

# Physics Subject Knowledge Audit

Throughout this course, you must demonstrate continuous improvement in your subject knowledge to meet the required standards. Strong expertise in your subject is essential for effective teaching. You will show your knowledge partly through lesson observations, but also by completing the subject knowledge audit below at each assessment point during your training year. The audit's red-amber-green rating of course content will map your progress. This live document will serve as a professional tool that you can build on throughout the early stages of your teaching career.

<b>RAG Rating Key</b>	
<b>S</b>	Secure knowledge = I have good pedagogical content knowledge and would be able to teach it
<b>D</b>	Developing knowledge = I understand it, I need to study it further to be able to teach it
<b>L</b>	Limited Knowledge = I have little knowledge and have not seen it taught

<b>Subject Knowledge</b>	<b>Pre-Course Knowledge</b>	<b>AP1 Autumn Term</b>	<b>AP2 Spring Term</b>	<b>AP3 Summer Term</b>	<b>Final Assessment Summer Term</b>	<b>Action Plan for Development</b>
<b>Dates</b>		<b>18 November 24 to 2 December 24</b>	<b>3 March 25 to 24 March 25</b>	<b>28 April 25 to 12 May 25</b>		
<b>To be confident in the knowledge of the KS3 national curriculum including:</b>						
Structure and function of living organisms						
Material cycles and energy						
Interactions and interdependencies						
Genetic and evolution						
Matter and atoms, elements and compounds						
Pure and impure substances						
Chemical reactions and energetics						
Periodic Table						
Materials						
Earth and the atmosphere						

	Pre-Course Knowledge	AP1 Autumn Term	AP2 Spring Term	AP3 Summer Term	Final Assessment Summer Term	Action Plan for Development
Energy						
Motion and forces						
Waves						
Electricity and electromagnetism						
Matter						
Space Physics						
<b>To be confident in the knowledge of the KS4 national curriculum including:</b>						
Energy						
Electricity						
Particle model of matter						
Atomic Structure						
Forces						
Waves						
Magnetism and electromagnetism						
To have an understanding of the required practicals for Chemistry						
<b>Non-Specialist KS4 Knowledge</b>						
<b>Health and Safety</b>						
Carry out risk assessment of lab activities						
Use of CLEAPSS to risk assess experiments						
Safely manage the classroom during science experiments						
Knowledge of procedures to deal with accidents and injuries that can occur in a science classroom						
Handling and safe use of equipment						
<b>Practical Skills</b>						
Planning and ordering practical equipment for experiments						

	Pre-Course Knowledge	AP1 Autumn Term	AP2 Spring Term	AP3 Summer Term	Final Assessment Summer Term	Action Plan for Development
Setting up a classroom for safe class experiments or demonstration						
Be confident in delivering demonstrations						
To have an understanding of the terms accuracy, precision, repeatability, reproducibility and error						
Experience using specialist science equipment for example data harvest, oscilloscope, quick fit glassware, potometers						
To ensure students understand the purpose of the experiment so that all practical work is meaningful						
To understand and teach students how to control variables to ensure a robust scientific method						
To ensure that all students are actively engaged in practical work						
<b>Maths Skills</b>						
To understand the use of prefixes (e.g. micro, nano, kilo) and units (e.g. cm, W, g)						
To understand the use of standard form and significant figures						
To be confident in the use of 3 part equations						
To be confident in drawing graph with a range of axes and be able to calculate gradients and tangents from line of best fit						
<b>Science Literacy</b>						
To understand the use of command different words in science exams. E.g. compare, describe, explain						

	Pre-Course Knowledge	AP1 Autumn Term	AP2 Spring Term	AP3 Summer Term	Final Assessment Summer Term	Action Plan for Development
To be able to introduce and confidently use specialist scientific language at an appropriate level						
To create the opportunity for extended reading in science lessons						
<b>Cultural Capital</b>						
To create the opportunity for students to experience science beyond the classroom. E.g. Science clubs, trips, enrichment activities. To create opportunities in the classroom to make students aware of possibilities of science-based careers						
To use your hinterland knowledge to enrich science lessons						
To develop students' science knowledge to enhance the life choice beyond school. e.g. understanding doctor's appointment, making better diet/exercise choices						