

DIET, DIGESTION, AND FOOD TESTS

Key Concepts

- A balanced diet includes carbohydrates, proteins, fats, vitamins, minerals, fibre, and water.
- Carbohydrates provide energy and are found in foods like bread, rice, and pasta.
- Proteins are essential for growth, repair, and making enzymes and hormones; sources include meat, fish, and beans.
- Fats store energy, insulate the body, and protect organs; they are found in butter, oils, and nuts.
- Vitamins and minerals are needed in small amounts to maintain health (e.g., Vitamin C for immunity, calcium for strong bones).
- Fibre helps keep the digestive system healthy by aiding the movement of food through the gut.
- Water is vital for all chemical reactions in the body and for maintaining hydration.
- Digestion breaks down food into small molecules for the body to absorb, using enzymes like amylase, protease, and lipase.
- Food tests identify nutrients in food (e.g., Benedict's for sugar, iodine for starch, and Biuret test for protein).

Key Facts to Remember

- The small intestine absorbs nutrients through structures called villi, which increase surface area for absorption.
- Enzymes like amylase, protease, and lipase break down carbohydrates, proteins, and fats respectively into smaller molecules.
- Proteins are used for growth, repair of tissues, and production of enzymes and hormones.
- Carbohydrates provide quick energy and are broken down into simple sugars like glucose.
- Fats provide long-term energy storage, insulation to maintain body temperature, and protection for vital organs.
- Fibre helps to regulate digestion by adding bulk to stool and supporting gut health.
- Water is essential for dissolving nutrients, aiding digestion, and transporting substances in the blood.

Quick Questions

1. What test is used for starch?
2. Which organ absorbs nutrients?
3. Name one use of protein in the body.
4. What enzyme breaks down carbohydrates?
5. Which nutrient provides long-term energy storage?
6. What is the role of villi in the small intestine?
7. Name a test used to identify protein in food.
8. Why is water essential for digestion?

Fun Fact

Your stomach produces acid strong enough to dissolve metal!