



2012 Year 8 Chemical Sciences

Unit Overview

Students following the National Curriculum for Chemical Sciences in year 8, study the properties of the different states of matter and how they can be explained in terms of motion and arrangement of particles. Students will describe the difference between elements, compounds and mixtures at a particle level and will understand that chemical changes involve substances reacting to form new substances.

Descriptors

- A. The properties of the different states of matter can be explained in terms of the motion and arrangement of particles.
- B. Differences between elements, compounds and mixtures can be described at a particle level.
- C. Chemical change involves substances reacting to form new substances.

Science Understanding (Elaborations)

1. Modelling the arrangement of solids, liquids and gases
2. The energy of particles is linked to temperature changes
3. Model the arrangement of particles in elements and compounds
4. Recognise that elements and simple compounds can be represented by symbols and formulas
5. Locating elements on the periodic table
6. Identify the differences between chemical and physical changes
7. Identify evidence that a chemical change has taken place
8. Investigate simple reactions such as combining elements to make a compound
9. Recognise that the chemical properties of a substance will affect its use

Science as a Human Endeavour

- Scientific knowledge changes as new evidence becomes available, and some scientific discoveries have profoundly changed people's understanding of the world
- People use understanding and skills from across the disciplines of science in their occupations



Science Inquiry skills

- Identify questions and problems that can be investigated scientifically and make predictions based on scientific knowledge
- In fair tests, measure and control variables, and select equipment to collect data with accuracy appropriate to the task
- Construct and use a range of representations, including graphs, keys and models, to represent and analyse patterns or relationships, including using digital technologies as appropriate
- Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions
- Reflect on the method used to investigate a question or solve a problem, including evaluating the quality of the data collected, and identify improvements to the method
- Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate

Assessments

Test 1	Elaborations 1 - 5	30 %
Test 2	Elaborations 6 - 9	30 %
Assignment	An element in every day application	15 %
Investigation Validation test	Alka Seltzer rockets	15 %
Assessed Homework (5)		10 %