

Year 8 Science

Areas of Learning

- Biology: Measuring in science, Food & Digestion, Circulation & breathing, Respiration, Flowering Plants.
- Chemistry: Atoms & elements, Molecules & compounds, Metals & non-metals, Chemical reactions, Rocks & Weathering.
- Physics: Magnetism, Light, Sound & hearing, Energy Transformations, Speed, time & distance.

Approaches to learning

- Pupils learn how to use SI units and their subunits.
- Identify and use the correct instruments for measuring specific substances.
- Understand what is meant by a balanced diet and describe the consequences of an imbalanced diet.
- Identify parts of the digestive system and their functions.
- Describe and identify different components of the circulatory system including blood, vessels and heart and describe how the heart works.
- Describe the respiratory system and its parts.
- Explain how the health of the circulatory and respiratory systems can be affected.
- Describe aerobic and anaerobic respiration and compare them.
- Identify the main parts of flowering plants and their functions.
- Identify common elements including their symbols and their position in the periodic table.
- Draw diagrams to show structure of atoms.
- Distinguish between molecules, mixtures, elements and compounds
- Identify some common compounds and learn how to name compounds using chemical formula
- Describe the properties and uses of metals and non metals
- Describe physical and chemical change and describe chemical reactions
- Classify the three main types of rock and describe how they are formed.
- Compare the processes of weathering and erosion.
- Identify the properties of magnets, draw magnetic field patterns and recognise where magnets are used in daily life.
- Investigate light, draw ray diagrams, understand how shadows form, refraction, reflection and how mirrors work.
- Use a prism to investigate colours in white light, describe how filters work.
- Understand how sound is produced and use diagrams to show sound waves.
- Explain how we hear and how hearing can be damaged.
- Identify and describe energy transformations
- Calculate speed and interpret and draw graphs of speed, time and distance.

Examples of learning

- Pupils make their own electromagnets
- Pupils construct their own model of lungs from balloons, straws, bottles...to understand how breathing works.
- Pupils bring in various food packages to analyse their nutritional content
- Pupils use the food pyramid to criticise and improve their diet and use the pyramid to construct ideal daily menus that reflect a balanced diet.

References

- Secondary curriculum 2014:<http://www.gov.uk/dfe/nationalcurriculum>
- Hodder Education: International Science 2 (textbook and workbook)
- Complete Biology for Cambridge Secondary 1: Oxford