

Question Bank Class IV G. Science

Chapter - 4 Sorting Materials

Q1. Fill in the blanks

- a) _____ can change shape but not volume.
- b) Oil and water are _____ liquids.
- c) Plastics are used as handles in electrical devices as they are _____.
- d) Thermocol floats on water because it is _____ denser than water.
- e) Butter paper is a _____ object.

Answers-

- a) Liquids, b) Immiscible c) Insulators d) less e) Translucent

Q2. Name the following

- a) The amount of space that a substance occupies.
- b) Objects that don't allow light to pass through them
- c) It is the mass per unit volume of any substance.
- d) Ability of a substance to dissolve in a liquid.
- e) A substance that attracts pieces of iron and few other metals.

Answer

- a) Volume b) Opaque c) Density d) solubility e) Magnet

Q3. Choose the odd one out with reason

- a. Rubber, Wood, Aluminium, Iron
- b. Wood, Salt solution, Rubber, Milk
- c. Paper , Cloth, Frosted Glass , Rock
- d. Iron, Bronze, Brass, Stainless steel
- e. Coin, Matchstick, Paper, Dried leaf

Answers

- a) Iron - is a magnetic substances others are non-magnetic
- b) Salt solution - is a conductor of electricity others are insulators
- c) Frosted glass - is a translucent object others are opaque objects.
- d) Iron - is a metal others are alloys.
- e) Coins -sink in water, others float in water.

Q4. Give one example of a substance which is/who has

- a) Magnetic in nature
- b) Less density than water
- c) Lustre
- d) Transparent
- e) Insulator

Answer

- a) Iron nail b) Thermocol c)Diamond d) Water e) Plastic

Q5.Match the following two columns.

A	B
1. Stainless steel	a. Immiscible
2. Honey and water	b. Soluble in water
3 Saw dust	c. Non-conductor
4. Oxygen	d. Alloy
5. Bakelite	e- Insoluble in water.

Answer

1-d , 2-a , 3-e, 4-b, 5-c

Q6. Choose the correct answers from the given options.

1. Which of the following is not soluble in water.
a) Chlorine a) Oxygen c) Carbon dioxide d) Hydrogen
2. The state of matter of which molecules are tightly-packed
a) Solids b) Liquids c) Gases d) All of these
3. The state of matter that takes the shape of the Container
a) Solids b) liquids c) Gases d) All of these
4. A lustrous material is one that is
a) Soft b) Magnetic c) Shiny d) Conducts electricity
5. The property of a substance that is related to floating and sinking of a substance is
a) Density b) Volume c)Mass d) Opaque

Answers

1. d) Hydrogen 2.a) Solid 3. b) Liquid 4. c) Shiny 5. a) Density

Q7. Write the difference between the following based on the given criteria

- a) Clear glass and frosted glass (transparency)
- b) Saw dust and sugar (solubility in water)
- c) Milk and water and Oil and water (Type of liquids)
- d) Nickel and Aluminium (towards magnet)
- e) Solid and liquid (shape)

Answers

a) Clear glass Transparent in nature.	Frosted glass Translucent in nature.
b) Saw dust Insoluble in water.	Sugar Soluble in water
c) Milk and water Miscible Liquid.	Oil and water Immiscible Liquid.
d) Nickel attracted towards magnet-Magnetic substance	Aluminium Not attracted toward magnet.- Non magnetic substance.
e) Solid Shape is fixed	Liquid Shape is not fixed, takes the shape of the container

Q8. Give reason

- a) Aquatic plants and animals survive under water.
- b) An iron nail sinks into the water
- c) Oil remains floating on the top of a glass of water.
- d) Frosted glass is used in the window of bathroom ventilators
- e) Hot objects can be held with the help of a cloth.

Answers

- a) Aquatic plants and animals take the dissolved oxygen from the water for their breathing and dissolved carbon dioxide for the photosynthesis process for their survival.
- b) The density of iron nail is more than water; therefore it sinks to the water.
- c) Oil is less dense than water and also it is immiscible in water, therefore it floats in water.
- d) Frosted glasses are translucent in nature. It allows some light to pass through them, and not visible clearly through the glass. So in bathrooms frosted glasses are used.
- e) Cloth are insulators. They don't conduct heat in them. So clothes can be used to hold hot objects.

Q9. CaseStudy based Question.

My mother put some flowers in a container full of water in our living room for decoration. I dropped my bicycle key in the container.

- a) From the above case, name the objects which are floating and which are sinking?
- b) Why do objects sink and float in water?
- c) Give examples of objects which will float and sink in water other than the objects in the data.
- d) Identify and define the term which causes the floating and sinking of objects.

Answers

- a) Floating – Flower Sinking - Iron nail.
- b) If the density of the object is less than water, it floats and if the density of the object is more than water it sinks.
- c) Matchstick, Paper boat, wood, ice floats on water. Iron nail, coin, stone, glass sink in water.
- d) Density is the cause of floating or sinking of the object.
Density - It is defined as the mass per unit volume.

Book Exercise

A. Tick the correct options

1. Which among the following will not sink in a glass full of water? **Answer:** a. Cork

2. Which among the following are not immiscible liquids? **Answer:** c. milk and water

3. Which among the following dissolves in water? **Answer:** d. all of these

4. Evaporation and condensation are processes used to separate... **Answer:** a. Sugar from a solution of sugar and water

5. Which among the following is applicable to all states of matter? **Answer:** c. occupies space and has mass

B. State whether the following statements are TRUE or FALSE. Correct the false ones.

1. Iron is a non-magnetic metal.

- Answer: FALSE
- Correction: Iron is a magnetic metal.

2. Lamp shades are made of transparent material.

- Answer: FALSE
- Correction: Lamp shades are made of translucent or opaque material.

3. Plants use oxygen dissolved in water to prepare food. **Answer:** FALSE

Correction: Plants use carbon dioxide dissolved in water (or from the air) to prepare food during photosynthesis.

4. Classification is grouping materials based on their characteristics.

- Answer: TRUE

5. Materials that do not allow light to pass through them are called translucent.

Answer: FALSE

Correction: Materials that do not allow light to pass through them are called opaque objects.

C. Fill in the blanks.

1. Most metals conduct heat and electricity. They are called **conductors**.
2. **Solubility** is the ability of a material to dissolve in a liquid at a given temperature.
3. **Insulators** are those materials that do not allow electricity to pass through them.
4. Butter paper is **translucent** while **wood** is an example of an opaque material.
5. Substances in their **liquid** state have a fixed volume but no fixed shape.

D. Give two examples of each.

1. Lustrous and non-lustrous materials
 - Lustrous: Gold
 - Non-lustrous: Jute (or Wood)
 2. Soft and hard materials
 - Soft: Butter (or Cotton)
 - Hard: Diamond (or Iron)
 3. Rough and smooth materials
 - Rough: Rope
 - Smooth: Silk
 4. Magnetic and non-magnetic materials
 - Magnetic: Iron
 - Non-magnetic: Aluminium (or Plastic)
 - Conductors and insulators
 - Conductors: Copper
 - Insulators: Rubber
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E. Name any three materials. Write the names of three items made from each.

1. Material: Leather

- Item 1: Bag
- Item 2: Jacket
- Item 3: Belt

2. Material: Cotton

- Item 1: Curtain
- Item 2: Shirt
- Item 3: Bedsheet

3. Material: Plastic

- Item 1: Comb
- Item 2: Bucket
- Item 3: Pen



F. LONG-ANSWER QUESTIONS

1. What do you mean by lustre and texture? Explain with examples.

- **Lustre:** The shine or glossiness on the surface of a material.

- *Example:* Metals like gold, silver, and copper are lustrous.

4. **Texture:** The feel or surface characteristics of a material when touched (whether it is rough or smooth).

- *Example:* Silk has a smooth texture, while a stone or tree bark has a rough texture.

2. Give at least five different criteria of classifying materials.

Materials can be classified based on the following properties:

1. **Appearance:** Lustrous or non-lustrous.
2. **Hardness:** Hard or soft.
3. **Texture:** Rough or smooth.
4. **Solubility:** Soluble or insoluble in water.
5. **Transparency:** Transparent, translucent, or opaque.

3. What is the purpose of classification of materials in everyday life?

- **Organization:** It helps arrange objects systematically so they are easy to locate.
- **Study:** It makes studying the properties of a large number of materials simple and convenient.
- **Identification:** It allows us to observe patterns and understand how different groups behave under various conditions.

5. The handles of pots and pans used in the kitchen for cooking are made of bakelite or silicone. Why?

- Cooking pots and pans get very hot during cooking.
- Bakelite and silicone are **poor conductors of heat (insulators)**.
- Making handles out of these materials prevents heat from transferring to our hands, allowing safe handling without getting burned.

6. What is density? How is it related to floating and sinking in water? Explain with examples.

- **Density:** The mass per unit volume of a substance .

Relation to Floating/Sinking:

- a. Materials with a density **lower** than water will **float**. (*Example: A cork wooden block or an empty plastic bottle*)

- b. Materials with a density **higher** than water will **sink**. (*Example: An iron nail or a marble stone*)

7. Define classification. What is the basis of classifying materials as transparent and translucent? Give two examples of each.

- **Classification:** The process of sorting and grouping things based on their similarities and differences.
- **Basis of transparency:** It is based on **how much light can pass through** the material.
 - **Transparent:** Allows all light to pass through clearly. (*Examples: Clear glass, clean water*)
 - **Translucent:** Allows light to pass through only partially; objects cannot be seen clearly through them. (*Examples: Frosted glass, butter paper*)
 -

8. What are magnetic and non-magnetic materials? Explain with examples.

- **Magnetic materials:** Materials that are strongly attracted to magnets.
 - *Examples:* Iron, nickel, and cobalt

Non-Magnetic Materials

- Materials that are not attracted to a magnet.
- *Examples:* Plastic, rubber.

9. What are miscible and immiscible liquids? Give two examples.

Miscible Liquids

- Liquids that mix completely with each other to form a uniform solution.
- *Examples:* Alcohol in water, lemon juice in water.

Immiscible Liquids

- Liquids that do not mix and
 - separate into distinct layers.
 - *Examples:* Mustard oil in water, kerosene in water.

CHAPTER 5 - SEPARATION OF SUBSTANCE

A. Tick the correct option.

1. Which among the following is not an example of a mixture?

- **Answer: a. oxygen**
 - **Reason:** Oxygen is a pure element consisting of only one type of atom. Clean air, steel, and milk are all mixtures of different substances.
 - **3. A solute and solvent put together result in the formation of a**
 - **Answer: c. solution**
 - **4. Evaporation and condensation are processes used to separate**
 - **Answer: a. sugar from a solution of sugar and water**
 - **5. Which among the following is not a separation technique?**
 - **Answer: d. loading** (*Note: Loading is a chemical method used to speed up sedimentation, not a standalone mechanical separation technique like churning, sieving, or filtration*).
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B. State whether the following statements are TRUE or FALSE. Correct the false ones.

1. **Milk is a pure substance.**
 - **Answer:** FALSE
 - **Correction:** Milk is a mixture of water, fats, proteins, and carbohydrates.
 2. **Winnowing is a process of separation used to separate particles based on their colour.**
 - **Answer:** FALSE
 - **Correction:** Winnowing is used to separate particles based on their weight (separating lighter husk from heavier grains using wind).
 3. **Sedimentation and Decantation together are used to separate insoluble solids from liquids.**
 - **Answer:** TRUE
 4. **The pores of a filter used in filtration should be smaller than the size of the solid particles that need to be separated.**
 - **Answer:** TRUE
 5. **The process of evaporation is the reverse of the process of condensation.**
 - **Answer:** TRUE
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C. Use the given clues to solve the crossword.

Across

- **3. insoluble solid particles in a liquid that settle at the bottom of a container**
 - **Answer:** SEDIMENT (8 letters)
- **5. mixture containing insoluble solid particles can be separated using this technique**
 - **Answer:** FILTRATION (10 letters)

Down

- **1. process of separating the grains from their stalks**
 - **Answer:** THRESHING (9 letters)
- **2. also known as a universal solvent**
 - **Answer:** WATER (5 letters)
- **4. substances containing only one type of particles**
- **Answer:** Pure (4 letters)

D. Choose the correct word to fill in the blanks.

Word Bank: loading, threshing, winnowing, homogeneous, saturated, particles

1. Mixtures are composed of two or more different type of **particles**.
 2. **Saturated** solutions are the ones in which no more solute can be dissolved in the solvent at a given temperature.
 3. The process of separating husk from grains is known as **winnowing**.
 4. Sugar solution is an example of a **homogeneous** mixture.
 5. **Loading** is the name given to the process that leads to quick sedimentation.
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E. Short-Answer Questions

1. How is salt obtained from sea water?

Sea water is collected in shallow pits and left under the sun. The water evaporates due to solar heat, leaving behind solid common salt.

2. Define solubility.

Solubility is the maximum amount of a solute that can dissolve in a specific amount of solvent at a given temperature.

3. What are heterogeneous mixtures?

They are mixtures where the components are not uniformly distributed and can be seen individually. Examples include sand in water or oil in water.

4. Name any two methods used for separating insoluble substances from a liquid.

- Sedimentation and decantation
- Filtration

5. What is evaporation? How is it different from condensation?

- **Evaporation:** The process of converting a liquid into its vapor form by heating.
 - **Difference:** Evaporation turns liquid into gas (requires heating), whereas condensation turns gas back into liquid (requires cooling).
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F. Long-Answer Questions

1. What is a saturated solution? If you have a sugar solution, what are the ways in which you can dissolve more sugar in the solvent?

- **Saturated Solution:** A solution that cannot dissolve any more solute at a specific temperature.
- **Ways to dissolve more sugar:**
 - **Heating the solution:** Increasing the temperature raises solubility.
 - **Adding more solvent:** Adding more water provides more volume to dissolve sugar.

2. Explain the process of sedimentation and decantation with the help of a labelled diagram.

- **Sedimentation:** Allowing an insoluble heavy solid mixed in a liquid to settle at the bottom naturally. The settled solid is the sediment.
- **Decantation:** Gently pouring out the clear upper liquid into another container without disturbing the settled sediment.

○ [Sedimentation] [Decantation]

○

○ | | | \ /

○	Clear Water	\ Water / --->
	[Pouring liquid]	
○	~~~~~~	____ \ ____ /
○	=====	===
○	[Heavy Sediment]	[Sediment left behind]

3. On what basis is a process of separation chosen to separate a solid from other solids? Take an appropriate example and explain.

The choice is based on differences in the physical properties of the solids, such as size, weight, magnetic properties, or solubility.

- **Example:** Separating iron fillings from sulfur powder.
- **Explanation:** Since iron is magnetic and sulfur is not, a magnet can be rolled through the mixture. The iron clings to the magnet, separating it completely from the sulfur.

4. Water is very important for life. Justify.

- It dissolves essential nutrients and minerals for absorption by plants and animals.
- It forms the base of blood and helps transport substances throughout the body.
- It regulates body temperature through sweating.
- It is crucial for biochemical reactions like photosynthesis and digestion.

5. In which cases would you use more than one method of separation? Explain with the help of an example.

You use multiple methods when a mixture contains more than two substances, or when the components have different physical states and solubilities that a single method cannot address.

- **Example:** A mixture of sand, salt, and water.
- **Explanation:** First, use **filtration** to separate the insoluble sand from the saltwater solution. Next, use **evaporation** or **distillation** on the remaining saltwater to boil away the water, leaving pure solid salt

EXTRA QUESTION:

Define the following:

- **Pure substance:** The substance that contain only one type of particles.
- **Mixture:** The substance made up of two or more different types of particles.
- **Homogeneous Mixture:** The particle that are spread uniformly throughout the mixture
- **Heterogeneous Mixture:** The particles are not uniformly spread throughout the mixture
- **Solute:** The substance that get dissolved in the solvent
- **Solvent:** The substance in which the solute gets dissolved
- **Solutions:** The mixture of solute and solvent
- **Solubility:** The ability of a solute to dissolve completely in a solvent at a given temperature
- **Saturated Solution:** A solutions in which no more solute can get dissolved at a given temperature
- **Unsaturated Solutions:** It is the one in which more solute can get dissolved at a given temperature
- **Sieving:** The process of separating components of a mixture with the help of a sieve.
- **Threshing:** The process of separating the grains from their stalks.
- **Winnowing:** The process in which the husk is separated from the grain.
- **Sedimentations:** The process by which insoluble solid particles in a liquid are separated from it by allowing them to settle down at the bottom of the container containing them.
- **Decantation:** The process of separating the supernatant into another container without disturbing the sediment.
- **Supernatant:** The liquid above the later of sediment
- **Loading:** The process in which alum particles are deposited on suspended clay particles of muddy water to make them heavy and settle down rapidly.
- **Filtration:** The process by which the insoluble solid particles are separated from the liquid with the help of filter paper.
- **Evaporation:** The process in which a substance changes from its liquid to gaseous state.
- **Condensation:** The process by which a substance changes from gaseous to its liquid form.
- **Chlorination:** The process of adding chlorine to water to kill germs.

Identify the Method

1. Separating flour from bran → **Sieving**

2. Separating husk from grains → **Winnowing**
3. Separating grains from stalks → **Threshing**
4. Separating sand from water → **Filtration**
5. Obtaining salt from sea water → **Evaporation**
6. Separating iron filings from sand → **Magnetic separation**

Give example two example

1. Pure substance: Salt , oxygen
2. Mixture: lime juice in water , sand and small pebbles
3. Solutes: salt, sugar

Odd One Out

1. Filtration, sedimentation, decantation, **churning**
Answer: Churning
 2. Sand and water, muddy water, tea and tea leaves, **salt solution**
Answer: Salt solution
 3. Sieving, handpicking, winnowing, **evaporation**
Answer: Evaporation
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4. Give Reasons

1. **Why is filtration not used to separate salt from water?**
Answer: Salt dissolves completely in water and passes through the filter paper.
2. **Why is alum added to muddy water?**
Answer: Alum helps fine suspended particles settle quickly at the bottom. This process is called **loading**.
3. **Why is winnowing carried out in a windy place?**
Answer: The wind blows away the lighter husk, while the heavier grains fall down.
4. **Why is a sieve used to separate flour from bran?**
Answer: Flour particles are smaller and pass through the holes, while larger bran particles remain on the sieve.

A. Objective-Type Questions

What kind of change is it? Tick the correct options.

1. **melting of chocolate**
 - **Answer: b. physical** (It changes state but remains chocolate).
 2. **sawing of wood**
 - **Answer: c. both a. and b.** (It is physical because it is still wood, and irreversible because you cannot piece it back into a whole log).
 3. **ripping a sheet of paper**
 - **Answer: d. none of these** (It is a physical, irreversible change. It does not fit reversible or chemical).
 4. **making a model using a ball of clay**
 - **Answer: a. physical** (The shape changes, but the material remains clay).
 5. **burning of a matchstick**
 - **Answer: d. none of these** (It is a chemical, irreversible change. It does not fit reversible or physical).
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B. State whether the following statements are TRUE or FALSE. Correct the false ones.

1. **A reversible change is accompanied by a change in size, shape, appearance and composition.**
 - **Answer: FALSE**
 - **Correction:** A reversible change is accompanied by a change in size, shape, and appearance, but **not** a change in composition.
2. **You painted a glass bottle in a very nice design, but it accidentally fell on the floor and broken. This is a chemical change that is irreversible.**
 - **Answer: FALSE**
 - **Correction:** This is a **physical** change that is irreversible.
3. **Most substances expand on heating but contract on cooling.**
 - **Answer: TRUE**
4. **Obtaining nylon fabric from raw materials is a chemical change.**
 - **Answer: TRUE**

5. **Railway tracks and metal bridges are made with some gaps in between to allow for contraction.**

- **Answer: FALSE**
 - **Correction:** Railway tracks and metal bridges are made with some gaps in between to allow for **expansion** on hot days.
-

C. Choose the correct word to fill in the blanks.

(Word Bank: reversible, formation, irreversible, contraction, physical, chemical)

1. Breaking of a wooden stick and chopping of onions cause **physical** changes.
2. A mason builds a wall with bricks, mortar and cement. Once the wall has dried, it cannot be reversed because a **irreversible** change has taken place.
3. Chemical changes lead to the **formation** of new substances.
4. Physical changes can be **reversible** or **irreversible** in nature. *(Note: these two blanks share the two words interchangeably)*
5. Lowering temperature generally leads to **contraction**.

D. Answer the following in one word.

1. **Evaporation** (or Vaporisation)
 2. **Condensation**
 3. **Freezing** (or Solidification)
 4. **Melting**
 5. **Temperature**
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E. Short-Answer Questions

1. What happens when water is mixed with plaster-of-paris (POP)?

It forms a thick paste that sets into a hard, solid mass due to a chemical reaction. This change is irreversible.

2. How does a thermometer work?

It works on the principle of thermal expansion. The liquid inside (like mercury or alcohol) expands and rises when heated, and contracts and falls when cooled.

3. Give two examples of physical changes.

- Melting of ice
- Tearing of paper

4. Give two examples of irreversible changes.

- Burning of wood
- Cooking of food

5. Give two undesirable effects of expansion and contraction of substances.

- **Railway tracks bending:** Tracks can expand and buckle in hot summer weather if gaps are not left.
- **Cracking of glass:** Pouring boiling water into a thick glass tumbler can cause uneven expansion, breaking the glass.

F. Long-Answer Questions

1. What are reversible and irreversible changes? Are all physical changes reversible and chemical changes irreversible? Explain with the help of suitable examples.

- **Reversible changes:** Changes that can be undone to get back the original substance (e.g., stretching a rubber band).
- **Irreversible changes:** Changes that cannot be undone to get back the original substance (e.g., baking a cake).

- **Are all physical/chemical changes strictly so?**
 - Generally, most physical changes are reversible, but **not all**. For example, breaking a glass window or tearing paper are physical changes (no new substance forms), but they are irreversible.
 - Generally, chemical changes are irreversible, but some complex chemical reactions can be reversed under specific laboratory conditions. However, at a basic level, they are considered irreversible (e.g., rusting of iron).

2. How are metal rims fitted on wooden wheels? Explain the process of fitting metal tools with wooden handles.

- **Metal rims on wooden wheels:** The metal rim is made slightly smaller than the wooden wheel. The rim is heated strongly, causing it to expand and fit over the wheel easily. Cold water is then poured over it, making the rim contract and grip the wheel tightly.
- **Wooden handles on tools:** The iron ring of the tool is made slightly smaller than the wooden handle. The ring is heated until it expands. The wooden handle is easily slipped inside. As the ring cools down, it contracts and fits tightly onto the handle.

3. Compare and contrast physical changes with chemical changes.

- **Physical Changes:** No new substance is formed. They are temporary and usually reversible. Only physical properties like shape, size, or state change (e.g., melting ice).
- **Chemical Changes:** One or more new substances are formed. They are permanent and generally irreversible. The chemical composition changes completely (e.g., burning paper).

4. Explain two applications of contraction and expansion of substances.

- **Fixing iron rims:** Used to tightly secure iron rims onto wooden cartwheels using heat expansion and cold contraction.
- **Bimetallic strips:** Used in thermostats for fire alarms or electric irons, where two different metals expand at different rates to break or complete an electrical circuit.

5. Explain one undesirable effect of contraction and expansion of substances. What is done to overcome the effects?

- **Undesirable effect:** Concrete bridges and roads can expand in summer and crack or buckle.
- **Solution:** Small expansion gaps or joints are left between concrete slabs to give them room to expand safely without damaging the structure.

Extra question:

Define the following:

1. Reversible changes : The changes that can be reversed
2. Irreversible changes : The changes that cannot be reversed
3. Physical change : The changes which lead to the formation of no new substances
4. Chemical changes: The changes which lead to the formation of new substances
5. Expansion : An increase in the size of an object on heating
6. Contraction: A decrease in the size of an object on cooling

Correct the False Statements

1. **Heating generally causes contraction.**
Correct: Heating generally causes **expansion**.
2. **Freezing water is an irreversible change.**
Correct: Freezing water is a **reversible change**.
3. **Physical changes always form new substances.**
Correct: Physical changes **do not form new substances**.
4. **Rusting of iron is a physical change.**
Correct: Rusting of iron is a **chemical change**.
5. **Breaking a glass is a reversible change.**
Correct: Breaking a glass is an **irreversible physical change**.

Odd One Out

1. Melting ice – Freezing water – Melting wax – **Burning paper**
Answer: Burning paper

2. Cutting paper – Breaking glass – Chopping vegetables – **Rusting iron**
Answer: Rusting iron
3. Expansion – Contraction – Melting – **Photosynthesis**
Answer: Photosynthesis
4. Ice – Water – Water vapour – **Ash**
Answer: Ash

Give Examples – Changes Around Us

1. **Give an example of a reversible change.**
Answer: Melting of ice.
2. **Give an example of an irreversible change.**
Answer: Burning of paper.
3. **Give an example of a physical change.**
Answer: Cutting a piece of paper.
4. **Give an example of a chemical change.**
Answer: Rusting of iron.
5. **Give an example of a change caused by heating.**
Answer: Melting of wax.
6. **Give an example of a change caused by cooling.**
Answer: Freezing of water.
7. **Give an example of expansion.**
Answer: A metal rod expands when heated.
8. **Give an example of contraction.**
Answer: A metal rod contracts when cooled.