

GOVT. HIGHER PRIMARY SCHOOL,....., TQ:
DIST:

Subject Teacher:

Question Paper Design & Weightage Distribution

Class: 6th Standard

Subject: Science (English Medium)

Max Marks: 40

Total Questions: 24

A) Weightage to Objectives

Objectives	Questions	Marks	Percentage (%)
Knowledge	7	10	25%
Understanding	13	18	45%
Application	3	8	20%
Skill	1	4	10%
Total	24	40	100%

C) Weightage to Form of Questions

Question Type	Questions	Marks	Percentage (%)
Objective (1 Mark)	12	12	30%
Very Short Answer (2 Marks)	10	20	50%
Long Answer (4 Marks)	2	8	20%
Total	24	40	100%

B) Weightage to Content / Lessons (Term 1)

Sl.No	Lesson Title	Questions	Marks	Weightage
1	1. The Wonderful World of Science	3	4	10%
2	2. Diversity in the Living World	5	8	20%
3	3. Mindful Eating: A Path to a Healthy Body	3	6	15%
4	4. Exploring Magnets	7	12	30%
5	5. Measurement of Length and Motion	4	6	15%
6	6. Materials Around Us	2	4	10%
Total		24	40	100%

D) Weightage to Difficulty Level

Difficulty Level	Questions	Marks	Percentage (%)
Easy	10	12	30%
Average	10	16	40%
Difficult	4	12	30%
Total	24	40	100%

BLUEPRINT (SA-1) - 6TH STANDARD SCIENCE

Subject: Science (English Medium)	Class: 6th Standard	Total Marks: 40	Number of Questions: 24
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Sl.	Lessons / Units	Knowledge			Understanding			Application			Skill		Total	
		Obj(1)	VSA(2)	LA(4)	Obj(1)	VSA(2)	LA(4)	Obj(1)	VSA(2)	LA(4)	Obj(1)	VSA(2)	Qns	Marks
1	1. The Wonderful World of Science	1(1)	1(2)	-	1(1)	-	-	-	-	-	-	-	3	4
2	2. Diversity in the Living World	1(1)	1(2)	-	1(1)	2(4)	-	-	-	-	-	-	5	8
3	3. Mindful Eating: A Path to a Healthy Body	1(1)	-	-	1(1)	-	-	-	-	-	-	-	3	6
4	4. Exploring Magnets	-	-	-	4(4)	1(2)	-	-	1(2)	1(4)	-	-	7	12
5	5. Measurement of Length and Motion	1(1)	-	-	1(1)	1(2)	-	-	1(2)	-	-	-	4	6
6	6. Materials Around Us	-	1(2)	-	-	1(2)	-	-	-	-	-	-	2	4
Objective-wise Total Marks		10 (25%)			18 (45%)			8 (20%)			4 (10%)		24	40

Note: Numbers outside brackets represent the number of questions; numbers inside brackets indicate allotted marks. Obj = Objective (1 Mark), VSA = Very Short Answer (2 Marks), LA = Long Answer (4 Marks).

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Question-wise Analysis Sheet (SA-1)

Class: 6th Standard

Subject: Science

Total Questions: 24

Total Marks: 40

Q.No.	Lesson Name	Objective	Specification	Marks	Question Type	Difficulty	Time (m)
1	1. The Wonderful World of Science	Knowledge	Defines	1	Objective	Easy	2
2	3. Mindful Eating: A Path to a Healthy Body	Knowledge	Recalls	1	Objective	Easy	2
3	5. Measurement of Length and Motion	Knowledge	Recalls	1	Objective	Easy	2
4	2. Diversity in the Living World	Knowledge	Defines	1	Objective	Easy	2
5	1. The Wonderful World of Science	Understanding	Identifies	1	Objective	Easy	2
6	2. Diversity in the Living World	Understanding	Classifies	1	Objective	Easy	2
7	3. Mindful Eating: A Path to a Healthy Body	Understanding	Identifies	1	Objective	Easy	2
8	5. Measurement of Length and Motion	Understanding	Identifies	1	Objective	Easy	2
9	4. Exploring Magnets	Understanding	Matches	1	Objective	Easy	1
10	4. Exploring Magnets	Understanding	Matches	1	Objective	Easy	1
11	4. Exploring Magnets	Understanding	Matches	1	Objective	Easy	1
12	4. Exploring Magnets	Understanding	Matches	1	Objective	Easy	1
13	4. Exploring Magnets	Understanding	Lists Properties	2	Very Short Answer	Easy	5
14	2. Diversity in the Living World	Understanding	Differentiates	2	Very Short Answer	Average	5
15	2. Diversity in the Living World	Understanding	Explains	2	Very Short Answer	Average	5
16	6. Materials Around Us	Understanding	Differentiates	2	Very Short Answer	Average	5
17	2. Diversity in the Living World	Knowledge	Gives Reason	2	Very Short Answer	Easy	5
18	1. The Wonderful World of Science	Knowledge	Lists	2	Very Short Answer	Easy	5
19	5. Measurement of Length and Motion	Application	Solves Numerical	2	Very Short Answer	Average	5
20	4. Exploring Magnets	Application	Analyzes	2	Very Short Answer	Average	5
21	5. Measurement of Length and Motion	Understanding	Gives Reason	2	Very Short Answer	Average	5
22	6. Materials Around Us	Understanding	Classifies	2	Very Short Answer	Easy	5
23	4. Exploring Magnets	Application	Describes Method	4	Long Answer	Difficult	10
24	3. Mindful Eating: A Path to a Healthy Body	Skill	Explains Experiment	4	Long Answer	Average	10
Total				40 Marks	24 Questions	-	90 Mins

Class: 6th Standard

Time: 90 Minutes

Max Marks: 40

I. Answer the following questions in one sentence each:

4 × 1 = 4

1. What is Science?
2. Which nutrients act as protective nutrients in our body?
3. What is the standard International Unit (SI unit) of length?
4. What is meant by a habitat?

II. Choose and write the correct alternative from the given options:

4 × 1 = 4

5. Curiosity makes us ask:
(A) Answer (B) Story (C) Question (D) Opinion
6. A plant typically small with a soft, green, and non-woody stem is a:
(A) Herb (B) Tree (C) Shrub (D) Creeper
7. Nutrients essential for muscle growth and repair of body tissues are:
(A) Proteins (B) Carbohydrates (C) Fats (D) Dietary fibres
8. The to-and-fro motion of the pendulum of a clock is an example of:
(A) Rectilinear motion (B) Oscillatory motion (C) Rotational motion (D) Random motion

III. Match the items in Column 'A' with the appropriate items in Column 'B':

4 × 1 = 4

Column 'A'	Column 'B'
9. Magnetite	(A) Non-magnetic material
10. Plastic / Wood	(B) Repel each other
11. Like magnetic poles	(C) Natural magnet
12. Freely suspended magnet	(D) North-South direction

IV. Answer the following questions in 2-3 sentences each:

10 × 2 = 20

13. List any four important properties of magnets.
14. Differentiate between taproot system and fibrous root system.
15. State two adaptive features that help a camel survive in a desert.
16. Differentiate between transparent and opaque objects with examples.
17. Why are frogs called amphibians?
18. List the main steps involved in the scientific method.
19. On a scale with a broken zero mark, reading starts at 2.0 cm and ends at 8.5 cm. What is the actual length?
20. Can a broken magnet have only one pole? Justify your answer.
21. Why should an elastic measuring tape not be used to measure cloth length?
22. Classify the following into objects that float and sink in water: (Iron nail, Dried leaf, Coin, Plastic spoon).

V. Answer the following questions in detail (4-5 sentences):

2 × 4 = 8

23. You are given an unmarked bar magnet. How will you identify its North pole without using another magnet?
24. Describe the step-by-step laboratory procedure to test the presence of proteins in a food item.

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Model Answers & Scoring Key (Part - I)

Class: 6th Standard

Subject: Science

Questions 1 to 12 (Objective & 1-Mark Items)

Q.No.	Expected Model Answers / Value Points	Marks
1	What is Science? Answer: Science is a continuous journey of observing, experimenting, and understanding the natural world and secrets of the universe.	1 Mark
2	Which nutrients act as protective nutrients in our body? Answer: Vitamins and minerals.	1 Mark
3	What is the standard International Unit (SI unit) of length? Answer: Metre (m).	1 Mark
4	What is meant by a habitat? Answer: The physical surroundings or dwelling place where plants and animals naturally live is called a habitat.	1 Mark
5	Curiosity makes us ask: Answer: C) Question	1 Mark
6	A plant typically small with a soft, green, and non-woody stem is a: Answer: A) Herb	1 Mark
7	Nutrients essential for muscle growth and repair of body tissues are: Answer: A) Proteins	1 Mark
8	The to-and-fro motion of the pendulum of a clock is an example of: Answer: B) Oscillatory motion	1 Mark
9	Magnetite Answer: (C) Natural magnet	1 Mark
10	Plastic / Wood Answer: (A) Non-magnetic material	1 Mark
11	Like magnetic poles Answer: (B) Repel each other	1 Mark
12	Freely suspended magnet Answer: (D) North-South direction	1 Mark

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Model Answers & Scoring Key (Part - II)

Class: 6th Standard

Subject: Science

Questions 13 to 24 (Descriptive 2 & 4 Marks Items)

Q.No.	Expected Model Answers / Value Points	Marks
13	List any four important properties of magnets. Answer: 1. Attracts magnetic substances like iron, nickel, cobalt. 2. Always possesses two poles: North pole and South pole. 3. Like poles repel each other; unlike poles attract each other. 4. A freely suspended magnet always aligns itself in the geographic North-South direction.	2 Marks
14	Differentiate between taproot system and fibrous root system. Answer: Taproot system has one prominent main root with smaller lateral branch roots (seen in dicots like gram/beans). Fibrous root system has a cluster of similar-sized roots arising from the base of the stem without a main root (seen in monocots like wheat/maize).	2 Marks
15	State two adaptive features that help a camel survive in a desert. Answer: 1. Long legs keep the body elevated above the hot sand; wide padded feet prevent sinking in sand. 2. Excretes small amounts of concentrated urine, dry dung, and does not sweat to conserve water.	2 Marks
16	Differentiate between transparent and opaque objects with examples. Answer: Transparent materials allow light to pass through completely, so objects can be seen clearly (e.g., clear glass, clean water). Opaque materials do not allow light to pass through, so we cannot see through them (e.g., wood, iron plate).	2 Marks
17	Why are frogs called amphibians? Answer: Frogs can live both on land and in water. On land they breathe through lungs, and in water they respire through their moist skin.	2 Marks
18	List the main steps involved in the scientific method. Answer: 1. Observation and questioning 2. Formulating a hypothesis 3. Conducting experiments 4. Analysis and reaching a conclusion.	2 Marks
19	On a scale with a broken zero mark, reading starts at 2.0 cm and ends at 8.5 cm. What is the actual length? Answer: Actual length = Final reading - Initial reading = 8.5 cm - 2.0 cm = 6.5 cm.	2 Marks
20	Can a broken magnet have only one pole? Justify your answer. Answer: No, an isolated single magnetic pole does not exist. Even when broken into two or more pieces, each broken piece instantly develops both a North pole and a South pole.	2 Marks
21	Why should an elastic measuring tape not be used to measure cloth length? Answer: Elastic measuring tape stretches when pulled. The measured length changes depending on the force applied, causing errors and inconsistent measurements.	2 Marks
22	Classify the following into objects that float and sink in water: (Iron nail, Dried leaf, Coin, Plastic spoon). Answer: Objects that float: Dried leaf, Plastic spoon. Objects that sink: Iron nail, Coin.	2 Marks
23	You are given an unmarked bar magnet. How will you identify its North pole without using another magnet? Answer: 1. Tie a thread around the exact center of the unmarked bar magnet. 2. Suspend it freely from a wooden stand so it can rotate horizontally without obstruction. 3. Allow the magnet to come to complete rest. 4. Earth behaves as a giant magnet; the freely suspended magnet aligns along the North-South direction. 5. The end pointing towards geographic north is its North-seeking pole (North pole), and the other is the South pole.	4 Marks
24	Describe the step-by-step laboratory procedure to test the presence of proteins in a food item. Answer: 1. Take a small amount of the food item and crush/grind it into a paste or powder. 2. Put some into a clean test tube and add 10 drops of water, shaking well. 3. Using a dropper, add 2 drops of Copper Sulphate (CuSO ₄) solution. 4. Add 10 drops of Caustic Soda (NaOH) solution and shake well. 5. Keep undisturbed for a few minutes. Appearance of a violet/purple color confirms the presence of protein.	4 Marks