



REVISION SHEET

SUBJECT: SCIENCE

CLASS-VII

TERM 1

Chapter 2: Exploring Substances Acidic Basic and Neutral

1. Multiple choice questions

1. What is formed when an acid and a base mix together?
(a) Salt and water (b) Only gas (c) Sugar and water (d) Base and water
2. Which of the following substances turns blue litmus paper red?
(a) Baking soda solution (b) Soap solution
(c) Lemon juice (d) Salt solution

2 Assertion / Reason questions

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

- (i) Both A and R are true and R is correct explanation of the assertion.
- (ii) Both A and R are true but R is not the correct explanation of the assertion.
- (iii) A is true but R is false.
- (iv) A is false but R is true.

Assertion: Distilled water does not change the color of blue or red litmus paper.

Reason: Distilled water is a neutral substance.

Assertion: Turmeric stain on a white shirt turns red when washed with soap

Reason: Soap solution is acidic in nature.

3. Answer the following question

1. Name the source from which litmus solution is extracted. What is its use?
2. Explain how neutralization is useful in treating factory waste and ant bite
3. A farmer finds the soil of his field is too basic. How should he treat it?
4. You have three test tubes containing sugar solution, vinegar, and lime water. How will you identify them using only turmeric paper?

4. Case study/passage-based questions

Rohan was eating curry during lunch when some of it accidentally spilled onto his white cotton school shirt, leaving a bright yellow stain. When he went to wash it with laundry soap at home, he was surprised to see the bright yellow stain instantly turn a deep reddish-brown color. However, when he rinsed the shirt thoroughly with a large amount of fresh water, the reddish-brown color slowly disappeared, and the stain turned back to yellow. Intrigued by this, Rohan decided to squeeze a few drops of fresh lemon juice directly onto the yellow stain, but noticed that the yellow color did not change at all.

1. Why did the yellow curry stain turn reddish-brown when rubbed with soap?
2. What would happen if Rohan used baking soda solution instead of soap on the stain?
3. Why did the lemon juice cause no color change on the yellow stain?
4. Why did the stain turn back to yellow when washed with plenty of water?

Chapter 3: Electricity: Circuits and their Components

1 Multiple choice questions

1. What is the function of a switch in a circuit?
(a) To increase the current
(b) To decrease the voltage
(c) To control the flow of current
(d) To provide energy to the circuit
2. Which of the following components is used to store electrical energy?
(a) Battery (b) Switch (c) Wire (d) Bulb

2 Assertion / Reason questions

Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below

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(iii) A is true but R is false.

(iv) A is false but R is true.

Assertion: In an electric cell, the protruding metal cap acts as the positive terminal, while the flat metal disc acts as the negative terminal.

Reason: Every electric cell has two distinct terminals to allow the flow of current to and from the cell.

Assertion: When an LED lamp is connected in a circuit, its longer wire (lead) must always be connected to the positive terminal of the cell.

Reason: An LED lamp will glow regardless of which way its terminals are connected to the power source.

3 Case study/passage-based questions

Rohan and Sia wanted to make a small reading lamp for their study table using components from their science kit. They gathered an electric cell, a small LED bulb, a plastic switch, and some copper connecting wires covered in plastic insulation.

While setting up the circuit, Sia noticed that the LED bulb had two metal wires (called leads) of unequal lengths. Rohan accidentally stripped too much plastic insulation off two different wires, and they touched each other while the switch was turned 'ON'. Later, to test different materials, they removed the plastic switch and placed a steel spoon, a rubber eraser, and a graphite pencil lead one by one in the gap.

- (i) Sia noted that the LED bulb has a longer lead and a shorter lead. How should they connect it so that it glows?
- (ii) When Rohan allowed the two bare, un insulated copper wires to touch each other while the circuit was active, what did they accidentally create?
- (iii) When they removed the switch and placed different objects in the gap to complete the circuit, which of the objects allowed the LED bulb to glow?

4 Answer the following question

- 1 Differentiate between open and closed circuit.
- 2 Explain the working of bulb with the help of diagram
- 3 Describe LED with the help of diagram.
- 4 A Student work with the wire and forgot to remove the insulation of the wire? Will the circuit work.

Chapter4: The World of Metals and Non-metals

1 Multiple choice questions

1. Which property of metals allows them to be drawn into thin wires?
(a) Malleability (b) Sonority (c) Ductility (d) Conductivity
2. What product is formed when sulfur powder is burned in the presence of oxygen?
(a) Sulfurous acid (b) Sulfur dioxide (c) Hydrogen sulfide (d) Sulfuric acid

2 Assertion / Reason question

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Assertion: Mercury is widely used in laboratory thermometers to measure changes in temperature.

Reason: Mercury is a hard, shiny solid metal at room temperature that expands uniformly when heated.

Assertion: Sodium metal must always be stored submerged in kerosene oil rather than left open in the air.

Reason: Sodium is an extremely reactive metal that catches fire instantly when it comes into contact with moisture and oxygen in the air.

3 Case study / passage-based question

Meera and Rahul visited a local blacksmith's workshop to understand how different materials are shaped for daily use. They saw the blacksmith heating an iron rod in a furnace until it became red-hot and then beating it forcefully with a heavy hammer to shape it into an axe head.

Nearby, they noticed a basket containing other materials: a block of dark coal, some yellow sulfur rolls used for making matches, a spool of copper wire, and some broken pieces of a graphite crucible. The blacksmith explained that he could only shape certain materials from his basket using his hammer, while others would simply break or turn to dust if struck.

- i. Why is the blacksmith able to flatten the hot iron rod into an axe head by hammering it, whereas he cannot do the same with the block of coal?
- ii. If the blacksmith accidentally drops a copper wire and a piece of sulfur roll onto the hard stone floor, how will the sound produced by each material differ?
- iii. Why are the handles of the blacksmith's heavy iron tools usually wrapped in thick wood or plastic sleeves?

4 Answer the following question

1. you are provided with three iron nails one is dipped in oil, other in water and another remain open which one will rust faster.
2. Explain the burning of Magnesium ribbon with the help of an activity.
3. Why are only a few metals suitable for making jewellery?
4. An Iron-smith heats iron before making tools. Why is heating necessary in this process?

Chapter 5: Changes Around Us: Physical and Chemical

1 Multiple choice questions

1. Which of the following is an example of a physical change?
(a) Burning of wood (b) Melting of ice
(c) Digestion of food (d) Rusting of iron
2. Which of the following processes represents a chemical change?
(a) Boiling of water to form steam (b) Tearing a piece of paper
(c) Curdling of milk (d) Melting of wax

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Assertion: When carbon dioxide gas is passed through freshly prepared lime water, the solution turns milk.

Reason: A chemical reaction takes place resulting in the formation of an insoluble white precipitate called calcium carbonate.

Assertion: Iron pipes used in household water supply systems are coated with a layer of zinc to prevent rusting

Reason: Zinc forms a protective barrier that cuts off the direct contact of iron with both moisture and oxygen.

3 Case study/ passage-based question

Rohit and Meera are preparing an exhibit for their school Science Exhibition. They decide to set up three different experiment stations to demonstrate different types of changes to visitors.

Station 1: They take a shiny iron nail, wrap a portion of it with thin copper wire, and leave another unwrapped nail inside a wet cotton cloth for a few days. The unwrapped nail develops a flaky brown layer, while the copper-wrapped nail shows much less brown flaky coating.

Station 2: They dissolve a spoonful of blue-colored copper sulphate crystals in water, add a few drops of dilute sulphuric acid, and then drop an old iron shaving brush into the solution. After 30 minutes, the blue color of the solution fades into green, and a brown deposit appears on the iron shavings.

Station 3: They melt a block of solid paraffin wax using a candle flame, pour it into a small star-shaped mold, and let it cool down until it hardens completely into a star candle.

- i. Based on Station 1, what is the chemical name of the flaky brown layer formed on the iron nail, and what conditions are essential for its formation?
- ii. Identify the type of change taking place at Station 2. Write down the word equation for this reaction.
- iii. Why did the copper-wrapped nail at Station 1 show much less brown coating compared to the unwrapped nail?

4 Answer the following question

1. Can a physical change be completely irreversible? Give an example.
2. Why is the rotting of fruit considered a chemical change?
3. What main features tell you that a chemical reaction has taken place?
4. Is burning a candle a physical change, a chemical change, or both? Give reasons.

Chapter 6: Adolescence: A Stage of Growth and Change

1 Multiple choice questions

1. In females, the reproductive phase of life begins at puberty. What is the scientific term used for the onset of the first menstrual flow?

(a) Menarche	(b) Menopause
(c) Puberty	(d) all of these
2. Which of the following is the primary function of testosterone in males?

(a) Regulation of blood sugar level	(b) Development of male secondary sexual characters
(c) Control of body activities	(d) All of these

2 Assertion / Reason questions

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Assertion : All adolescent individuals grow at the exact same uniform rate.

Reason : Growth is fully regulated by the pituitary gland's secretions.

Assertion : Adolescent girls require more iron rich diet than adolescent boys.

Reason : Iron is essential for the formation of hemoglobin, which carries oxygen in the blood.

3 Case study/ passage-based question

At Sunshine International School, a medical expert conducted a workshop on "Growing Up Right" for Class 7 students. During the session, the doctor discussed how the human body transitions during adolescence. She shared data from three anonymous student queries:

- **Student A (a 13-year-old boy):** Shared that he feels distressed because his voice suddenly cracks or breaks while speaking in class, and he has noticed a small protrusion at the front of his neck. [1]

- **Student B (a 12-year-old girl):** Reported that she suddenly feels very self-conscious because her face has broken out in painful pimples and acne, even though she washes her face multiple times a day.
- **Student C (a 14-year-old boy):** Expressed worry because he feels tired very quickly during football practice compared to last year, despite eating the same amount of food.

The doctor explained that all three students are experiencing normal biological variations triggered by internal chemical messengers traveling through their blood.

- Identify the anatomical structure that is causing Student A's voice to crack and protrude. What is its common name?
- Explain the biological reason behind Student B's sudden outbreak of acne and pimples. Why does frequent washing not completely stop it?
- What nutritional advice should the doctor give to Student C to handle his fatigue? Why has his previous food intake become insufficient?

4 Answer the following question

- What is puberty, and how is it related to adolescence?
- What causes the cracking or deepening of voice in adolescent boys?
- Why is a balanced diet exceptionally critical during the stage of adolescence?
- Enlist the changes that takes place in both male and female during adolescence.

Chapter 7: Heat Transfer in Nature

1 Multiple choice questions

- What is the primary purpose of the vacuum between the double walls of a thermos flask?
 - To prevent heat transfer by conduction and convection.
 - To allow heat to radiate out
 - To make the flask lighter
 - To increase the heat transfer by convection.
- In hot climates, how do white-washed outer walls help in keeping the house cool?
 - White surfaces absorb solar radiation quickly
 - White surface allow heat heat transfer from the body quickly
 - White surfaces reflect most of the sun heat
 - White surfaces generate cold air

2 Assertion / Reason questions

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Assertion: Solar energy easily travels through the millions of kilometers of vacuum between the Sun and the Earth to heat our planet.

Reason: Radiation is a mode of heat transfer that requires a dense material medium like air or water to move thermal energy.

Assertion: Wrapping a block of ice in a thick woolen blanket stops it from melting quickly on a warm day.

Reason: Wool traps tiny pockets of still air, and still air acts as an excellent thermal insulator.

3. Case study/ Passage based question

Nina was playing with her friend Rahul in the park one afternoon. While walking under a tree, they noticed that the sunlight coming through the gaps in the leaves formed small patches of light on the ground. Curious, Nina asked Rahul why the light coming through the tree appeared as small circles. Rahul, having studied about light in school, quickly explained that it had something to do with how light travels and how objects like leaves can block or allow it to pass through.

Nina and Rahul continued to observe that the light they saw was not the same in every part of the park. Some areas had brighter light, while others were dimmer, even though they were all outside in the same environment.

- (i) Why do the patches of light formed under the tree appear as small circles?
- (ii) What is the role of the tree's leaves in the formation of these light patches?
- (iii) Explain why the intensity of light varied in different areas of the park. What could be the reasons behind the brightness differences?
- (iv) According to the case study, what can we infer about how light travels?

4 Answer the following question

1. Why does a sea breeze blow only during the daytime in coastal areas?
2. If you walk barefoot in the afternoon, why does a tar road feel much hotter than a concrete footpath?
3. With the help of a neat explanation, describe how a land breeze occurs at night in coastal regions.
4. Why are the ventilation windows or exhaust fans in houses always placed near the ceiling rather than near the floor?