

## Lesson Plan Template

### Lexi Selzler

<b>Grade:</b> 1 <sup>st</sup> Grade		<b>Subject:</b> Science - Penguins	
<b>Materials:</b> Crisco, Ziploc baggies, duct tape, buckets, ice, water, penguin color sheets, hypothesis/observation record sheet, spray bottle, towels.		<b>Technology Needed:</b> active board & computer	
<b>Instructional Strategies:</b> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Guided practice <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)		<b>Guided Practices and Concrete Application:</b> <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:	
<b>Standard(s)</b> <ul style="list-style-type: none"> <li>NGSS: 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.</li> </ul>		<b>Differentiation</b> <b>Below Proficiency:</b> These students will be asked to write a few words to describe what they learned from the experiment. <b>Above Proficiency:</b> These students will be asked to write a few sentences about what they observed from the experiment. <b>Approaching/Emerging Proficiency:</b> These students will be able to successfully record their observations from the experiment. <b>Modalities/Learning Preferences:</b> <ul style="list-style-type: none"> <li><b>Visual:</b> I will show pictures of what we are going to do before we do it.</li> <li><b>Auditory:</b> I will give the directions orally.</li> <li><b>Kinesthetic:</b> participating in the experiment.</li> <li><b>Tactile:</b> Writing observation down as a class.</li> </ul>	
<b>Objective(s)</b> Students will be able to identify protective characteristics of penguins through experimentation with Crisco and ice water. <b>Bloom's Taxonomy Cognitive Level:</b> Identify – applying Experiment with – applying			
<b>Classroom Management- (grouping(s), movement/transitions, etc.)</b> Students will be at the carpet while I introduce the lesson and give directions. Students will then move to their tables to work on coloring their penguin with crayons until it is their turn to do the experiment.		<b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b> Students will be expected to participate in the experiment. Students will have work with voices off while waiting for their turn to try the experiment.	
<b>Minutes</b>	<b>Procedures</b>		
<b>0</b>	<b>Set-up/Prep:</b> <ul style="list-style-type: none"> <li>All materials will be set up before lesson (buckets with ice water, blubber gloves will be pre-made).</li> <li>I will have the following website up on the active board (this is where I got the idea) so the students can see what we will be doing as I explain it to them. <a href="https://www.stevespanglerscience.com/lab/experiments/blubber-gloves/">https://www.stevespanglerscience.com/lab/experiments/blubber-gloves/</a></li> </ul>		
<b>10</b>	<b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b> <ul style="list-style-type: none"> <li>I will have students gather at the carpet before beginning the lesson.</li> <li>I will then review what we have learned about penguins so far. “We are going to make a fact chart about what we already know about penguins. (I will write the three words on the board “can...,” “have...,” and “are...”) Raise your hands and tell me what you know penguins <i>can</i> do, what penguins <i>have</i>, and what penguins <i>are</i>.” I will then give a quick example for a couple of them, “Penguins <i>have</i> beaks.” I will write down what they say on the board under each category.</li> <li>If no one brings up how penguins have blubber, or how they have oily feathers, I will put it on the board. “Today we are going to feel what it is like to be a penguin in icy cold water by experimenting with blubber gloves.”</li> <li>I will pull up the website with the experiment instructions on it, and show the students the experiment video on the website. I will skip past the part where he makes the blubber gloves, since I will have already gotten that part done.</li> </ul>		
<b>6</b>	<b>Explain: (concepts, procedures, vocabulary, etc.)</b> <ul style="list-style-type: none"> <li><b>Vocabulary:</b> blubber, insulation, protection, hypothesis, observation</li> <li>I will recap how we learned penguins are able to stay warm in the cold weather and the icy water because of their oily feathers and the blubber they have under their skins. (The students have already learned these facts, but I will revisit them to refresh their memory) Blubber is a thick layer of fat under the penguins skin which helps to insulate them from the cold. Penguins also have oil on their feathers which allows the water to slide right off their backs when they are swimming, keeping the penguins dry and warm.</li> <li>After showing the students the video, I will go through the step-by-step pictures with the students, explaining each step we are going to do and how it will show us what it feels like to be a penguin in the icy water. “How do you think it will feel when we put our hands in the water with the blubber gloves on? Why do you think so?”</li> </ul>		

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	<ul style="list-style-type: none"> <li>After listening to their guesses, I will explain how they just formed a hypothesis. "A hypothesis is an idea about how something will work or how something will turn out, before you are able to actually try it out. When you go back to your table, I want you to write your hypothesis down in the "hypothesis" section on the paper that is on your desk. This is your record sheet for today. You will also be writing your observations down at the end of the activity. I want you to try to write three sentences to tell me what your hypothesis is, and why you think that is going to happen. Also at your desk you will find a piece of paper with two penguins on it. You will need to color the blank penguin with crayon very heavily. We will be using these penguins to show us how the water beads off of penguins' feathers, because crayons are oily, too."</li> </ul>
<p><b>25</b></p>	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b></p> <ul style="list-style-type: none"> <li>I will call one table (4-5 students at 4 tables) at a time to come up to the buckets of ice water.</li> <li>They will first put their hands in the ice water without any gloves on to feel how cold the water is. They will dry off their hands with a towel after feeling the icy water. "Do you think it will feel different when you put your hand in the ice water with the blubber glove on?"</li> <li>Next they will place their hand inside of the blubber gloves (made out of baggies, Crisco, and tape), and place their hands back into the ice water.</li> <li>I will ask the students the following questions: "What do you notice when you put your hand in without the glove versus with the glove?" "Do you think a penguin's blubber does a good job of keeping them warm?" "Tell me what you observed in this experiment."</li> <li>After the students are finished with the ice water experiment, I will instruct them to go back to their tables and write down their observations from trying out the blubber gloves on their record sheet. "Write down what you felt when you put the blubber glove on. Was it still really cold? Why do you think it ended up that way (not being cold)?"</li> <li>The penguin sheets the students are coloring with crayons will be another way to show the students how penguins are protected from the water. After each student has done the blubber gloves, I will travel around the room with the spray bottle, spraying each student's penguins. I will discuss with the students at each table how the crayon is like the oil on the penguin's feathers, and the water isn't soaking through the paper because the oil/crayon is protecting it. "Which penguin do you think would be able to swim in the cold water the longest? How does the oil on a penguin's feathers help them?"</li> </ul>
<p><b>6</b></p>	<p><b>Review (wrap up and transition to next activity):</b></p> <ul style="list-style-type: none"> <li>I will have all students go back to their desks.</li> <li>I will ask the students to share what they have learned from this experiment with the whole class. After a student shares something, I will ask all of the students to put their thumbs up if they noticed the same thing, to the side if they aren't sure, and thumbs down if they did not notice that same observation. (3-4 students will share)</li> <li>Students will then clean up their areas and hand in their writing papers so they are ready for the next activity.</li> </ul>
<p><b>Formative Assessment: (linked to objectives, during learning)</b></p> <ul style="list-style-type: none"> <li><b>Progress monitoring throughout lesson (how can you document your student's learning?)</b></li> <li>Writing hypothesis and observations down on a sheet of writing paper.</li> <li>Discussing observations during review &amp; thumbs up, down, and to the side</li> <li>Penguins are, have, can chart.</li> </ul>	<p><b>Summative Assessment (linked back to objectives, END of learning)</b></p> <ul style="list-style-type: none"> <li>This lesson is part of a PBL unit on penguins.</li> <li>Students' understanding of plants/animals using external body parts to survive, grow, and meet their needs will be assessed through a written test.</li> </ul>
<p><b>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</b></p>	