

SCH3U - Unit 2 Chemical reactions

David Suzuki Secondary School
Lesson 1: Chemical change

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Wednesday, November 11, 2020
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Green=David Suzuki SS considerations

Learning objectives (for entire unit) Modified for IS143

- Recognize chemical changes (Lesson 1)
- Predict products of reactions, write chemical equations, test these reactions (Lesson 2, 3)
- Understand synthesis, decomposition, and displacement reactions (Lesson 2, 3)
- Use reactivity series to predict reactivity of series of elements (Lesson 3)
- Identify chemical compounds and reactions in everyday use or environmental significance (Lesson 1, 2, 3)

Learning objectives (for lesson 1) Modified for IS143

- Understand chemical changes
- Identify evidence of chemical changes
- Identify chemical reactions
- Identify theories to explain chemical reactions
- Understand how catalytic converters work
- Identify environmental phenomenon as chemical changes

Accommodations for David Suzuki SS (DSSS)

- Indigenous chemistry introduction
- Smog SA question in relation to chemical changes
- Environmental phenomenon as chemical changes draggable question – acid rain, recycling, combustion of gasoline, photosynthesis etc.
- Why collision theory is relevant to reducing waste question
- Catalytic converters and electric cars
- Significance of Anti-idling campaign
- Assessment #1
- Assessment #1 part d) interview parents for their suggestions (DSSS mission to incorporate parents into environmental learning)
- Lots of visuals tied to words to accommodate 20% of ELLs at school

Equity, Diversity, Inclusion

- Indigenous chemistry introduction
- Many environmental examples (acid rain, melting glaciers, etc.)
- Anti-idling campaign
- Technological examples included (batteries, catalytic converters, electric cars)
- Anonymous answering system on PearDeck
- Breakout rooms allows intimate space to share ideas and for students to respect each other in a safe learning environment (DSSS mission)

VARK learning for IS143

- $\frac{3}{4}$ of class are visual learners; incorporated lots of visuals and colours, videos
- $\frac{5}{12}$ of class are auditory; incorporated lots of discussions, videos, me talking to the class
- $\frac{3}{4}$ of class are read/writing learners; lots of SA questions on PearDeck, writing down answers during discussion times, exit ticket mini quiz
- $\frac{3}{4}$ of class are kinaesthetic learners; atom demonstration with eggs, chemistry stretch mini break during lesson

Timing	Minds-on	Accommodations for IS143	
~10 min	<ul style="list-style-type: none"> What pops into mind when you think of chemical reactions? 	2/3 of class has less than 50% of chemistry proficiency, therefore it is important to link Minds On to something the class knows	
~20-30 min	Action – Introduction	Accommodations for IS143	Types of assessments/activities
	<ul style="list-style-type: none"> Parts of a chemical reaction Evidence of chemical change “Rising action” phase of lesson where important concepts are first introduced 	<ul style="list-style-type: none"> Examples with words and balanced equations provided 	<ul style="list-style-type: none"> PearDeck draggable questions (AFL)
~20-30 min	Action – Main phase	Accommodations for IS143	Types of assessments/activities
	<ul style="list-style-type: none"> Describing chemical changes using kinetic molecular theory Collision theory Catalysts and catalytic converters “Climax” part of lesson where theories are introduced relating to definitions learned in Action - Introduction 	<ul style="list-style-type: none"> Videos that are humorous and easy to follow Examples pertaining to non-science students Famous actor Leo DiCaprio and Lamborghini example 	<ul style="list-style-type: none"> PearDeck SA questions (AFL) Collision theory demonstration with plastic eggs Chemistry stretch break – active form of learning (AFL)
~10 min	Consolidation	Rationale/accommodations	
	<ul style="list-style-type: none"> Introduce assessment #1: catalytic converters (AoL) Go through the rubric, address any concerns Sneak peek at next lesson Exit card mini quiz (AaL) 	<ul style="list-style-type: none"> Specific numbers are provided in rubric as opposed to vague language (ie. many, few, etc.) 	
Timing		Rationale/accommodations	
<ul style="list-style-type: none"> Time intervals presented above are relative and depends on student interest and understanding Lesson is sectioned so anything not touched upon can be brought up next lesson 		<ul style="list-style-type: none"> More time is given to answering questions on PearDeck More time is spent on going over incorrect answers More general concepts covered 	

Assessments for learning (AFL)	Assessments as learning (AaL)	Assessments of learning (AoL)
Pear deck interactive questions – draggable, MC, SA	Exit card mini quiz	Assessment #1: catalytic converters
Chemistry stretch break	Break out rooms discussion: catalyst definition brainstorm with partner, and atom demonstration with plastic eggs	