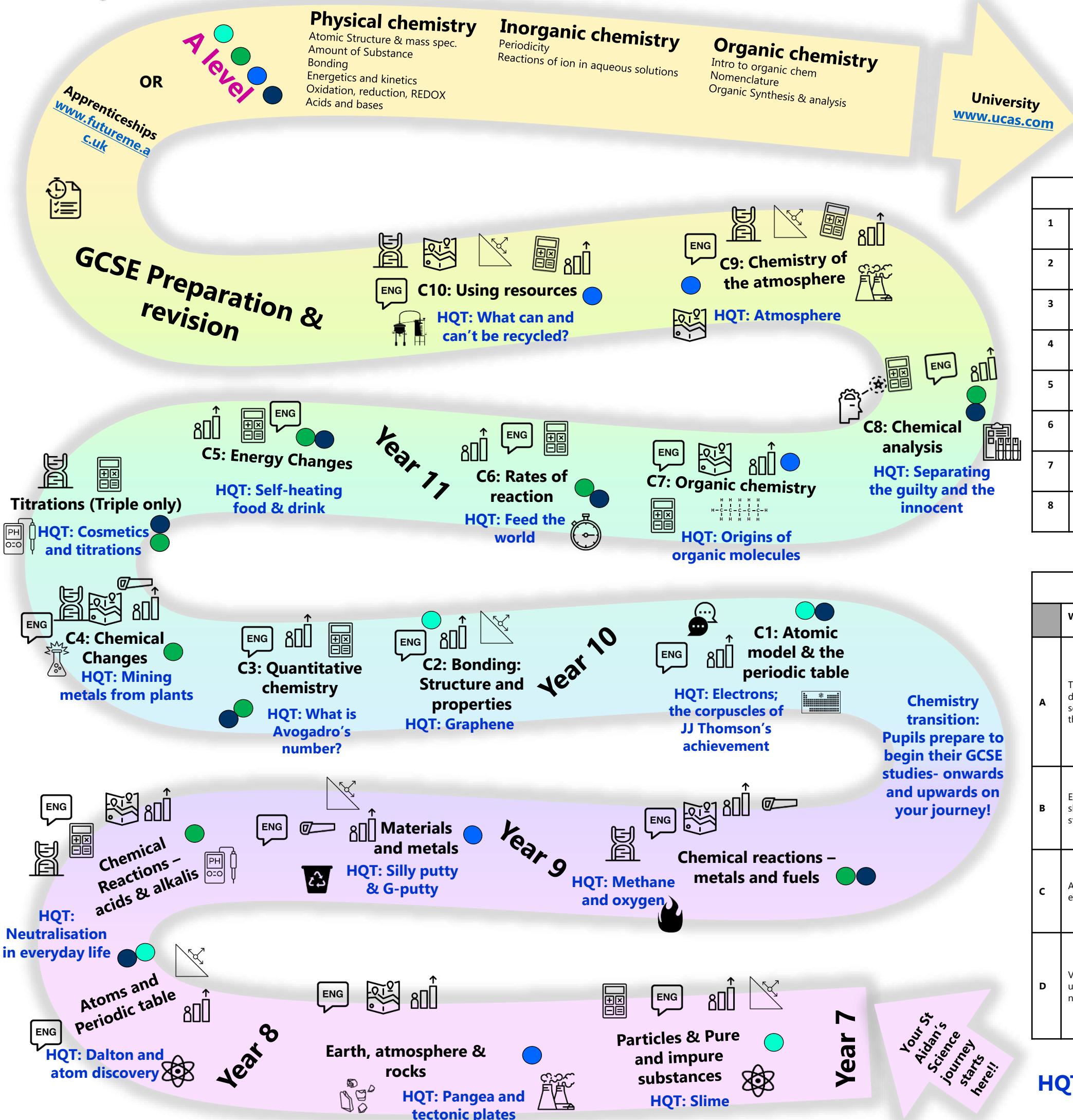


# Science

## Chemistry Learning Journey



"Chemistry begins in the stars. The stars are the source of the chemical elements, which are the building blocks of matter and the core of our subject." Peter Atkins



Chemistry Required Practical's	
1	Prepare a pure dry salt (AT 2, 3, 4, 6)
2	Calculating volumes from titration. (Triple) (AT1, 8)
3	Electrolysis of solutions. (AT 3, 7, 8)
4	Temperature changes of solution (AT 1, 3, 5, 6)
5	Rates of reaction (AT1, 3, 5, 6)
6	Paper chromatography (AT1, 4)
7	Identifying ions (AT1, 8)
8	Analysis and purification of water samples (AT 2, 3, 4)

Enquiry Processes		
	W.S	Skill
A	The development of scientific thinking	<ul style="list-style-type: none"> <li>How theories and models develop over time</li> <li>Appreciating the limitations of science and/or ethical issues</li> <li>Evaluating implications on evidence</li> <li>Evaluating risks</li> <li>Recognising the importance of peer review</li> </ul>
B	Experimental skills & strategies	<ul style="list-style-type: none"> <li>Develop hypotheses</li> <li>Plan experiments</li> <li>Make observations or explore phenomena</li> <li>Use a range of apparatus</li> <li>Suggest improvements</li> </ul>
C	Analysis & evaluation	<ul style="list-style-type: none"> <li>Apply the cycle of collecting, presenting and analysing data</li> <li>Communicate rationale, methods, findings and conclusions</li> </ul>
D	Vocabulary, units, symbols & nomenclature	<ul style="list-style-type: none"> <li>Develop use of scientific vocabulary</li> <li>Recognise importance of scientific quantities and understanding how they are determined</li> <li>Use mathematical notation correctly</li> </ul>

**HQT= High Quality Text**

### Read like a Chemist

The periodic table - Primo Levi	Why do chemical reactions happen - James Keeler
Creations of Fire - Cathy Cobb	50 chemistry ideas you need to know - Hayley Birch
The disappearing spoon and other true tales from the periodic table - Sam Keen	Napoleon's buttons: How 17 molecules changed history - Penny Le Couteur
Periodic tales: The curious lives of elements - Hugh Aldersey Williams	

### Chemistry Careers

Pharmacologist	Doctor or nurse
Research Scientist	Analytical chemist
Chemistry teacher	Forensic Scientist
Nanotechnologist	Toxicologist
Environmental analyst	Air quality research
Biochemist	Chemical Engineer

### Curriculum Links

Maths	...	MFL
English	U	IT
P.E	...	RE
Geography	8	Careers
Art	...	PHSE
Design	...	Physics
Music	...	Biology

### Threshold Concepts in Chemistry

<b>Particles &amp; Bonding:</b> All matter in the Universe is made of very small particles and the interactions between them.
<b>Chemical Reactions:</b> Reactions involve the rearrangement and/or re-organisation of atoms and/or the transfer of electrons
<b>Materials &amp; Systems:</b> The Earth is a complex of interacting rock, water, air and life, containing and generating resources to make materials
<b>Chemical Calculations:</b> Chemical matter can be quantified using calculations or measurements or using equations