

Translating the subject: Chemistry GCSE

<p>1. Chemistry: Understanding Content and how it is learnt</p> <p>A visitor to a Chemistry lesson will see students learning new knowledge in one of the following topics; C1 Atomic structure and the periodic table; C2 Structure, bonding and the properties of matter; C3 Quantitative chemistry; C4 Chemical changes; C5 Energy changes; C6 Rates of reaction; C7 Organic chemistry; C8 Chemical analysis; C9 Chemistry of the atmosphere; C10 Using resources</p> <p>New content will be learnt in several different ways through:</p> <ul style="list-style-type: none"> • Comprehension – taking key information from a resource to help to solve a problem. • Application of knowledge – students apply the new knowledge through exam questions, written and practical activities (testing hypothesis, learning good lab practice with an understanding of H&S) • Mathematics and literacy in Science – students are given opportunity to develop this skills in direct relation to Chemistry. 	<p>2. Creating a supportive learning environment</p> <p>Teacher behaviour encourages student motivation (competent, autonomous and relatedness)</p> <p>Evidence of High-Quality Teaching First - meeting the needs of all students</p> <p>Teachers know their students' learning needs and use appropriate strategies to support them</p> <p>Students are challenged appropriately e.g. in English, students are encouraged to:</p> <p><i>Create and sustain accounts and reasoned arguments at a relatively abstract or hypothetical level, in both spoken and written language</i></p> <p>There are no limits on learning – instead, scaffolding is used to support students in their journey towards independence</p> <p>The cultural diversity of the students is considered and respected and is evident in curriculum and lesson design</p> <p>Teacher develops the content being taught by using the subject 'Hinterland' / Cultural Capital</p>
<p>3. Managing the classroom to maximize opportunity</p> <ul style="list-style-type: none"> • The lesson is well planned and meets the needs of the students • The teacher manages time and resources efficiently in the classroom to maximise productivity and minimise wasted time (e.g., starts, transitions); they give clear instructions so students understand what they should be doing; using (and explicitly teaching) routines to make transitions smooth • The teacher ensures that rules, expectations and consequences for behaviour are explicit, clear and consistently applied. <p>The teacher prevents, anticipates and responds to potentially disruptive incidents; reinforcing positive student behaviours; signaling awareness of what is happening in the classroom and responding appropriately</p>	<p>4. Activating students' thinking</p> <ul style="list-style-type: none"> • Structuring: Teacher gives students an appropriate sequence of learning tasks – students understand WHY they are doing the lesson in 'that way' • Explaining: Teacher presents and communicates new ideas clearly, in stages, with concise, appropriate, engaging explanations; connecting new ideas to what has previously been learnt. • Questioning: Teacher uses questions and dialogue to promote elaboration and connected, flexible thinking among ALL learners (e.g., 'Why?', 'Compare', etc.); Teacher uses high-quality assessment to evidence learning; interpreting, communicating and responding to assessment evidence appropriately • Interacting: Teacher responds appropriately to feedback from students about their thinking/knowledge/understanding; giving students actionable feedback to guide their learning • Embedding: Teacher gives students tasks that embed and reinforce learning; requiring them to practise until learning is fluent and secure; ensuring that once-learnt material is reviewed/revisited to prevent forgetting <p>Activating: Teacher helps students to plan, regulate and monitor their own learning; progressing appropriately from structured to more independent learning as students develop knowledge and expertise</p>