

COLLABORATIVE TEAM GUIDE FOR A STUDY UNIT

Purpose: Increase Student Learning & Capture Adult Learning

Team: Physical Science

INFORMATION TO BE AGREED UPON PRIOR TO TEACHING THE UNIT

Unit 2 Chemical Equations	Begin date: Nov. 15	End date: Dec. 17	Number of instructional days: Pacing Guide
CFA Date: CFA 1st try Dec. 1,2 Re-take: CFA 2nd try Dec. 8,9 CFA 3rd try	Date to establish inter-rater reliability: Dec. 6	Date to share results & build action plan: Dec. 6	Date(s) for interventions & extensions: Dec. 8,9
Essential (Standard) 21/22 Unit 2 Chemical Equations Physical Science Hyper-doc Evidence Statements Springsteen Instructional Strategies Mackey Instructional Strategies	PSI-PS1-7 Chemical Equations Use mathematical representations to support the claim that atoms, and therefore mass , are conserved during a chemical reaction <ol style="list-style-type: none"> 1. Representation <ol style="list-style-type: none"> a. Students identify and describe* the relevant components in the mathematical representations: <ol style="list-style-type: none"> i. Quantities of reactants and products of a chemical reaction in terms of atoms, moles, and mass; ii. Molar mass of all components of the reaction; (extension) iii. Use of balanced chemical equation(s); iv. Identification of the claim that atoms, and therefore mass, are conserved during a chemical reaction. . b. Students identify the claim to be supported: that atoms, and therefore mass, are conserved during a chemical reaction. 2. Analysis <ol style="list-style-type: none"> a. Students describe* how the mathematical representations (e.g., stoichiometric calculations to show that the number of atoms or number of moles is unchanged after a chemical reaction where a specific mass of reactant is converted to product) support the claim that atoms, and therefore mass, are conserved during a chemical reaction. b. Students describe* how the mass of a substance can be used to determine the number of atoms, molecules, or ions using moles and mole relationships (e.g., macroscopic to atomic molecular scale conversion using the number of moles and Avogadro's number). 		
SMART Goal	75% of students will score a 75% or higher on the CFA by balancing chemical equations and drawing the molecular structure by October 25, 2022.		
ACTION PLAN TO BE DETERMINED BY THE TEAM AFTER THE CFA			
List or link to students that need more time & support	Data		
How will the support be given and what is the timeline for this support?	Small Group: focus on more practice with balancing equations and drawing structures. Try- given the structure: what is the chemical formula? Also have students work in pairs and come up with chemical formulas for their partner to draw.		

	Visuals
What are the extension plans for students who are already proficient?	Challenge chemical reactions to balance. Use polyatomic ions.
REFLECTIONS TO CAPTURE AFTER THE ACTION PLAN HAS BEEN CARRIED OUT	
What percentage of students are currently proficient?	Data 90%
After interventions, did the team meet the SMART goal?	This needs to be first next year. Simple molecular models ---.> to chemical formulas and vice versa! This clearing helps them understand the difference between subscript and coefficient.
What intervention strategies proved to be most effective?	Use whiteboards to practice seeing the models and then writing the formulas. Show whiteboard when you have the answers. Student seemed unthreatened to show incorrect work.
Capture team reflections about changes to initial instruction that need to be made in this unit or in future units & any other team learning.	<p>Next year: Using whiteboards is a great way to practice balancing equations. Balancing Chemical Equations is an FA within Chemical Reaction Essential. Fustin taught coefficients by referring to sets in workouts. This helped the athletes connect. This only took 2 weeks to teach, assess and reassess. Let's look at Endothermic and Exothermic as the essential instead of equations. This will help the students read graphs and look at the flow of energy.</p> <p>Email with Cassie Jay-Barron- students only need to be able to balance simple chemical equations.</p> <p>Focus next year will be more on just balancing, less on drawing balanced equations. Focus-how proves Law of conservation to matter</p> <p>Named Unit as Chemical Interactions (essential 2 + 3). Following CK-12(5.1) sequence of content. Began with making edible cookie dough. Talked about CPDs, Bonds, formulas ...</p> <p>Note for next year (Semester Test)- Word bank for short answer for modifications</p>
What is the plan for students who still haven't learned?	Continued practice sessions/One to one with teacher Modeling and think alouds. Use of notes on quiz Checklist on steps of balancing