



CLASS X
PHYSICS
CHAPTER 12 – SOURCES OF ENERGY

SOLUTIONS

TEXTUAL QUESTIONS AND ANSWERS
EXERCISES

Q1. What is a good source of energy?

Ans: A good source of energy is the source which satisfies the following-

- The source should produce a large amount of work on burning unit volume or unit mass of it.
- It should be economical and abundantly available.
- Easy to transport and store
- It should be safe to use and handle
- It should be eco-friendly

Q2. What is a good fuel?

Ans: A good fuel is the fuel which has the following features-

- It should have high calorific value.
- It should have a proper ignition temperature.
- It should be smokeless.
- It should not produce any poisonous gas on burning.
- It should be cheap and easily available.

Q3. If you could use any source of energy for heating your food, which one would you use and why?

Ans: I will use Liquefied Petroleum Gas (natural gas) for heating my food because it is a good domestic fuel and easily available. It is also eco-friendly.



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Q4. What kind of mirror- concave or convex or plane would be best suited for use in a solar cooker?

Ans: Concave mirror would be best suited for use in a solar cooker. This mirror converges the parallel rays coming from the sun and traps more heat at a point i.e, the focus of the mirror.

Q5. What is geothermal energy?

Ans: Geothermal energy is the heat energy obtained from hot molten rocks present inside the earth's crust . This energy can be used to generate electricity.

Q6. Can any source of energy be pollution free? Give reason in support of your answer?

Ans: Yes.

Wind is a source of energy which is pollution free because it does not produce any harmful byproduct that cause pollution to the environment

Q7. Name any two energy source that you would consider to be renewable. Give reasons for your choice.

Ans: Hydro power plant and biogas plants are the two energy source that we consider to be renewable.

The reasons are-

- a. Water reservoir and water fall are used for hydro power plant. These two sources are refilled during rainy season. It is a natural process of water cycle.
- b. Biomass is a necessary requirement for biogas plant. Biomasses are obtained from the wastes of dead animals and plants. Animals and plants are abundantly available on the earth and both are renewable.



Q8. Give the name of two energy sources that you would consider to be exhaustible. Give reasons for your choices.

Ans: Coal and petroleum are the two resources of energy that would become exhaustible.

They are the fossil fuels found in the earth's crust. They were formed millions of years ago from the remains of plants and animals. If we continued using them at the present alarming rate it will soon be exhausted and take millions of years to renew.

Q9. What are the qualities of an ideal source of energy?

Ans: The qualities of an ideal source of energy are-

- a. It should be easy to extract energy from the source.
- b. It should be economical in extracting energy from the source.
- c. The technology available for extraction should be efficient.
- d. No environmental damage should be caused by using the source.

Q10. What are the advantages of using a solar cooker? Are there places where the solar cooker will have limited utility?

Ans: The advantages of using solar cooker are-

- a. It is eco-friendly
- b. It saves fuel.
- c. It does not produce smoke.

There are places where the solar cooker will have limited utility-

1. Rainy places with limited sunshine.
2. North poles and south poles.
