



Department: Science: Physics – Particle Model of matter and atomic structure/ Radiation
Year Group: Nine

Working Towards	Working At	Working Beyond
• Struggles to describe the states of matter and their properties. • Has difficulty understanding changes of state and internal energy. • Requires support to interpret heating and cooling graphs. • Finds it challenging to describe the structure of the atom. • Has limited understanding of radioactive decay and its effects. • Requires support to interpret nuclear equations.	• Can describe the states of matter and explain changes of state. • Understands the concept of internal energy and specific heat capacity. • Interprets heating and cooling graphs with guidance. • Can describe atomic structure and types of radiation. • Understands radioactive decay and half-life. • Interprets nuclear equations with some guidance.	• Explains changes of state and internal energy with clarity and detail. • Applies knowledge to calculate energy changes using specific heat and latent heat. • Evaluates experimental data and explains anomalies in graphs. • Explains atomic structure and nuclear decay processes confidently. • Calculates half-life and applies understanding to real-world contexts. • Evaluates the uses and risks of radiation in medicine and industry.