Physical Change in Chemistry Questions with Solutions

Q1. Size, shape, colour, and state of a substance are examples of which properties?

a.) chemical
b.) physical
c.) electrical
d.) All of the above

Correct Answer– (b.) physical.

Q2. A physical change is generally:

a.) reversible
b.) irreversible
c.) both reversible and irreversible
d.) None of the above

Correct Answer– (a.) reversible.

Q3. During a physical change, a substance undergoes a change in its-

a.) physical properties
b.) chemical properties
c.) both (a) and (b)
d.) None of the above

Correct Answer– (a.) physical properties.

Q4. Which of the following is not an example of physical change?

a.) evaporation
b.) condensation
c.) boiling
d.) rusting

Correct Answer– (d.) rusting.

Q5. Which of the following is an example of physical change?

a.) burning of paper
b.) ripening of fruit

c.) cutting of wood
d.) cooking food

Correct Answer– (c.) cutting of wood.

Q6. Define physical changes.

Answer. A physical change is one in which a substance's physical properties, such as shape, size, colour, and state, change.
Physical changes are usually reversible (with some exceptions). There is no new substance formed as a result of this change.
An ice cube melting into water is an example.

Q7. How can you say that crystallization is not a chemical change?

Answer. Even if the crystal has different properties than other solids, crystallising it does not result in the formation of a new molecule. A chemical reaction does not occur when graphite is transformed into a diamond. Crystallization is, thus, considered a physical change.

Q8. Can all physical changes be reversed?

Answer. No, all physical changes are not reversible.
Irreversible physical changes include cutting grass or pulverising a rock. Since the pieces of wood cannot be put back together to form the tree, chopping wood for a fire represents an irreversible physical change.

Q9. Give an example of a physical change caused by the action of heat.

Answer. The physical change of ice melting to form water is caused by the action of heat.

Q10. What changes may happen in physical change?

Answer. A physical change occurs when a substance undergoes a change in its physical properties, such as shape, size, colour, state, or appearance. Physical changes are generally reversible in nature. The chemical composition remains unchanged during these physical changes, and no new substance is formed.

Q11. Differentiate between physical and chemical changes.

Answer. The difference between physical and chemical changes are as follows:

Physical Change	Chemical Change

When a substance undergoes a physical change, its composition remains the same despite its molecules being rearranged.	When a substance undergoes a chemical change, its molecular composition is changed entirely. Thus, chemical changes involve the formation of new substances.
Physical change is a temporary change.	A chemical change is a permanent change.
A Physical change affects only physical properties, i.e. shape, size, etc.	Chemical changes are both physical and chemical properties of the substance, including its composition
Some examples of physical change are freezing of water, melting of wax, boiling of water, etc.	A few examples of chemical change are digestion of food, burning of coal, rusting, etc.
Physical change is easily reversible, i.e. original substance can be recovered.	Chemical changes are irreversible, i.e. original substance cannot be recovered.

Q12. What are the characteristics of physical change?

Answer. A physical change is characterised by a change in physical properties. Melting, transition to a gas, change in strength, change in durability, changes in crystal form, textural change, shape, size, colour, volume, and density are all examples of physical properties.

Q13. Give some examples of physical changes.

Answer. Some examples of physical changes are:

- Melting an ice cube
- Boiling water
- Mixing sand and water
- Breaking a glass
- Dissolving sugar and water
- Sublimation of dry ice
- Crumpling a paper bag

Q14. Is the formation of alloy a physical change?

Answer. Alloying is the process of combining different metal elements. Brass is a copper and zinc alloy. Separating individual metals from an alloy can be difficult and may require chemical processing. Creating an alloy is an example of a physical change that cannot be easily reversed.

Q15. Are solutions or mixtures a physical or chemical change?

Answer. When you mix the materials together, it can be difficult to tell whether or not a chemical reaction has occurred. If no colour change, temperature change, precipitate formation, or gas production occurs, the solution is usually a physical change. Otherwise, a chemical reaction has occurred, resulting in a chemical change.

Practice Questions on Physical Change

Q1. Which of the following is not a characteristic of a physical change?

a.) shape
b.) colour
c.) size
d.) new substance

Correct Answer– (d.) new substance

Q2. Which property remains constant even after physical and chemical changes?

a.) density
b.) shape
c.) mass
d.) arrangement of particles

Correct Answer– (c.) mass

Q3. What is the change called if there is a change in physical state only?

Answer. All physical changes involving a change of state are reversible. Other changes of the state include vapourisation (from liquid to gas), freezing (from liquid to solid), and condensation (gas to liquid).

Q4. What kind of change is dissolving?

Answer. Dissolving is also a reversible physical change. When salt dissolves in water, it is said to have entered the aqueous state. The salt can be recovered by boiling off the water and leaving the salt behind.

Q5. How to Identify a Physical Change?

Answer. A physical change can be identified following ways:

- If it is reversible, especially if it is a phase change. For instance, if you freeze water into an ice cube, you can melt it back into the water.

- If there was a change only in the size, shape, and colour of the matter.
- If the end product's chemical identity remains the same after the change.