

Key Stage 3 Precise Learning Points



Unit Number	B1
Unit Title	Cells & Organisation
Chapter	Organisation & Organ Systems

Key Scientific Points

1. Multicellular organisms are made from many cells.
2. The same type of cell can group together to form tissues.
3. Examples of tissues include: ANIMALS - Muscle tissue (contraction), Nervous (carrying impulse), Epithelial (covering surfaces). PLANTS - Mesophyll (absorbing light), Xylem (transporting water and minerals).
4. Different tissues come together to form organs.
5. Examples of organs include for animals the Heart (to pump blood), stomach (to churn and digest food), lungs (to take in oxygen); plants Leaves (to make food), Roots (to collect water and minerals), Flowers (for reproduction).
6. Different organs work together to make an organ system.
7. Examples of organ systems include the respiratory system (includes the lungs where gas exchange occurs), the circulatory system (includes the heart and blood vessels which allow the transport of substances around the body), the digestive system (allows us to break down and absorb nutrients from food) and the nervous system (allows us to sense changes in our environment).
8. Food groups we need include: carbohydrates and lipids (provide energy), proteins (are used for growth and repair), vitamins and minerals, fibre (helps food move through the gut by adding bulk to make it easier for muscles to push) and water.
9. If you do not eat enough food you can become underweight and if you eat too much food you can become overweight or obese.
10. Unhealthy diets can lead to vitamin and mineral deficiencies.
11. The amount of energy you should consume in your food depends on your age, sex, and lifestyle.
12. The major structures of the digestive system are the mouth (mechanical breakdown of food), stomach (mechanical and chemical breakdown), small intestine (absorption of nutrients), large intestine (absorption of water), rectum (store of faeces), and anus (removal of waste).
13. Some food groups are too large to be absorbed by the small intestine so must be digested (broken down) by substances called enzymes.
14. Muscles work in pairs called antagonistic pairs to move bones about a joint. As one muscle contracts the other relaxes allowing the joint to move in both directions.
15. An organism's skeleton allows scientists to draw conclusions about its age, diet, sex and size.