



Curriculum Overview: Science Year group 9

What your child will learn each half term

This overview shows the key topics, skills, and knowledge your child will be learning in **Science** in **Year 9**. It helps families understand what's being taught, how it builds on previous learning, and how you can support your child at home.

- **What we are learning:** The topic or focus for the half term.
- **Key knowledge & skills:** What students should understand and be able to do.
- **How we assess learning:** knowledge checks, practical tasks, written responses and formal assessments.
- **Key words to know:** Vocabulary students will learn and use.

Half term	What we are learning	Key knowledge and Key skills	How we will assess learning in this unit	Homework	Key vocabulary for this unit
HT 1	• Types of Reactions • Inheritance and Variation	• Different types of chemical reactions: • The transformation of reactants into products • Energy changes in reactions • Planning and conducting chemical experiments • Measuring and recording changes such as temperature or gas production • Writing word and symbol equations, including balanced chemical equations • Classifying reactions and explaining observations using scientific vocabulary • Genes, alleles, and DNA • Dominant and recessive inheritance • Genetic variation and mutations • How inheritance affects physical traits • The role of variation in evolution • Interpreting genetic diagrams such as Punnett squares • Predicting inheritance patterns • Analysing genetic data to understand patterns of variation and heritability	Multiple choice knowledge check applied a few lessons into the topic. This will be out of 10 marks. Testing recall of facts, comprehension and the ability to apply knowledge – this allows for a quick evaluation of understanding of the topic so far. Extended writing task – a 6-mark question on a particular aspect of the topic. Requiring pupils to provide more detailed and structured responses, assessing a pupil's ability to organise their ideas clearly, apply scientific vocabulary accurately and encourage a deeper understanding. An end of unit feedback task – composed of a variety of tasks. Assessing pupils understanding of key concepts and skills covered throughout the topic; testing both recall and application of scientific knowledge. Helping to identify strengths and	Weekly Homework on 'Educake' Homework quizzes will focus on the topic that is being taught and will encourage learning retrieval from previous lessons. Homework's will be a mix of multiple choice and long answer style questions. Teachers will check homework's weekly and feedback to the class. Parents will be contacted if homework's are not being	<u>Types of Reactions</u> Reaction Reactants Products Exothermic Endothermic Combustion Oxidation Neutralisation <u>Inheritance and Variation</u> Variation Allele Chromosome Recessive Genotype Phenotype Characteristic

			topics that may need further reinforcement or focus for pupils.	completed by pupils.	
HT 2	• Microbes and Disease • Pressure	• Types of microbes • How microbes cause disease • How the immune system defends the body • The use of antibiotics, vaccines, and hygiene to prevent and treat infections • Investigating microbial growth and spread • Analysing infection rate data • Evaluating the effectiveness of antibiotics and vaccines • Calculating pressure using: Pressure=Force/Area • Pressure in liquids • Atmospheric pressure • Pressure in gases and how it relates to volume and temperature	Multiple choice knowledge check Extended writing task An end of unit feedback task	Homework is set on a Monday and is due the following Monday.	<u>Microbes and Disease</u> Bacteria Virus Protozoa Pathogen Vaccine Contagious Contamination Pressure Atmospheric pressure Gas pressure Liquid pressure Depth Surface area Vacuum