

Class 6 Basic Science First Term Examination 2025 - Answer Key

Total Marks: 30 (Attempt any 6 out of 8 activities, 5 marks each)

Answer Key

Activity - 1: Food and Nutrients [5 Marks]

A) Match the nutrient with its function. [3]

Answer:

- A. Carbohydrate 2. Main source of energy
- B. Protein 3. Growth and repair of tissues
- C. Calcium 1. Helps in bone formation

Explanation: Carbohydrates provide energy for daily activities (Textbook, Page 4). Proteins are essential for growth and tissue repair (Textbook, Page 6). Calcium strengthens bones and prevents osteoporosis (Textbook, Page 11).

B) Why do we feel hungry after physical activity? [2]

Answer: Physical activity uses up energy stored as carbohydrates in the body. Hunger signals the need to replenish these energy stores through food intake (Textbook, Page 5).

Activity - 2: Preventing Deficiency Diseases [5 Marks]

A) Which vitamin deficiency causes scurvy, and what fruit can prevent it? [2]

Answer: Scurvy is caused by a deficiency of Vitamin C. Oranges can prevent it as they are rich in Vitamin C (Textbook, Page 12).

B) Explain how including iodine-rich foods in the diet prevents goitre. [3]

Answer: Iodine is essential for the thyroid gland to produce hormones that regulate growth and metabolism. A lack of iodine causes the thyroid to enlarge, leading to goitre. Eating iodine-rich foods like iodized salt or seafood ensures proper thyroid function, preventing goitre (Textbook, Page 13).

Activity - 3: Food Testing [5 Marks]

A) Describe a simple test to identify proteins in a food sample. [3]

Answer: Take a food sample (e.g., boiled egg) in a test tube, add a few drops of copper sulphate solution and sodium hydroxide solution. If proteins are present, the solution turns violet; if absent, no color change occurs (Textbook, Page 6).

B) **What is the importance of testing food for nutrients?** [2]

Answer: Testing food for nutrients helps identify the presence of essential nutrients like proteins or starch, ensuring a balanced diet and preventing deficiencies (Textbook, Page 7).

Activity - 4: Magnetic Materials [5 Marks]

A) **Classify the following as magnetic or non-magnetic: iron nail, plastic spoon, steel spoon, wooden stick.** [3]

Answer:

- Magnetic: Iron nail, Steel spoon
- Non-magnetic: Plastic spoon, Wooden stick

Explanation: Iron and steel are magnetic materials attracted by magnets, while plastic and wood are non-magnetic and not attracted (Textbook, Page 22).

B) **Why does a magnet not attract a copper coin?** [2]

Answer: Copper is a non-magnetic material, so it is not attracted by a magnet's magnetic field (Textbook, Page 22).

Activity - 5: Magnetic Forces [5 Marks]

A) **True or False: Explain your answer.** [3]

"A magnet can attract an object without touching it."

Answer: True. A magnet creates a magnetic field around it, which exerts a force on magnetic materials like iron, pulling them toward the magnet without physical contact (Textbook, Page 23).

B) **How does the shape of a magnet affect its use in a compass?** [2]

Answer: A needle-shaped magnet is used in a compass because it is lightweight and can pivot freely to align with Earth's magnetic field, pointing toward the North Pole (Textbook, Page 29).

Activity - 6: Bones and Their Functions [5 Marks]

A) **Identify the bone in the diagram below and state its function.** [3]

(Diagram shows a rib cage)

Answer: Bone: Rib cage. Function: The rib cage protects vital organs like the heart and lungs and supports the chest for breathing (Textbook, Page 40).

B) **Why do babies have more bones than adults?** [2]

Answer: Babies have more bones because many bones, like those in the skull, are separate at birth to allow flexibility during birth and growth. These bones fuse as the child grows (Textbook, Page 39).

Activity - 7: Joints and Mobility [5 Marks]

A) **Which type of joint allows the arm to bend at the elbow? Describe its movement.** [3]

Answer: Type: Hinge joint. Movement: The hinge joint at the elbow allows the arm to

bend and straighten in one direction, like a door hinge, enabling movements like lifting objects (Textbook, Page 44).

B) Why do some animals, like snakes, move without joints in their limbs? [2]

Answer: Snakes lack limb joints but move by flexing their vertebral column and using muscles to slither, allowing them to navigate their environment (Textbook, Page 46).

Activity - 8: Health and Safety [5 Marks]

A) Design a healthy meal plan for a day that includes all essential nutrients. [3]

Answer:

- Breakfast: Whole grain bread (carbohydrates), boiled egg (protein), milk (calcium, protein).
- Lunch: Rice (carbohydrates), fish curry (protein, fats), spinach (vitamins, minerals).
- Dinner: Chapati (carbohydrates), lentil soup (protein), orange (Vitamin C).

Explanation: This meal plan includes carbohydrates for energy, proteins for growth, fats for energy storage, and vitamins/minerals for overall health (Textbook, Page 14).

B) Why is it important to wash fruits before eating them? [2]

Answer: Washing fruits removes dirt, pesticides, and germs that may cause illness, ensuring they are safe to eat (Textbook, Page 15).