

Chemistry Worksheet Class 7 on Chapter 6 Physical and Chemical Changes with Answers Set 3

Q1. Which of the following is a physical change?

- (a) Burning of fossil fuels
- (b) Magnetisation of an iron rod
- (c) Fermentation of food
- (d) Rusting of iron

Answer: (b) Magnetisation of an iron rod is a physical change.

Q2. Which of the following is a chemical change?

- (a) Magnetisation of an iron rod
- (b) Dissolution of salt in water
- (c) Both (a) and (b)
- (d) None of the above

Answer: (d) Neither magnetisation of an iron rod nor the dissolution of salt in water is a chemical change.

Q3. Digestion of food is an example of _____.

- (a) Physical change
- (b) Chemical change
- (c) Biological change
- (d) None of the above

Answer: (b) Digestion of food is an example of chemical change.

Q4. What is the molecular formula of rust?

- (a) Fe_2O_3
- (b) FeO
- (c) FeSO_4
- (d) None of the above

Answer: (a) The molecular formula of rust is Fe_2O_3 .

Q5. _____ is a process of depositing a layer of zinc on iron articles.

- (a) Aluminisation
- (b) Galvanisation
- (c) Ironing
- (d) None of the above

Answer: Galvanisation is a process of depositing a layer of zinc on iron articles.

Q6. A change that can not be reversed is called a _____ change.

Answer: A change that can not be reversed is called a **chemical** change.

Q7. State true or false.

Rusting takes place faster near the sea coast.

Answer: True, rusting takes place faster near the sea coast.

Q8. State true or false.

Iron objects are galvanised with a layer of aluminium metal.

Answer: False. Iron objects are galvanised with a layer of zinc metal.

Q9. State true or false.

Condensation of steam is not a chemical change.

Answer: True, Condensation of steam is not a chemical change.

Q10. Match the following.

Column A	Column B
Physical Change	Blue
Chemical Change	Green
Burning of magnesium	Physical properties are changed
Iron Sulphate	Magnesium Oxide
Copper Sulphate	New substances are produced

Answer:

Column A	Column B
Physical Change	Physical properties are changed
Chemical Change	New substances are produced
Burning of magnesium	Magnesium Oxide
Iron Sulphate	Green
Copper Sulphate	Blue

Q11. Define crystallisation.

Answer: Crystallisation refers to the process by which an impure compound is converted into a crystal.

Q12. Define galvanisation.

Answer: Galvanisation refers to the process of depositing zinc on iron articles.

Q13. Why do stainless steel utensils not rust?

Answer: Stainless steel is an alloy with a minimum chromium content of 10.5%. The chromium reacts with the oxygen in the air and forms a protective layer that makes stainless steel highly resistant to corrosion and rust.

Q14. Name the product formed when a piece of magnesium is burnt in the air.

Answer: Magnesium oxide is formed when a piece of magnesium is burnt in the air

Q15. What is rust?

Answer: The brownish deposit on an iron material left open for some time is called rust.

Q16. When baking soda is mixed with lemon juice, bubbles are formed with the evolution of gas. What kind of change is it? Explain.

Answer: When baking soda is mixed with lemon juice, Carbon dioxide(CO_2) gas is released in the form of bubbles. The chemical composition of the substance changes, and a new product is formed after mixing. Thus it is a chemical change.

Q17. How does painting an iron grill prevent it from rusting?

Answer: Painting an iron grill prevents the contact of iron with air and moisture, so there is no interaction. Thus, preventing it from rusting.

Q18. What is a chemical change? State any four characteristics of chemical change.

Answer: A chemical change occurs when two substances interact to produce one or more new substances with different properties.

Some of the characteristics of chemical change are:

- A new substance is formed
- Changes occur in the composition of the substance
- It is normally irreversible
- It might give off light or heat
- A colour change might occur
- It is a permanent change
- Molecules change

Q19. What is rusting? How can it be prevented?

Answer: Rusting refers to the process of depositing reddish brown material on the iron articles. The formation damages or destroys the iron material.

We can prevent rusting of iron in the following ways.

(1) Painting, oiling, greasing, or varnishing its surface.

(2) Galvanisation is another method of protecting iron from rusting by coating iron with a thin layer of zinc.

(3) Iron Corrosion is prevented by coating iron with non-corrosive substances like carbon. This process is termed as alloying.

Q20. Differentiate between a chemical and physical change.

Answer:

S. No.	Physical Change	Chemical Change
1.	When a substance undergoes a physical change, its composition remains the same despite rearranging its molecules.	When a substance undergoes a chemical change, its molecular composition is changed entirely. Thus, chemical changes involve the formation of new substances.
2.	Physical change is a temporary change.	A chemical change is a permanent change.
3.	A Physical change affects only physical properties, i.e., shape, size, etc.	Chemical change both physical and chemical properties of the substance, including its composition.
4.	A physical change involves very little to no absorption of energy.	During a chemical reaction, absorption and evolution of energy take place.
5.	Some examples of physical change are freezing of water, melting of wax, boiling of water, etc.	A few examples of chemical change are food digestion, burning coal, rusting, etc.
6.	Generally, physical changes do not involve the production of energy.	Chemical changes usually involve the production of energy (which can be in the form of heat, light, sound, etc.)
7.	In a physical change, no new substance is formed.	A chemical change is always accompanied by one or more new substance(s).
8.	Physical change is easily reversible, i.e., we can recover the original substance.	Chemical changes are irreversible, i.e., we can not recover the original substance.