Lesson Plan

Date:	Class: Year 10	Subject: Math

Learning Intention:	Success Criteria:
I am learning to understand factors that affect the rate of reaction	• Identify factors that impact on a rate of reaction • Predict what impact a factor will have on the rate of reaction • Conduct an experiment to investigate rates of reaction • Respond to questions that describe and explain rates of reaction

Lesson Structure			
Stage	Teacher	Students	Key Strategies/Adjustments
Opening	Use a short video and text to introduce the concept of a 'factor' being a condition that has been changed in order to affect the rate of reaction Use the analogy of souring of milk, and the conditions or factors we use to slow this process down to help explain the concept	Engage with the multimodal resources being used to help explain the concept Identify factors used to slow the process of souring milk Co-construct a Frayer model for 'factor'	Multimodal representation Cooperative learning Frayer model
I Do *(Modelled)*	Demonstrate a chemical reaction between copper sulphate and a sheet of aluminium after salt has been added – follow a method and highlight how safety has been considered Model how to determine and record the rate of reaction Model how to describe the rate of reaction and the effect of adding salt by composing a short statement Use prompts (written with visuals) and think alouds to support the demonstration	Watch the experiment Take note of the chemical reaction occurring over the first 5 minutes Listening to and watching how the teacher is recording the rate of reaction and composing the short statement	Demonstration Think alouds Prompts Modelling
We Do *(Guided/Shared)*	Provide a given method for the same experiment but with a factor change to an aluminium ball Ask students to predict if it will react faster or slower Read through the method again, emphasising safe working practices Conduct a guided experiment for students wishing to receive further modelling	Predict if the change of factor will react faster or slower...why? Conduct the experiment in groups of 4 Opt to participate with the guided group	Guided experiment Cooperative learning
You Do *(Independent)*	Provide a range of scaffolds for students to respond to questions about the rates of reaction: - Written questions from the board with photo prompts	Respond to questions about the experiment: - Describe observations - Describe the rate of reaction	Multiple ways to respond Multimodal supports Prompts Assistive technology Extended teacher guidance

	from the key points of the experiment - Printed question scaffold with visuals and prompts (eg. sentence starters) - Guided response group - Access to iPads to read questions and/or record responses - Record responses in workbook	- Describe the effect of adding salt - Identify which reaction was faster - Effect a factor has on the rate of chemical reaction Choose how to access and respond to the questions	
Closing	Provide exit ticket Read out questions	Complete an exit ticket with three 'yes or no' questions about the lesson	Exit ticket Y/N responses
Wrap-up	Exit routines		

Commented [LS7]: AAP: Adjusted questions
ILG: Adjusted question using PODD grid