

## NEW XSEED 5-STEP EDITION

- ✓ 5-Step Experiential Learning Method
- ✓ CCE Compliant
- ✓ HOTS Driven Learning

### Instructions for Administering Assessments

1. Ensure that each student has a sharpened pencil and a clear workspace. Instruct students to put away all books, notebooks and other school materials.
2. Ensure that the classroom environment is free from noise and other distractions. Close the door if possible.
3. Read aloud all instructions from the Summative Assessment booklet.
4. Inform students how long they have to complete the test. At the beginning of the test, write the start and end time on the board.
5. You may read the questions aloud or explain their meaning in different words if necessary, without giving clues to the answer.

### Note on Marking XSEED Summative Assessments

XSEED Summative Assessments are designed to measure students' ability to apply concepts and skills and express themselves in an organised way. Because of the open-ended nature of some questions, the corresponding answers given in this guide represent samples only. In cases where acceptable answers may vary, it will be clearly indicated in each question along with the detailed criteria to assess answers and assign marks. Assign marks for language errors only if the criteria states so.

# TEACHER'S ANSWER GUIDE

## XSEED

## SUMMATIVE ASSESSMENT

## Science, Test 2

# GRADE

# 8

Duration: 90 Minutes

Total Marks: 60

**PART I – Short Answer Questions**

**30 Marks**

**1. Assign 0.5 marks for each correct answer.**

**1 × 4 = 4**

- A. Answers may vary. Sample answer:  
Carbon dioxide, methane, trap
- B. increases, increases, temperature
- C. Answers may vary. Sample answer:  
factories, vehicles

**2. Assign marks as per the given criteria.**

**1 + 2 = 3**

CRITERIA	MARKS
A. Correctly writes the reason	1
B. Correctly identifies whether the balloons attract or repel (1 mark) Writes a logical reason (1 mark)	2
<b>TOTAL (3 Marks)</b>	<b>3</b>

- A. The balloons developed the same charge because they were rubbed against the same material.
- B. They will repel each other. This is because both of them are negatively charged and like charges always repel.

**3. Assign marks as per the given criteria.**

**2 + 1 = 3**

CRITERIA	MARKS
A. Correctly writes the features (1 mark each)	2
B. Correctly writes the answer	1
<b>TOTAL (3 Marks)</b>	<b>3</b>

- A. Answers may vary. Sample answer:
  - 1. It is taller than the building.
  - 2. It is made of metal.
- B. A lightning conductor conducts the electric discharge of lightning into the ground. This protects the building from damage.

## XSEED Summative Assessment – Test 2

4. Assign marks as per the given criteria.

1 + 4 = 5

CRITERIA	MARKS
A. Correctly identifies the models of an atom (0.5 marks each)	1
B. Correctly writes the differences (2 marks each)	4
<b>TOTAL (5 Marks)</b>	<b>5</b>

- A. a. Model 2  
b. Model 1

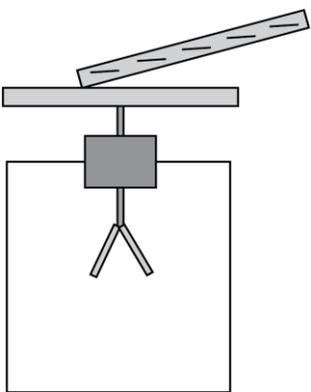
B. Answers may vary. Sample answer:

Thomson's model	Rutherford's model
<b>1.</b> The electrons are randomly distributed.	<b>1.</b> The electrons are present in definite orbits.
<b>2.</b> Whole sphere is positively charged.	<b>2.</b> Positive charge is only in the central nucleus.

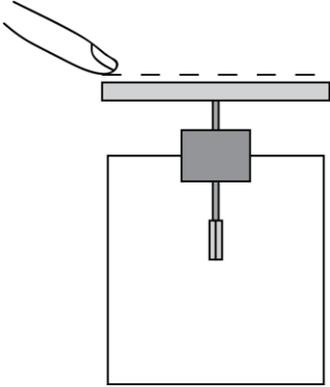
5. Assign marks as per the given criteria.

2 + 2 = 4

CRITERIA	MARKS
Correctly draws the position of the leaves (1 mark each)	2
Correctly writes the reason (1 mark each)	2
<b>TOTAL (4 Marks)</b>	<b>4</b>

Draw the position of the metal leaves in the electroscope in each experiment.	Give 1 reason for the change in position of the metal leaves.
<p><b>A.</b></p> 	<p>Metal leaves will be negatively charged due to the charge from the ruler. So, they will repel.</p>

## XSEED Summative Assessment – Test 2

<p><b>B.</b></p> 	<p>The negative charge from the electroscope will be earthed through our finger. So, the metal leaves will become neutral and return to normal position.</p>
----------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------

**6. Assign marks as per the given criteria.**

**2 + 2 = 4**

CRITERIA	MARKS
<b>A.</b> Correctly identifies if the earthquake was mild or severe (1 mark) Writes a logical reason (1 mark)	2
<b>B.</b> Correctly writes the safety measures that one can take during an earthquake (1 mark each)	2
<b>TOTAL (4 Marks)</b>	<b>4</b>

A. It was a severe earthquake because it measured 7.2 on the Richter scale which indicates a high-intensity earthquake.

B. Answers may vary. Sample answer:

1. People could have hidden under their furniture.
2. People could have dropped down to their hands and knees to prevent themselves from falling and being severely injured.

**7. Assign marks as per the given criteria.**

**3 + 1 = 4**

CRITERIA	MARKS
<b>A.</b> Correctly identifies the change (0.5 marks each) Writes a logical reason (1 mark each)	3
<b>B.</b> Correctly writes an example	1
<b>TOTAL (4 Marks)</b>	<b>4</b>

A.

<b>Property</b>	<b>How does the property change on heating? (increases/decreases)</b>	<b>Write 1 reason how does the property change on heating? (increases/decreases) for the change in property.</b>
<b>Movement of particles</b>	Increases	This is because particles gain more energy on heating and move faster.
<b>Volume of the liquid</b>	Increases	This is because particles move faster and push each other away. So, they occupy more space.

B. Answers may vary. Sample answer:

Expansion of mercury in a thermometer on heating helps us to determine temperature.

8. Assign 1 mark for each correct answer.

<b>3 × 1 = 3</b>
------------------

<b>Experiment</b>	<b>Which property of cathode rays is proved by this experiment?</b>
<b>A.</b>	Cathode rays are negatively charged.
<b>B.</b>	Cathode rays travel in a straight line.
<b>C.</b>	Cathode rays have energy.

**PART II – Long Answer Questions**

**30 Marks**

**9. Assign marks as per the given criteria.**

**2 + 4 = 6**

CRITERIA	MARKS
A. Correctly writes the source of pollutants (0.5 marks each)	2
B. Correctly writes the effect of pollutants (1 mark each)	4
<b>TOTAL (6 Marks)</b>	<b>6</b>

Answers may vary. Sample answer:

Pollutants in water	1 source of the pollutant	1 effect of this pollutant
A. Chemicals	Untreated discharge from industries	Chemicals make the water toxic and unfit for drinking.
B. Oil	Oil spillage from ships	Oil coats the feathers of aquatic birds making it difficult for them to fly.
C. Nutrients	Agricultural waste	Nutrients lead to increased growth of algae in water that in turn reduces the dissolved oxygen and harms aquatic life.
D. Sewage	Wastewater discharged from homes	Sewage releases poisonous substances into the water which make it unfit for use.

**10. Assign marks as per the given criteria.**

**1.5 + 2 + 1.5 + 2 = 7**

CRITERIA	MARKS
A. Correctly identifies the metal can (0.5 marks) Writes a logical answer (1 mark)	1.5
B. Correctly identifies choice of clothes (1 mark) Writes a logical reason (1 mark)	2
C. Correctly identifies the can (0.5 marks) Writes a logical answer (1 mark)	1.5
D. Correctly identifies how heat is transferred (1 mark each)	2
<b>TOTAL (7 Marks)</b>	<b>7</b>

## XSEED Summative Assessment – Test 2

- A. The water in metal can 2 will be hotter because dark colours absorb more heat by radiation.
- B. We should wear light-coloured clothes in summer because they absorb less heat.
- C. The water in the white metal can will be hotter because metal is a good conductor of heat and will heat up the water faster.
- D. Answers may vary. Sample answer:
  - a. Heat is transferred through radiation.
  - b. Heat is transferred through particles in contact.

**11. Assign marks as per the given criteria.**

**4 + 4 + 2 = 10**

CRITERIA	MARKS
A. Correctly writes the role of the body part (1 mark each)	4
B. Correctly writes the difference in the movement of animals (1 mark each) Correctly writes the similarity (1 mark each)	4
C. Correctly writes the role of each body feature (1 mark each)	2
<b>TOTAL (10 Marks)</b>	<b>10</b>

- A.
  - a. Joints help in the movement of bones.
  - b. The muscles contract to pull the bone up and relax to allow the bone to move back to its original position.
  - c. Tendons attach muscles to bones which help the bones to move.
  - d. Cartilage provides a cushion at the joints when bones move.

B. Answers may vary. Sample answer:

Animal pairs	1 way their movement is <u>different</u>	1 way their movement is the <u>same</u>
<b>Bird and fish</b>	Birds use wings to move while fish use fins.	Both move in a pattern.
<b>Snake and fish</b>	Fish use fins to move while snakes use muscles.	Both move in a zigzag manner.

- C.
  - a. Streamlined body of birds help them to cut easily through air.
  - b. Hollow bones make the birds light enough to fly in the air.

**12. Assign marks as per the given criteria.**

<b>1 + 1 + 3 + 2 = 7</b>
--------------------------

CRITERIA	MARKS
A. Correctly states why it is called the anode	1
B. Correctly states why it is called the cathode	1
C. Correctly explains the electroplating process	3
D. Correctly writes the uses of electroplating (1 mark each)	2
<b>TOTAL (7 Marks)</b>	<b>7</b>

- A. The copper rod is called the anode since it is connected to the positive terminal of the battery.
- B. The iron key is called the cathode since it is connected to the negative terminal of the battery.
- C. The metal that has to be plated (iron) is made the cathode while the metal that has to be coated (copper) is made the anode. The electrolyte is the salt solution of the metal to be coated (copper nitrate). When an electric current is passed through the solution, metal from the anode is dissolved in the salt solution and is deposited over the cathode.
- D. Answers may vary. Sample answer:
- Ornaments made of cheaper metals are electroplated with gold to give them a gold-like appearance.
  - Rims of cycles and cars are coated with chromium to prevent them from rusting.

**END OF QUESTIONS IN TEST PAPER**