## Science Year 7 C3 Reactions

Year group	Subject: Chemical Reactions
Prior learning- linked to National curriculum	<ul> <li>Prior learning at PCS <ul> <li>Particle model</li> <li>Elements &amp; compounds</li> <li>Changes of state</li> <li>Formation of substances &amp; conservation of mass (e.g. carbon dioxide exists as a gas at room temperature)</li> </ul> </li> <li>Prior learning at KS2 <ul> <li>Atoms are basic unit for matter</li> <li>Atoms can be found as solids, liquids and gases</li> </ul> </li> </ul>
Covid gaps /misconceptions	<ul> <li>Chemicals can react to form new chemicals</li> <li>Teachers will use multiple choice quizzes and an introductory lesson to assess for and address gaps in student understanding</li> <li>Some examples of causes of gaps may be:</li> <li>Particle model, energy and introduction to cells completed in lockdown. Classes completed in none-science rooms when in school so limited opportunities for practical activities/demonstrations to make abstract concepts more concrete</li> <li>Even if concepts like reactions and the particle model were covered in primary school, these will be less embedded if didn't also cover properly it in year 6</li> <li>Gaps in key vocabulary e.g. definition of a compound, ideas around chemical reactions, nucleus, tissue</li> <li>Science completed at primary school missed/not completed in the same way during lockdown. All students will have very different levels of prior knowledge because of this.</li> </ul>
	<ul> <li>Summarised from BEST summary of research:</li> <li>Misconceptions about reactions: <ul> <li>Difference between a chemical and physical reaction.</li> <li>Matter is lost when a chemical reaction has occurred.</li> <li>The particle model, specifically with the difference between liquids and gases.</li> <li>Confusion about differences between compounds and mixtures.</li> </ul> </li> </ul>

Rationale	Students should by now have an understanding of the importance of atoms and their arrangement. This allows them to start piecing together how atoms can behave when mixed together in different conditions. This module also helps to develop scientific literacy through the combination of utilising practical skills, discerning observations from demonstrations of new chemical
	but pupils need the prior knowledge from the previous 2 chemistry modules. This module is essential to lay foundations of the scientific process comparing different types of reactions and forms a fundamental threshold concept for KS4 Chemistry.
Vocabulary:	Keywords
Cultural Capital:	
Key assessments-	Big question (6 mark question) Mid point
name the assessments	₩ 7.1c Big Question.docx
	Compare chemical changes with physical changes. Include examples to illustrate your answer.
	7.8 test.pdf A range of multiple choice, short answer and a long answer question.
What do children	Test marks-
know/ can do now	Emerging - 20%
(EDSM)	Developing - 40%
	Securing - 60%
	• State the use of key apparatus including thermometer boiling tube, tripod, test tube
	<ul> <li>State the use of key apparatus including thermometer, boiling tube, tripod, test tube.</li> <li>Describe what happens in a chemical reaction</li> </ul>
	<ul> <li>Describe what happens in a chemical reaction.</li> <li>Describe how magnesium reacts with oxygen</li> </ul>
	<ul> <li>Describe now magnesium reacts with oxygen.</li> <li>Give some examples of everyday chemical reactions and their uses.</li> </ul>
	One some examples of everyday chemical reactions and their uses.     Describe what happens when we burn fuels
	<ul> <li>Describe what happens when we burn rules.</li> <li>Identify abconvictions that show a shamical reaction has taken place.</li> </ul>
	Identify observations that show a chemical reaction has taken place.
	<ul> <li>State what happens during an exothermic reaction.</li> <li>Identify (reactants) and (products) in a word equation.</li> </ul>
	Identify reactants and products in a word equation
	Name the products that form when a fuel burns.
	Use evidence from a graph to explain which metal decomposed most rapidly.
	Calculate the mass of calcium oxide using information provided in the reaction.
	<ul> <li>Explain what happens when fossil fuels burn. Include their uses and disadvantages</li> </ul>