5. Create a chart (bullet points are fine!) comparing and contrasting coal, petroleum, and natural gas. Be sure to include uses, formations, and advantages and disadvantages of each.
6. Draw the Hubbert curve and briefly explain its significance.

Mining:

7. What is the difference between surface and subsurface mining?
8. Compare and contrast the following types of surface mining: open-pit mining, quarrying, strip mining, and mountain-top removal.

Nuclear Power: (see the powerpoint on nuclear power on my website if you need help)

9. What is the difference between nuclear fission and nuclear fusion?
10. Outline how nuclear fission works (include fuel source, control rod function, construction, and basically what is happening).
11. How is nuclear fuel obtained?
12. What are some concerns of nuclear power?
13. Briefly outline what happened at 3 Mile Island and Chernobyl.

Energy Sustainability:

14. What is renewable energy and how does it relate to energy sustainability?
15. What is the difference between energy conservation and efficiency?
16. Explain, using examples, the concept of sustainable design.
17. What are some challenges to energy sustainability?
18. Select one type of renewable energy technology that you feel should be more heavily invested in and explain why you think this is. Include a brief description of how the tech functions.

(There are not questions for each type of tech, though all discussed technologies will be on your test! For each type of technology you should be familiar with how it is used, where it can be installed, who uses it, and its pros and cons. You do not need to know exact numbers or percentages for any fuel or energy, though you should be familiar with which are most popular and on the rise.)

Name: _____ Period: _____ Date: _____

Lithosphere Test 4: Lithosphere Resources and Renewable Technologies, Cambridge Questions

Answer the following Cambridge questions on this paper for 20 points, due the day before the test.

- 1 (a) Fig. 1.1 contains information on fossil fuel consumption for selected areas in 2004.

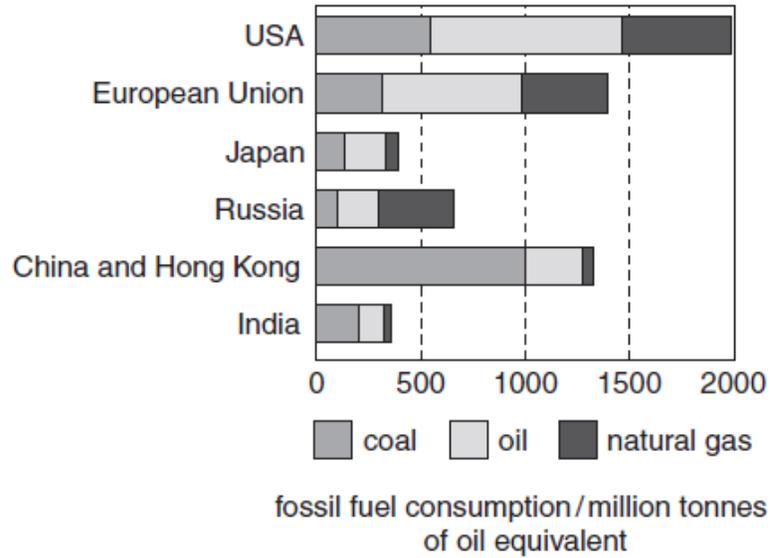


Fig. 1.1

- (i) Which areas had the highest consumption of coal, oil and natural gas?

coal

oil

natural gas..... [3]

- (ii) Outline **one** way in which fossil fuel consumption in the United States is similar to that in the European Union. Give **three** reasons for this.

Similarity.....

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Reason 1

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Reason 2.....

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Reason 3.....

..... [4]

- (iii) Suggest why geothermal energy and energy from waste have shown a small percentage change in the period 2005 to 2006. Give **one** reason for each.

geothermal

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waste

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..... [2]

- (iv) For **either** biofuels **or** wind farms explain why, whilst they have shown a high increase in percentage energy consumption, their development is frequently criticised.

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..... [4]

[Total: 20]

2.

(a) Fig. 1.1 shows world energy consumption in terms of different resources between 1985 and 2010.

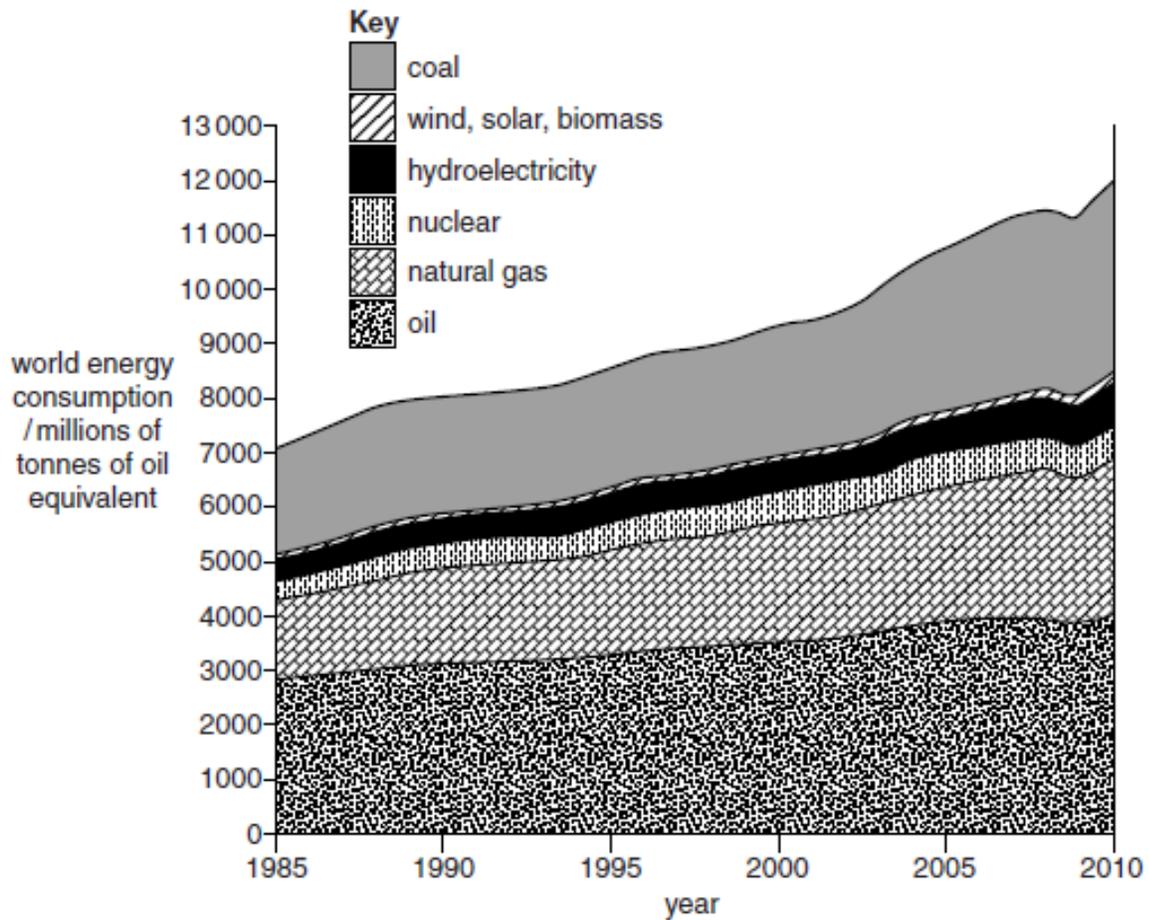


Fig. 1.1

(i) From Fig. 1.1 name **three** non-renewable resources.

..... [1]

(ii) By how much, in millions of tonnes of oil equivalent, has:

- total energy consumption increased between 1985 and 2010,

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- consumption of coal increased between 1985 and 2010?

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..... [3]

- (i) State **two** ways in which the energy consumption of France and India are different.
Briefly explain the differences you have identified.

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- (ii) State **two** ways in which the energy consumption of France and India are similar.
Briefly explain the similarities you have identified.

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[Total: 20]