

Grade 8 Natural Science Worksheet

Energy

Read each of the following statements below. Decide if each statement is TRUE or FALSE. If it is TRUE, write down the number of the statement and then write TRUE next to the appropriate number. If the statement is FALSE, write down the number of the statement and then FALSE next to the number. Then say WHY the statement was FALSE.

1. Energy is the ability to do work.
2. The law of conservation of energy states that you can create energy in a closed system.
3. In an open system, such as an egg, only matter can move to and from the surroundings. Energy may not move to and from the surroundings.
4. When you burn a log of wood, you use up the energy that was stored in the wood.
5. Energy is not a thing or a substance.
6. The energy in a system becomes more and more useful as it moves from source to source.
7. Energy is measured in kilograms.
8. Energy is always the same, however, humans have named different forms of energy in order to explain our world more successfully.
9. Stored energy is also known as kinetic energy.
10. Heat energy is the result of atoms vibrating, and heat can be transferred by conduction.
11. White is far better at absorbing radiant energy than black is.
12. An insulator is an excellent conductor of heat energy.
13. The amount of energy available to organisms at higher levels of the energy pyramid is far greater than the energy available to the producers.

[20 marks]

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Suggested Solutions

Possible marks	Solution
20	<ol style="list-style-type: none"> 1. Energy is the ability to do work. TRUE ✓ 2. The law of conservation of energy states that you can create energy in a closed system. FALSE – energy cannot be created nor destroyed. ✓✓ 3. In an open system, such as an egg, only matter can move to and from the surroundings. Energy may not move to and from the surroundings. FALSE – energy can be transferred in an open system. ✓✓ 4. When you burn a log of wood, you use up the energy that was stored in the wood. FALSE – you transfer the chemical energy of the wood to heat and light energy. ✓✓ 5. Energy is not a thing or a substance. TRUE ✓ 6. The energy in a system becomes more and more useful as it moves from source to source. FALSE – energy becomes less and less useful through each transfer. ✓✓ 7. Energy is measured in kilograms. FALSE – kilojoules. ✓✓ 8. Energy is always the same, however, humans have named different forms of energy in order to explain our world more successfully. TRUE ✓ 9. Stored energy is also known as kinetic energy. FALSE – stored energy is potential energy; movement energy is kinetic energy. ✓✓ 10. Heat energy is the result of atoms vibrating, and heat can be transferred by conduction. TRUE ✓ 11. White is far better at absorbing radiant energy than black is. FALSE – black is better at absorbing radiant energy ✓✓ 12. An insulator is an excellent conductor of heat energy. TRUE ✓ 13. The amount of energy available to organisms at higher levels of the energy pyramid is far greater than the energy available to the producers. FALSE – far more energy available lower down the pyramid. ✓✓