

Sources of Energy: In-Text Questions

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Q.1 What is a good source of energy?

Sol. A good source of energy should be renewable, economically cheap, easily available and eco-friendly.

Q.2 What is a good fuel?

Sol. A good fuel should have following characteristics:

- (i) It should produce a high amount of heat or energy with no smoke for each unit of mass or volume.
- (ii) It should be easily available and easy to transport.
- (iii) It should be economically cheap.
- (iv) It should be environment friendly.

Q.3 If you could use any source of energy for heating your food, which one would you use and why?

Sol. I would prefer to use LPG (Liquefied Petroleum Gas) for heating my food; because it is easily available in my kitchen, gives no smoke and takes less time to heating food.

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Q.1 What are the disadvantages of fossil fuels?

Sol. The disadvantages of fossil fuels are:

- (a) These fuels are non-renewable.
- (b) These fuels produce smoke on combustion which leads to air pollution.
- (c) On combustion, these fuels produce CO_2 gas which increase the greenhouse effect.
- (d) These fuels cannot be produced in short period of time. It takes millions of years to form them.

Q.2 Why are we looking at alternate sources of energy?

Sol. Due to fast growing population, the demand of energy will rise. Fossil fuels are non-renewable source of energy and they are going to be exhausted in the near future. They cannot be replenished. On combustion, they produce air pollution. Therefore, we need to find an alternate source of energy which renewable and eco-friendly.

Q.3 How has the traditional use of wind and water energy been modified for our convenience?

Sol. In older days, wind energy were used to do mechanical work like lifting or drawing water from well etc. The flow of water was used for transporting wooden logs and essential goods. But the ways of their use were not efficient. Now-a-days, both wind energy and water energy are being used to produce electricity which is more efficient use of these forms of energy.

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Q.1 What kind of mirror; concave or convex or plain would be best suited for use in a solar cooker? Why?

Sol. A concave mirror would be best suited for use in a solar cooker. Because the concave mirror have ability to converge the solar energy at a point. This enables solar cooker to produce a larger amount of heat compare to other types of mirror.

Q.2 What are the limitations of the energy that can be obtained from the oceans?

Sol. The limitations of energy which can be obtained from the oceans are:

- (i) These forms of energy can be produced in selected area i.e. only in coastal areas.
- (ii) The technologies is used for production of these energy very costly and less efficient.

Q.3 What is geothermal energy?

Sol. The energy which is obtained from the heat of inside the earth is called geothermal energy. In geothermal energy, the molten rocks at the core of the earth are pushed to the earth's crust.

Q.4 What are the advantages of nuclear energy?

Sol. The advantages of nuclear energy are:

- (i) A small amount of radioactive material produces a large amount of energy.
- (ii) It does not produce air pollution. It is clean.
- (iii) It is more efficient than other power plants.
- (iv) It does not produce gases like CO₂ which leads to green house effect.

Q.5 Can any source of energy be pollution free? Why or why not?

Sol. No source of energy can be pollution free. Because if it is clean source, its production may cause some environmental damage.

Q.6 Hydrogen has been used as a rocket fuel. Would you consider it a cleaner fuel than CNG? Why or why not?

Sol. Hydrogen is a much cleaner fuel than CNG. Because on burning hydrogen gives water which is totally harmless. While on burning CNG (compressed natural gas) gives CO₂ gas which leads to greenhouse effect.

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Q.1 Name two energy sources that you would consider to be renewable. Give reasons for your choices.

Sol. Solar energy and wind energy are examples of renewable energy sources because these energies are easily available for the long period of time and get quickly replenished.

Q.2 Gives the names of two energy sources that you would consider to be exhaustible. Give reasons for your choice.

Sol. Coal and petroleum are exhaustible energy sources because these sources are going to be finished in upcoming years and it will take millions of years for their production.