

Lesson Plan Template

Grade: 8th		Subject: Life Science- Evolution			
Materials: seeds, boxes, beads, sand and tools/utensils		Technology Needed:			
Instructional Strategies: <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/ <input type="checkbox"/> Guided practice cooperative learning <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> Learning Centers <input type="checkbox"/> PBL <input type="checkbox"/> Lecture <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Technology integration <input type="checkbox"/> Modeling <input type="checkbox"/> Other (list)		Guided Practices and Concrete Application: <input type="checkbox"/> Large group activity <input type="checkbox"/> Hands-on <input type="checkbox"/> Independent activity <input type="checkbox"/> Technology integration <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Imitation/Repeat/Mimic <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) Explain:			
Standard(s) <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center; vertical-align: middle;">MS-LS4-4</td> <td>Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.</td> </tr> </table>		MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.	Differentiation Below Proficiency: Students will be able to recognize that certain traits are more favorable than others based on an organisms' environment. Above Proficiency: Students will be able to understand and evaluate the lab in a way that shows they understand how organisms have favorable/unfavorable traits based on their environment and how this relates directly to natural selection and to evolution of a species over time. Approaching/Emerging Proficiency: Students will be able to evaluate that certain traits are more favorable than others in specific environments and that this leads to natural selection. Modalities/Learning Preferences: Kinesthetic, critical thinking	
MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.				
Objective(s) Students will be able to construct an explanation based on evidence that describes how genetic variations and traits in a population increase some individuals' probability of surviving and reproducing in a specific environment by the end of a lab where they mimic the process of natural selection of favorable traits in specific environments. Bloom's Taxonomy Cognitive Level: Evaluate					
Classroom Management- (grouping(s), movement/transitions, etc.) 5 stations will be set up around the classroom as "islands". Students will be in groups of 2 or three and will have 5 minutes to complete the designed activity before moving clockwise to the next station. I will use an audible signal every 5 minutes to transition students.		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) Students will be expected to behave responsibly with the materials they will be handling. If students are not able to control themselves and purposefully make a mess, they will not be able to continue with the lab. I want this activity to be fun and interactive, so the noise level may rise higher than normal, as long as nearby classrooms aren't distracted.			
Minutes	Procedures				
15	Set-up/Prep: Five lab stations will be set up around the classroom to mimic different islands. Each "island" will have different sized "seeds" (variety of materials). They will need to be set up in a way that they don't end up being a huge mess when the students perform their lab.				
5	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) Who was Charles Darwin? What is variation? Discuss different traits that make animals successful in living in their environments. What kind of traits do we have and how to they help us?				
10	Explain: (concepts, procedures, vocabulary, etc.) We will discuss the importance of variation within a species and how certain traits are more favorable than others based on the environment they are in. See vocab and Unit notes for days 1&2.				

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25	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <p>Groups of students will receive a stopwatch and a heritable “trait” or “beak. This will be a different tool, like a spoon, strainer, tongs, etc. The students will rotate to the five different “islands” (stations) staying at each station only five minutes. They will time themselves for one minute with their stopwatch and collect as many seeds as they can. They will record the number of seeds they were able to collect in this time along with any other important observations, such as the ease/difficulty in which they were able to collect seeds and any creative ways they used their “beak”.</p>	
10	<p>Review (wrap up and transition to next activity):</p> <p>At the end of this activity we will regroup as a class and collectively share our data. We will discuss which beaks were most and least favorable on each island. Then we will talk about how this relates to Charles Darwin (his finches!), the theory of evolution and natural selection.</p>	
	<p>Formative Assessment: (linked to objectives) Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.</p> <p>I will be walking around the room asking clarifying questions to assess learning. “How would your ability to collect seeds effect your ability to survive and reproduce?” “Over time how will this affect your species population?” “How do you think this relates to animals today?” I will also answer questions that students have during the activity.</p> <p>Consideration for Back-up Plan:</p> <p>Have back up analogies ready to better explain concepts.</p>	<p>Summative Assessment (linked back to objectives) End of lesson:</p> <p>Class discussion and analyzing data. Connecting everything to natural selection and evolution. I would have an exit slip where they write which island their trait was most favorable at and why. Then also write a prediction on what that organism/species would look like.</p> <p>If applicable- overall unit, chapter, concept, etc.:</p> <p>Summative test at the end of the unit.</p>
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p>		