



Big Question: What is the pH of the rain water in Wales?

AoLE: Science and Technology	Subject: Science - Chemistry	Year: 9
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Big Question / Aim / Objective / Concept	Vision (Proposed outcome) / Purpose of curriculum	Prior knowledge / Learners previous knowledge
What is the pH of the rain water in wales?	Students will understand the difference between acids and alkalis. They will look into the process of neutralisation and how metals react with acids. Students will explore the reactivity series and investigate displacement reactions.	Atoms elements and compounds The Periodic Table Chemical formula Atoms in chemical reactions Reactants and Products Metals and properties

What does progression look like in this Big Question?

Progression Indicator	Description of learning (What matters statements)	Student evidence of progression (Blooms) / Knowledge
Excelling	I can evaluate methods to suggest improvements I can use my knowledge of chemical reactions to explain what happens when conditions are changed.	Analyse techniques used for titration Create a method to test water
Advancing	I can describe different types of chemical reactions, explain their uses and identify any effects of the products formed	Explain the process of making a salt Explain a displacement reaction
Securing	I can suggest conclusions as a result of carrying out my inquiries. I can use different methods to analyse materials in order to understand their composition.	Describe an acid Describe an alkali Describe the progress of neutralisation Describe the reaction between metals and acids
Beginning	I can describe and explain the properties of different types of matter and relate these to how they are used.	Recall examples of acids and alkalis Recall the pH scale Recall what neutralisation is

Authentic learning experiences (Local / National / International)	Skills (Literacy / Numeracy / DCF) / Cross Curricular links
Local: Local at distribution of rainfall across North Wales. Taking samples from different places, testing and comparing the results.  National: Looking at National rainfall distributions and potential pollution to rainfall.	Numeracy <ul style="list-style-type: none"> <li>• Recording volume</li> <li>• Recoding experimental data</li> <li>• Averages</li> </ul>



International: Look at areas with most polluted rainwater. Compare areas with most and least rainfall.	Literacy <ul style="list-style-type: none"><li>• Evaluation of results</li><li>• Analysis of results</li><li>• Written assessment</li></ul> DCF <ul style="list-style-type: none"><li>• pHet simulations</li><li>• Exel recording data</li></ul>
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Assessment (How will we know that students have learnt what we taught them?)	
Formative assessment:  Class Discussion Book Work Practical skills	Summative assessment:  Written assessment mid-point: Explain what a displacement reaction is?  Summative Assessment End of topic End of unit test Acids and Alkalis

Evaluation (to be completed 2024)		
Strengths	Areas for Development	Pupil Voice