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Physical & Chemical Changes Worksheet — Answer Key

2026 – 2027

Grade: 8 **Subject:** Chemistry

Time: 15 minutes **Maximum Marks:** 15

Section A

1. **Choose the correct answer**

(i) The change from day to night and the change of seasons are examples of which type of change? [1]

(a) Periodic

(b) Non-periodic

(c) Reversible

(d) Irreversible

Explanation: *A periodic change is one that repeats itself after a fixed interval of time. The day– night cycle and the change of seasons repeat at regular intervals, making them periodic changes.*

(ii) Assertion (A): Evaporation of water from plants and water bodies cools the surrounding environment. [1]
Reason (R): Evaporation takes up heat from the surroundings to change water from liquid to gaseous state.

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true but R is not the correct explanation of A

(c) A is true but R is false

(d) A is false but R is true

Explanation: *Evaporation of water does cool the surrounding environment (A is true), and the reason for this is that evaporation requires heat, which it takes up from the surroundings in order to convert liquid water into water vapour (R is true and explains A).*

2. **Write whether the statement is true or false; if false, rewrite it correctly by changing the underlined word**

<u>Iodine</u> undergoes sublimation when it is heated, changing directly from solid to gas. [1]

True

Explanation: *The statement is correct. When iodine is heated, it sublimes from its solid state directly into gaseous state — and changes back to solid on cooling.*

3. (i) Define the term 'Chemical change'. [1]

Model answer: During a chemical change the composition of the substance undergoes a change and one or more new substances are formed.

(ii) Define the term 'Physical change'. [1]

Model answer: A physical change is a change in which no new substance is formed and the composition of the substance is not altered, although certain specific physical properties may be changed.

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4. Explain how the floating of ice on water helps in the survival of aquatic plants and animals during winter. [2]

Model answer: Ice is lighter than water, so when lakes freeze, the ice floats on the surface instead of sinking. This layer of ice acts as an insulator over the water below. As a result, the temperature of the water below remains above 0°C. This allows aquatic plants and animals to survive through the winter under the ice.

5. Give any six examples of chemical changes that occur in daily life, explaining briefly why each is considered a chemical change. [3]

Model answer: Milk curdles when lime juice is added — a new substance is formed and the change is irreversible. When wood is burnt, carbon dioxide and water are formed, which are chemically different from wood. When iron is left exposed to air, it rusts — iron is converted into an oxide of iron, a new substance. When a candle burns, wax reacts with oxygen to form carbon dioxide and water vapour, giving out heat and light. The bursting of crackers is a man-made chemical change in which new substances are produced. The combustion of fuels is also a man-made chemical change, in which new substances are formed and heat is liberated.

Additional points a student may include: The cooking of raw vegetables is a chemical change because new materials are formed and cooked vegetables cannot be changed back into raw vegetables.

Section B

6. Answer the questions below based on the given laboratory setup shown in the diagram.



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(i) Name the process illustrated by this apparatus. [1]

Model answer: The process shown is electrolysis.

(ii) What type of energy is supplied by the battery to drive this process? [1]

Model answer: Electrical energy is supplied by the battery.

(iii) Name the two gases produced during this process. [1]

Model answer: The two gases produced are hydrogen and oxygen.

(iv) Is the process shown a physical change or a chemical change? [1]

Model answer: The process shown is a chemical change.

(v) Justify your answer to the previous question with one reason. [1]

Model answer: Water is decomposed and new substances are formed, which shows that this is a chemical change.

********** End of worksheet **********

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