



Subject: Grade 7 Natural Sciences
Topic: Sources and types of energy
Total: 41 Marks

1. B: uranium ore 4 marks

Explanation:

Wind cannot be used up. The Sun will exist for millions of years to come. New trees can be planted to produce more fire wood. These are all renewable energy sources.

However, there is a limited amount of uranium ore on Earth. No new uranium is formed in nature, so it is a non-renewable energy source.

2. moving | kinetic energy | kinetic energy | potential energy 8 marks

Explanation:

Wind is moving air. When the wind is blowing, the air particles have enough kinetic energy to push against the blades of the wheel. This makes the wheel turn and it therefore gains kinetic energy. The kinetic energy is transferred to the rod and it moves up and down. The rod is connected to a pump. Anything that moves further away from the centre of Earth, gains gravitational potential energy.

3. methane 3 marks

Explanation:

Bacteria breaks the waste matter down and as they do so, the methane gas is produced.

4. do work | do work. | perform work | perform work. 3 marks

Explanation:

We can think of work as the effort needed to get a certain result. Any object or system that could exert effort to get something done, has energy. The more energy it has, the more work it will be able to do.

5. joule | joules 3 marks

Explanation:

The unit used to measure energy is called the joule. The symbol is J. When referring to the energy value of food, we often use the kilojoule. $1 \text{ kJ} = 1\,000 \text{ J}$

6. false 2 marks

Explanation:

Just before the ball is dropped, it has gravitational potential energy because it is held above the ground. After it has been dropped, the ball is moving towards the earth. All moving objects have kinetic energy. So in this case potential energy is converted to kinetic energy.

7. false

2 marks

Explanation:

A power station GENERATES electricity by transforming chemical or potential energy into electrical energy.

8. chemical | radiant | nuclear

6 marks

Explanation:

There are more types of energy. Can you think of some examples?

9. false

2 marks

Explanation:

A thermal system is one where heat is transferred from one part of the system to another. In this case heat is moving from the coffee to the surrounding air. Therefore it is an example of a thermal system.

10. thermal system | chemical potential energy | heat energy | kinetic energy

8 marks

Explanation:

Heat is transferred in a thermal system.

During the chemical reaction that takes place in the spirit burner, chemical potential energy is converted mainly to heat energy. This makes the water particles move and therefore they have kinetic energy.

Total: 41 Marks