The Grange School KS3 Progress Step Descriptors – Science

Science	Biology	Chemistry	Physics	Working scientifically and practical skills
Progress Step T	Recognises some basic biological terms when prompted. Can describe simple observable features of plants, animals and humans. Needs significant support to recall key facts about cells, organs or systems.	Recognises everyday materials and simple changes (e.g. melting, mixing). Uses basic particle ideas with support but explanations are often inaccurate. Struggles to distinguish elements, compounds and mixtures without guidance.	Uses simple descriptions of movement, light, sound or forces based on observation. Can recall some basic terms (e.g. force, energy) but meanings are unclear. Requires support to interpret graphs or data.	Participates in practical work with close supervision. Follows simple instructions but needs help to use equipment safely. Records observations in a limited or incomplete way.
Progress Step 1	Describes key biological structures (e.g. cells, tissues, organs) in simple terms. Identifies basic functions of organs and systems. Begins to link structure to function using straightforward examples.	Describes solids, liquids and gases using the particle model in simple terms. Identifies elements and compounds using names and basic symbols. Describes simple chemical reactions using word equations or statements.	Describes motion, forces, energy and waves using basic scientific vocabulary. Carries out simple calculations (e.g. speed) with support. Identifies patterns in simple graphs or tables.	Follows practical instructions and uses equipment safely with reminders. Makes simple observations and records results in tables or diagrams. Identifies variables when prompted.
Progress Step 2	Explains biological processes such as digestion, respiration or photosynthesis using correct key terms. Describes how cells, tissues and organs work together in systems. Uses evidence to explain adaptations or variation within a species.	Explains changes of state and reactions using the particle model. Writes word equations and simple symbol equations accurately. Uses pH scale and indicators to classify acids and alkalis.	Explains energy transfers, forces and motion using appropriate models. Applies equations (e.g. speed, density, force) confidently with correct units. Describes wave behaviour such as reflection and absorption.	Plans simple investigations with guidance, identifying variables and risks. Records results clearly using tables, graphs and labelled diagrams. Draws conclusions that are linked to the results.
Progress Step 3	Explains biological processes clearly using accurate scientific terminology. Makes links between different topics (e.g. respiration and exercise). Uses data to explain variation, inheritance and ecosystem interactions.	Explains reactions as rearrangements of atoms and applies conservation of mass. Uses the periodic table to predict properties and reactions. Explains energy changes in reactions using correct terms (exo/endothermic).	Applies abstract models to explain forces, energy transfers and electricity. Interprets and analyses graphs accurately, including gradient where appropriate. Explains cause-and-effect relationships in unfamiliar contexts.	Independently plans investigations, identifying variables and controls. Evaluates methods, identifying sources of error and suggesting improvements. Communicates scientific ideas clearly using data and evidence.
Progress Step 4	Applies biological knowledge confidently to unfamiliar and complex contexts. Evaluates evidence and competing explanations using scientific reasoning. Makes well-reasoned links across topics and disciplines.	Uses patterns in the periodic table to justify predictions and conclusions. Explains reactions and processes using precise scientific language and models. Applies chemical understanding to real-world and environmental issues.	Synthesises ideas across topics such as energy, forces and waves. Manipulates equations confidently and justifies assumptions made. Evaluates models and explains their limitations.	Designs and refines investigations independently and thoughtfully. Critically analyses data, identifying both random and systematic error. Constructs well-structured, evidence-based scientific arguments.