OBHS Core Questions:

Subject: Science

Year and Term: Year 10 Autumn Term 2

Topic: C5 Energy Changes

Learn these questions to build a strong foundation of knowledge for this half-term. Ask family or friends to test you regularly, or practise on your own using the 'Look, Say, Cover, Write' method.

Question	Answer
1. What does it mean when energy is conserved in a chemical reaction?	The total energy before and after the reaction stays the same.
2. What is an exothermic reaction?	A reaction that gives out energy to the surroundings.
3. What happens to the temperature of the surroundings in an exothermic reaction?	It increases.
4. Give one example of an exothermic reaction.	Combustion.
5. What is an endothermic reaction?	A reaction that takes in energy from the surroundings.
6. What happens to the temperature of the surroundings in an endothermic reaction?	It decreases.
7. Give one example of an endothermic reaction.	Thermal decomposition.
8. What kind of energy change do hand warmers use?	Exothermic.
9. What kind of energy change do some sports injury "ice" packs use?	Endothermic.
10. What can we measure to find out if a reaction is exothermic or endothermic?	The temperature change of the surroundings.
11. (HT) What is the name for the smallest amount of energy needed to start a reaction?	Activation energy.
12. What is a reaction profile?	A diagram showing energy changes during a chemical reaction.
13. What does a reaction profile for an exothermic reaction look like?	The products are at a lower energy level than the reactants.
14. What does a reaction profile for an endothermic reaction look like?	The products are at a higher energy level than the reactants.
15. (HT) What needs to happen to the bonds in the reactants for a chemical reaction to occur?	They must be broken.
16. (HT) What happens to energy when new bonds are made?	Energy is released.
17. (HT) In which type of reaction is more energy released when new bonds form than is needed to break old ones?	Exothermic.
18. (HT) In which type of reaction is more energy needed to break bonds than is released making them?	Endothermic.
19. Name a variable you could change in a practical investigating temperature changes in reactions.	The type of acid used.

20. What type of reaction is neutralisation (acid + alkali)?	Exothermic.
21. What safety equipment should you wear when doing experiments with acids?	Safety goggles and gloves.
22. Why are exothermic reactions used in self-heating cans?	Because they release heat to warm up the contents.
23. (HT) What does a high activation energy mean about the reaction?	It needs a lot of energy to start.
24. What would you see on a thermometer during an endothermic reaction?	The temperature would go down.
25. (HT) How can we calculate the total energy change in a reaction?	By using bond energies: subtract energy released from energy required for the reaction to take place.