

# PHYSICS (GRADE-6)

## CH-1.3 Energy Resources

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### Define

i) Renewable energy resources: A source of energy that is continually being replaced. For example, solar energy, wind energy, biomass, tidal wave, hydroelectric energy.

ii) Non-renewable energy source: A source of energy that takes millions of years to form and therefore cannot be replaced when it runs out. For example, coal, oil, gas, nuclear.

### Q/A

#### 1. What are fossil fuels?

Ans.

Coal, oil and natural gas are called fossil fuels. They have been formed over millions of years from the fossilized remains of trees, plants and sea-creatures.

#### 2. Write two disadvantages of using coal to generate electricity.

Ans.

The two main disadvantages of using coal to generate electricity are that when it burns it produces carbon dioxide and sulphur dioxide. Sulphur dioxide emissions can produce acid rains. Carbon dioxide emissions contribute to the greenhouse effect that is responsible for global warming.

#### 3. What is natural gas?

Ans.

Natural gas is a fossil fuel used for heating in homes and factories. It is mostly made of methane gas. It is also burnt in power stations to generate electricity.

#### 4. How is electricity generated in nuclear power stations?

Ans.

Nuclear fission is used in power stations to generate electricity. Uranium-235 is the fuel that is used. A uranium atom breaks up and releases energy when a relatively slow moving neutron hits it. The atom also releases more neutrons. These hit other uranium atoms that also break up and release lots of energy. This is called chain reaction.

#### 5. What is biogas?

Ans.

Sewage, dung, rotting food and vegetable matter are fermented to produce methane gas that can be burnt. Methane gas produced in this way is called biogas.

## **6. What are the advantages and disadvantages of nuclear power?**

Ans.

Some advantages of nuclear power:

- i) A lot of energy is released from a small mass of uranium.
- ii) Supplies of uranium will last for a long time.
- iii) Nuclear fission does not release carbon dioxide.

Some disadvantages of nuclear power:

- i) A nuclear accident can cause a major international disaster.
- ii) The waste produced stays radioactive for thousands of years.
- iii) Nuclear energy technology can also be used to make nuclear weapons.