1a) Intent: GCSE study in the sciences provides the foundation for understanding the material world. Scientific understanding is changing our lives and is vital to the world's future prosperity. All students should learn essential aspects of the knowledge, methods, processes and uses of science. They should gain appreciation of how the complex and diverse phenomena of the natural world can be described in terms of a small number of key ideas that relate to the sciences and that are both inter-linked and of universal application.

At UTC Swindon the teaching of GCSE Physics encourages student to:

- develop their interest in, and enthusiasm for Physics;
- develop their interest in further study and careers in Physics;
- develop knowledge and understanding about: energy and energy resources, fundamental particles of nature, forces and motion, our planet and space. Studying physics strengthens quantitative • reasoning and problem solving skills that are valuable in areas beyond physics. Students who study physics (as well as in combination with Engineering at UTC) are prepared to work on forefront ideas in science and technology, in academia, the government, or the private sector.
- establish secure skills and knowledge about How Science Works in order to collect and use high guality data from investigations.
- develop logical thinking for the construction and justification of a secure conclusion.
- understand how the sciences contribute to the success of the economy and society.

1b) Careers and further study:

Students can progress from this gualification to:

- A-level Physics
- Intermediate level 2 Apprenticeship
- Level 3 vocational qualifications in science, for example. BTEC Level 3 in Applied Science
- Employment, for example in a science-based industry. For example: EDF, BAE systems, IOP. Summer project placements are available with Diamond light sources and these often lead to apprenticeships.

2) Implementation: What do we do in lessons?

Implementation – Pedagogical approaches including Rosenshine principles of instruction								
Daily Review The first weak of the first working memory for problem solving and crealivity	New Material in Small Steps Our working memory is small, only handling a few bits of information at once. Avoid its overload— present new material in small steps and proceed only when first steps are mastered.	Ask Questions	Provide Models	Guide Student Practice	Check Student Understanding	Obtain High Success Rate	Scaffolds for Difficult 1 Scaffolds are lemporary sup learning. They can include n thinking aloud, cue cards ar Scaffolds are part of cognitiv	
• Every unit of work has a series of quiz questions to help students recall key knowledge. These are used in lessons and for prep work.	Teachers define and chunk the steps for students to follow when learning new material. These steps are agreed across the department.	Teachers use cold calling, pair share and stretch it TLAC strategies to check for mastery. Questions are pre- planned.	The visualiser is used across the department. Teachers will 'live' model to demonstrate how to construct analytical and creative texts.	Tasks and activities have been designed so that automaticity can be achieved. Repetition and revision is built into tasks.	Specific mastery checks are embedded into SOLS so that teachers can check for mastery.	We use I do, We do, You do to build students retention of key procedural knowledge and support automaticity.	 Scaffolds a planned so is consiste across the departmen includes memorisat scaffolds. 	

Teacher effectiveness enhancement programme (TEEP) is at the core of our curriculum delivery. TEEP is a pedagogical framework and training programme that brings together teachers from all subject areas and phases (i.e. works well for established teachers, ITT trainees and ECTs) to validate existing good practice, reinvigorate their approach to teaching and learning. Engaging with TEEP addresses the problem of ineffective learning as a result of variation in teaching quality and school culture across our school. Embedding TEEP model into the core of our teaching across the UTC Swindon enabled us to drive consistency across all subjects.





Figure 1 – TEEP Framework

KS4	Term 1		Term 2		Term 3		Term 4	Term 5	Term 6	
Year 10	Yr10 Base line Assessments AP1 CAT data NGR data	Conservation of energy	Energy re	esources	Electric circuits & Electricity at home	Yr 10 PPE's AP2	Molecules and Matter	Radioactivity Science practicals	Yr10 PPE's AP3	Forces and Their effects Science practicals
Year 11	Year 11 AP1 Assessments	Astronomy	Motion & Pressure Science practicals	Year 11 PPE'S Paper 1	Waves, electromagnetism & space Science practicals	Year 11 PPE'S Paper 2	Waves, electromagnetism & space Science practicals	Revision for summer exams	GCSE Exams a	nd revision

GCSE – Physics – AQA



3)Data 2023



Physics	% Grade 4+	% Below Grade 4	% Grade 5+	% Grade 7-9
2023	41.5	58	24.5	5.7
2019	44.6	55.4	25	5.4

CROSS-CURRICULAR LINKS

