

Co-Teaching Lesson Plan

Teacher 1: Kaitlyn Ray

Teacher 2: Mary Griffin

Co-Teaching Approach(es): Place an **X** or a **✓** on the line in front of each approach outlined in the lesson.

Parallel Teaching Team Teaching Station Teaching
 One Teach, One Observe One Teach, One Assist Alternative Teaching

Subject: Biology	Topic/Lesson: Enzymes-Reactivity of Enzymes	Date: 6-27
Standard(s): BIO.2 The student will investigate and understand the chemical and biochemical principles essential for life. Key concepts include c) the nature of enzymes.		
Lesson Outcomes: Design an experiment to test the reactivity of the enzyme catalase in order to solve a posed problem. Understand the nature of enzymes and the conditions which can cause a change in their reactivity. Know the parts of a chemical equation. Perform proper lab safety.		
Materials Needed: Chicken Liver, Potato, test tubes, peroxide, pipettes, water, vinegar, baking soda solution, cooked liver, ice cold liver, test tube racks, timers, oxygen probe, and gloves. Pre-set plates with materials set out in groups.		
Vocabulary: Enzyme, catalyst, substrate, activation energy, catalase, optimum, product, denature, and reactant.		
Lesson Component	Teacher 1	Teacher 2
Anticipatory Set	<p>2. Pose a problem: You are a scientist called in to the site of a mine cave in. There are people trapped inside. With the mine cut off the oxygen available is quickly running out. It is your job to talk the trapped miner through the process of creating oxygen so that they do not suffocate. All they have is access to the lunches of the miners and the bodies of the deceased. Design an experiment to determine how you could create as much oxygen as possible with the resources given.</p> <p>3. I will review the concept of enzymes and how enzymes work with students. I will ask them to recall vocabulary words and ask them to produce the enzyme-substrate diagram.</p> <p>5. I will introduce the catalase, hydrogen peroxide reaction to the students.</p>	<p>1. Ask the question: Who has ever been in a mine? Are there mines in the country or area you live in? Are you familiar with any cave ins or accidents? Access prior knowledge and cultural differences.</p> <p>4. As teacher #1 discusses enzymes and reviews prior learning, teacher #2 will write notes on the board to remind students of vocabulary and concepts.</p> <p>6. Write the catalase, hydrogen peroxide reaction on the board.</p>
<i>Co-Teaching Approach:</i> Teaming	<p>1. REVIEW SAFETY!!</p> <p>3. Take 2 of the groups and begin by discussing the expectations of the lab, what</p>	<p>2. Split students into 4 pre determined groups based on academics and behavior.</p>

<p><i>Co-Teaching Approach:</i> Parallel Teaching</p>	<p>they need to create, and discussing the check in process. I will also take this opportunity to review any questions that students may have about the content.</p> <p>4. The students will be allowed to brainstorm and discuss their ideas with their group. Overall the goal is for students to create a procedure to be checked off by the teacher.</p> <p>5. I will monitor safety, behavior, and understanding. I will guide students when they get stuck, sign off on their procedure, and guide them through carrying out their procedure.</p>	<p>3. Take 2 of the four groups and begin by discussing the expectations of the lab, what they need to create, and discuss the check in process. I will also take this opportunity to review any questions students may have.</p> <p>Allow students to brainstorm and discuss their ideas and then implement their experiments. Monitor safety, behavior, and understanding. Keep them on track! Check off on their procedure.</p>
<p>Guided/Independent Practice</p> <p><i>Co-Teaching Approach:</i> Parallel Teaching</p>	<p>Students will answer the set of analysis questions at the end of the lab, where they will review the key terms and will look at the graph of enzyme reactions.</p>	<p>Students will then answer a set of analysis questions at the end of the lab, where they will review the key terms and will look at the graph of enzyme reactions.</p>
<p>Closure</p> <p><i>Co-Teaching Approach:</i> One Teach-One Assist</p>	<p>We will come back together as a whole group and will discuss the different procedure that the groups chose, the results that they received, and why they saw those results.</p> <p>We will discuss which setup would lead to the best outcome for the trapped miners.</p>	<p>Assist and encourage students with sharing their ideas.</p>
<p>Formative Assessment Strategies</p> <p><i>Co-Teaching Approach:</i> <i>All of the above</i></p>	<p>-Check for understanding through circulation, conversation with students during the lab, as well as the understanding presented in the analysis questions.</p> <p>-On the next day of class there will be a Kahoot to check for overall understanding.</p>	<p>Circulate through the room to check for understanding and answer questions.</p>
<p>Homework</p>	<p>N/A</p>	

Specially Designed Instruction and Accommodations, Modifications for Specific Students		Alternate Teaching-for the students that struggled the most with the vocabulary during this lab. The small group will be taken out to complete a concept comparison between catalyst and activation energy on the next day of instruction.
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