

Lesson Plan Template
Practicum 2 Centennial Elementary

Date: December 4, 2018

<p>Grade: 1st</p> <p>Materials:</p> <ul style="list-style-type: none"> • 2 Buckets • Ice • Water • Crisco • Plastic Gloves • Paper Towels • Experiment Sheets • Image of Polar Bear Wearing Winter Gear (PowerPoint) 	<p>Subject: Science</p> <p>Technology Needed:</p> <ul style="list-style-type: none"> • Projector • Computer • Document Camera • PowerPoint 																								
<p>Instructional Strategies:</p> <table border="0"> <tr> <td><input type="checkbox"/> Direct instruction</td> <td><input type="checkbox"/> Peer teaching/collaboration/ cooperative learning</td> </tr> <tr> <td><input type="checkbox"/> Guided practice</td> <td><input type="checkbox"/> Visuals/Graphic organizers</td> </tr> <tr> <td><input type="checkbox"/> Socratic Seminar</td> <td><input type="checkbox"/> PBL</td> </tr> <tr> <td><input type="checkbox"/> Learning Centers</td> <td><input type="checkbox"/> Discussion/Debate</td> </tr> <tr> <td><input type="checkbox"/> Lecture</td> <td><input type="checkbox"/> Modeling</td> </tr> <tr> <td><input type="checkbox"/> Technology integration</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other (list)</td> <td></td> </tr> </table>	<input type="checkbox"/> Direct instruction	<input type="checkbox"/> Peer teaching/collaboration/ cooperative learning	<input type="checkbox"/> Guided practice	<input type="checkbox"/> Visuals/Graphic organizers	<input type="checkbox"/> Socratic Seminar	<input type="checkbox"/> PBL	<input type="checkbox"/> Learning Centers	<input type="checkbox"/> Discussion/Debate	<input type="checkbox"/> Lecture	<input type="checkbox"/> Modeling	<input type="checkbox"/> Technology integration		<input type="checkbox"/> Other (list)		<p>Guided Practices and Concrete Application:</p> <table border="0"> <tr> <td><input type="checkbox"/> Large group activity</td> <td><input type="checkbox"/> Hands-on</td> </tr> <tr> <td><input type="checkbox"/> Independent activity</td> <td><input type="checkbox"/> Technology integration</td> </tr> <tr> <td><input type="checkbox"/> Pairing/collaboration</td> <td><input type="checkbox"/> Imitation/Repeat/Mimic</td> </tr> <tr> <td><input type="checkbox"/> Simulations/Scenarios</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Other (list)</td> <td></td> </tr> </table> <p>Explain:</p>	<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)	
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<p>Standard(s)</p> <p>1-LS1-1 Construct an evidence-based argument with the use of a drawing or a model that illustrates how structures of plants or animals help them survive in their habitat.</p>	<p>Differentiation</p> <p>Below Proficiency: The experiment sheet will be beneficial for my learners that have a difficult time following steps. The experiment sheet is like a graphic organizer that will help them organize their thoughts. We will be doing various portions of the experiment sheet together which will be beneficial for the students that are not familiar with the concepts. When it comes time for the students to predict, I will write the words ‘warm’ and ‘cold’ on the board as a visual of what they should potentially be writing on their experiment sheet. This visual will help them understand what they are supposed to do. There are also visuals to represent the two steps of the experiment. These visuals will help keep the child on task and make it easier for them to follow along. For those that have a difficult time staying on task, I will praise them throughout the activity when they are on task. If they seem off task, I will do a cold call to try and draw their attention.</p> <p>Above Proficiency: The experiment will help keep these learners engaged. The exploration requires the students to critically think which will help keep their attention. I will also have the student answer a few questions, so they have the opportunity to share what they know about the content being discussed. I will also suggest to the class that they can write more than just ‘warm’ or ‘cold’ in their graphic organizer. While this is a suggestion to the class, the high flyers will gravitate towards this suggestion and may feel inclined to expand on their predictions or results.</p> <p>Approaching/Emerging Proficiency: The visuals on the experiment sheet will help learners stay on task and follow along with the group. Giving the students guidance on what they may write in the predictions and results columns of their sheet will be helpful for the learners because they may not know what to put.</p> <p>Modalities/Learning Preferences:</p> <ul style="list-style-type: none"> • Spatial Intelligence: The videos and pictures that are displayed throughout will help this type of learner understand the ideas that are being presented in a more concrete way. The experiment sheet is a visual organizer that will help the students keep their ideas together and will act as a visual reference in the future. • Linguistic Intelligence: The graphic organizer activity will allow the students to keep their thoughts in an easy to read 																								
<p>Objective(s)</p> <p>By the end of the lesson, the students will be able to test and explain how fat helps keep a polar bear warm in its habitat by performing an experiment with water and lard and by filling out an experiment sheet.</p> <p>I can experiment to help me understand how polar bears’ bodies stay warm in cold temperatures.</p> <p>I can explain how a polar bear’s body can help it survive in cold temperatures.</p> <p>Bloom’s Taxonomy Cognitive Level: Understanding and Creating</p>																									

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	<p>format. The experiment sheet also requires the students to write which is beneficial for this type of learner.</p> <ul style="list-style-type: none">• Bodily-Kinesthetic Intelligence: The experiment will allow the students to work hands on with the concepts that are being presented. The students will be able to see first-hand how fat helps insulate. This activity will assist the students in making concrete connections to the concepts that are being presented.• Interpersonal Intelligence: The large group discussions and partner discussions will be beneficial for this type of learner. They will have the opportunity to discuss their ideas while listening to other people's perspectives about the content area being covered.• Intrapersonal Intelligence: One part of the experiment sheet will be done independently. The students will have to record their own predictions on what may happen throughout the stages of the experiment. This activity allows the students to exercise their independence.
<p>Classroom Management- (grouping(s), movement/transitions, etc.)</p> <ul style="list-style-type: none">• Groupings<ul style="list-style-type: none">• Large Group<ul style="list-style-type: none">• Discussion• Experiment• Review• Movement<ul style="list-style-type: none">• Hands to self.• Voice level 0.• Walking feet.• Transitions<ul style="list-style-type: none">• "One, two, three eyes on me."• "If you can hear me clap one time. If you can hear me clap two times. If you can hear me clap three times."• "If you can hear me touch your chin. If you can hear me touch your nose."• "Hands on top, everybody stop."	<p>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</p> <ul style="list-style-type: none">• Direct Instruction<ul style="list-style-type: none">• Students are expected to use a voice level 0 unless answering or asking a question.• Students are required to keep their hands to themselves.• Students are required to raise their hand if they have a question or comment.• Students are required to stay in their spots.<p>If the students cannot follow these expectations, they will be given a verbal warning. If it continues, they will have to return to their desks.</p>• Group Discussions<ul style="list-style-type: none">• Students are required to be active listeners.• Students are expected to use a voice level 0 unless it is their turn to talk.• Students are required to raise their hand if they have a question or comment.<p>If the students cannot follow these expectations, they will be given a verbal warning. If it continues, they will have to return to their desks.</p>• Experiment<ul style="list-style-type: none">• Students are required to use the materials properly.• Students are required to stay on task with the group.• Students are required to be an active listener.• Students are allowed to use a voice level 1 unless other people are talking; in that case, they must use a voice level 0.<p>If the students cannot adhere to these expectations, they will be asked to sit at their desk for a few minutes.</p>• Using the Materials<ul style="list-style-type: none">• Students are required to keep the Crisco out of their mouths.• Students are required to not rub the Crisco on the counter, floor, their clothes, or other people.• Students are required to not splash in the water.• Students are required to not flick water at others.<p>If the students cannot adhere to these expectations, they will be asked to sit at their desk for a few minutes.</p>• Cleaning Up<ul style="list-style-type: none">• Put all of the materials away.• Walk.• Voice level one.

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	<ul style="list-style-type: none"> • Help others. • Experiment Sheet <ul style="list-style-type: none"> • Students are required to write their name on the experiment sheet. • Students are required to neatly hand in their experiment sheet.
Minutes	Procedures
20 minutes	<p>Set-up/Prep:</p> <ol style="list-style-type: none"> 1. Make ice cubes. 2. Make the experiment sheet that correlates with the lesson. 3. Write the objective on the board. 4. Load the video and display it. 5. Fill the bucket with water and ice cubes. 6. Set out plastic gloves and Crisco.
3 minutes	<p>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</p> <ol style="list-style-type: none"> a. Have all students be at their desks. b. Play approximately 30 seconds to one minute of the video of polar bears playing in snow linked here: https://youtu.be/utOyruwNdJM 1. “Turn to the person next to you and gently give them a high five.” <ol style="list-style-type: none"> a. Allow time for the students to high five their neighbor. 2. “This will be your thinking buddy. When you turn and talk with your thinking buddy, do you think it is fair if only one person talks?” <ol style="list-style-type: none"> a. Allow time for the students to respond. 3. “No. It would not be fair for only one person to talk. You and your partner need to take turns, so when we do the turn and talks, I want the person with the shortest hair to share one idea, and then, the person with the longest hair shares one thing. So if we are looking at these two partners, and I want the student with the shortest hair to start first, who would talk first?” 4. Right. (Name of student) would start first. Using a voice level 1, I want you to talk to the person next to you about what you would have to wear if you were going to be playing in the snow just like these polar bears?” <ol style="list-style-type: none"> a. Allow 15 seconds for the students to collaborate. Pick on two to three students to share one of their ideas. 5. “Great answers. We live in a place where there is a lot of snow, so we know that we would need coats, hats, boots, mittens, and other items to keep us warm while we play in the snow. Did the polar bears in the video look like this?” <ol style="list-style-type: none"> a. Display the image of a polar bear wearing winter gear. b. Allow time for the students to say the answer. 6. “Right! This polar bear looks silly wearing all of this winter gear. When I look at this picture, I am wondering why polar bears do not have to wear winter coats when they play in the snow, but we do. Today, we are going to do an experiment that may help us answer the question, “how do polar bears stay warm when they live in cold areas?” Our goal for the day says, I can experiment to help me understand how polar bears’ bodies stay warm in cold temperatures. I can explain how a polar bear’s body can help them survive in cold temperatures. Let’s keep these goals in mind when we are experimenting.”
10 minutes	<p>Explain: (concepts, procedures, vocabulary, etc.)</p> <p>Before Experiment:</p> <ol style="list-style-type: none"> 1. “For our experiment, we are going to take turns sticking our fingers in these bowls of water.” <ol style="list-style-type: none"> a. Show the bowls of water under the document camera. 2. “By looking at these buckets of water, do you think the water is warm or cold?” <ol style="list-style-type: none"> a. Allow time for the students to respond. 3. “Why do you think that?” <ol style="list-style-type: none"> a. Allow time for a different student to respond. 4. “Right. There are ice cubes floating in it. You are making an inference. An inference is when you look at something and use what you have seen to help you understand and make a guess. You are making an inference that the water is cold because you see the ice floating. You will have a chance to stick your finger in the ice water two times, but each time will be different. First, just your bare finger.” <ol style="list-style-type: none"> a. Demonstrate sticking your bare finger in the water. 5. “Second, you will put fat on your gloved finger and stick it in the water.” <ol style="list-style-type: none"> a. Demonstrate what it looks like putting the Crisco on your finger and placing it in the water. 6. “Before you get to come up and experiment, we need to look at our experiment sheet.” <ol style="list-style-type: none"> a. Show experiment sheet under document camera. a. Hand out experiment sheets to every student. 7. “I need everyone to get out a pencil and write their names on their experiment sheet. You have one minute to do this. I will not let you experiment until I see your name on it. When you are done, put your hands on top of your head. You may begin looking.” <ol style="list-style-type: none"> a. Allow 1 minute for the students to look for a pencil and write their name.” b. Walk around and make sure everyone has their name on the sheet.

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8. "Great work, first grade! The first column shows the steps of our experiment. Remember, I did my bare finger first and the gloved finger with fat second."
 - a. Point to the column with the pictures of the experiment steps as you say this.
9. "The middle column is where we write our predictions for each step. A prediction is what we think is going to happen. We need to fill this out before we experiment."
 - a. Point to the predictions column.
10. "The first step of the experiment, I just put my bare hand in the water. In this box next to the bare hand picture, where it says, 'I think...', I want you to write if you think your finger will be get cold or stay warm. If you need help spelling 'cold' and 'warm', I will write them on the board."
 - a. Write 'cold' and 'warm' on the board.
11. "Once again, do you think your bare finger will get cold or will it stay warm? You can now fill in the box next to the bare hand."
 - a. Allow approximately 30 seconds for the students to fill in their prediction for the first step of the experiment.
12. "These are your predictions. This is what you think is going to happen. Do you think the same way as your neighbor?"
13. Allow time for the students to respond.
14. "No. Everybody thinks differently and that is great. If everyone thinks differently, then not everyone is going to have the same predictions. Let's now move to the square right next to the picture with the Crisco image."
 - a. Point to the empty square next to the picture of the Crisco image.
15. "This is fat and that is what we will be using today. Fat can be used to make desserts. Another type of fat can be found underneath an animal's skin. We need to make a prediction for this step of the experiment. Do you think if you wear a plastic glove, put this fat on your finger, and dip it in the water that your hand will get cold or stay warm?"
 - a. Put the Crisco on your finger to help the students better understand what you are saying.
16. "Remember, you only need to write cold or warm for your prediction. Once again, do you think your finger will get cold or stay warm if you dunk it into water an you are wearing a plastic glove with fat on your finger? You may now write your prediction."
 - a. Allow the students approximately 30 seconds to make a prediction for step two of the experiment.
17. "Now that we know a little bit about our experiment sheet, let's talk about the experiment and our expectations. We are going to do an experiment to try and figure out how polar bears' bodies help them when they live in such cold areas. For us to be able to do this experiment, I need everyone to be an active listener. That means eyes watching, body still, voice off. Practice that with me."
 - a. Practice the active listener motions with the students.
18. My job is to talk about the experiment. When I am talking, your job is to be an active listener and to use a voice level zero. Show me what it looks like to use a voice level zero."
 - a. Allow time for the students to demonstrate what a voice level zero looks like.
19. "Perfect. If you have a question or comment, what do you think you should do?"
 - a. Allow time for one student to respond.
20. "Right! Raise your hand. For our experiment, we have two big buckets of water. I will have five kids at a time come up and place their bare finger in the water. The students that are not up here at that time, I want you to think about the prediction you made earlier and what it may feel like for you to place your finger in the water. When you are placing your finger in the water, do you think you should flick the water or make a lot of splashes?"
 - a. Allow time for the students to respond.
21. "Right. That would not be good because it will make a mess, or you may accidentally get yourself or someone else wet. If you cannot do your job while you are up here, then you will have to take a little break from the experiment. So what happens if you splash or flick the water?"
 - a. Allow time for the students to respond.
22. "Yes. You will have to sit down for a little bit. I will show you what I want you to do for this part of the experiment. Take your pointer finger and place it in the cold water until it reaches your knuckle."
 - a. Demonstrate this step.
23. "Hold it in there for one to two seconds."
 - a. Model this step by holding your finger in there for one to two seconds and count out loud as you do this.
24. "Then take your finger out and wipe it off."
 - a. Demonstrate this step.
25. "I will now have five students come to each bucket and place one of their fingers in the water. The rest of you will try and think about what it may feel like to put your finger in the water. You will gather around the bucket; please no pushing and shoving. If you push, shove, or flick water, you will have to sit back at your desk."

During Experiment:

 - a. Allow the students to come up and place one of their fingers in the cold water. Only allow five students at one bucket at a time. There will be two buckets, so there should be 10 students total at the kidney table.
 - b. After everyone has had a chance to place their finger in the water, regroup.
26. "One, two, three eyes on me."
 - a. Allow time for the students to respond.
27. "Did your finger get cold or did it stay warm when you put it in the ice water?"
 - a. Allow time for the students to respond.

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28. "Do you think that is how polar bears feel when they go in the water?"
 - a. Choose one or two students to share their opinion.
29. "The water that the polar bears have to go in for hunting or moving from place to place is even colder than this water, so they must have some way to keep them warm when they need to swim. Let's try the next step of our experiment and see what happens. Remember for this step, we are wearing the plastic glove, and placing this stuff on our fingers."
 - a. Hold up the Crisco.
30. "This is fat. Fat can be used for baking, but fat can also be found on animals. We are going to put a little bit of this fat on the tip of our fingers."
 - a. Point to the tip of your gloved finger.
 - b. Put Crisco on the tip of your gloved finger.
31. "Then we are going to dunk our finger into the water. This time, I am making sure that it is only the tip of my finger that is going in the water. Only the part that is covered with this fat."
 - a. Demonstrate this step.
32. "I am going to hold it in there for about 10 seconds."
 - a. Count to 10 out loud.
33. "Then, I need to take off my glove and throw it in the trash."
 - a. Demonstrate this step.
34. "Instead of having ten students up here at a time, I am only going to have five of you come up; this way I can help you get the fat on your fingers. If you are sitting down, think about your prediction, and if your finger will get cold or stay warm when you have the fat on your finger and place it in the water. Where do our gloves go when we are done?"
 - a. Allow time for the students to respond.
35. "I will now have five students come up."
 - a. Allow the students to come up, put a plastic glove on, and place one of their gloved fingers in the cold water. Only allow five students at one bucket at a time.
 - a. Once everyone has had a chance to put the Crisco on their gloved fingers, regroup.
36. "Hands on top, everybody stop."
 - a. Allow time for the students to respond.
37. "Did the fat help keep your hand warm or did it get cold?"
 - a. Allow time for the students to respond.
38. "So what does a polar bear use to help keep it warm?"
 - a. Allow time for the students to respond.
39. "Right! Fat helps keep the polar bear bodies warm. Now, we need to fill in the last column."
 - a. Point to columns on the active board.
40. "This is where we write about what actually happened during the experiment. The first square is where we need to write about what happened when we put our bare finger in the water. Raise your hand if your finger got cold."
 - a. Allow time for the students to raise their hands.
41. "Raise your hands if your finger stayed warm."
 - a. Allow time for the students to raise their hands.
42. "Mine got cold, so I would write cold in this box. Remember, some people may not always have the same answer as you when it comes to experiments. Experiments have to be done more than once before people start getting the same results, so it is okay if you do not have the same answers as your neighbor."
 - a. Model writing 'cold'; in the box.
43. "You can do the same thing on your sheet."
 - a. Allow time for the students to fill in the square.
44. "Down to the second box."
 - a. Point to the second box.
45. "Did your finger stay warm or get cold when you wore the plastic glove and put fat on your finger? Raise your hand if your finger got cold."
 - a. Allow time for the students to raise their hands.
46. "Raise your hands if your finger stayed warm."
 - a. Allow time for the students to respond.
47. "Yes! Your finger should have stayed warm, so we would write warm. Remember, everyone may not get the same answers as you. Experiments have to be done a lot of time before everybody's answers are the same. Sometimes experiments do not always work, that is why it is called an experiment. On your experiment sheet, there is a question at the bottom of the sheet that says, "how do polar bears stay warm?"
 - a. Point to this question on the experiment sheet that is underneath the document camera.
48. "What was the answer that we came up with?"
 - a. Allow time for a student to raise their hand and respond.
49. "Right. Fat helps keep polar bears warm, so you should write the word fat on this line."
 - a. Write the word 'fat' on the line to help the students spell it.
50. "Fat is a layer that is underneath an animal's skin."
 - a. Show picture of polar bear and the zoomed in version of the fat.

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	<p>51. "The polar bear has fat underneath their skin that helps keep their body warm while they swim in freezing water. The fat is called an insulator. An insulator is protection that helps keep heat in. Think of your winter coat. It helps keep you warm when you are outside. Your coat is an insulator."</p> <p>a. Show picture of child in winter gear.</p> <p>52. "Now think of a polar bear. The fat on polar bears is like their winter coat. The fat is an insulator; it helps keep them warm."</p> <p>a. Show picture of a polar bear.</p> <p>53. "Polar bears' bodies have fat to help them stay warm in these cold places."</p>
<p>10 minutes</p>	<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>1. The students will be gathering around the kidney table to participate in an experiment. With this experiment, they will be investigating how polar bears stay warm during the winter. At the kidney table, there will be two large buckets of ice water. Along with the ice water there will be plastic gloves and Crisco. Groups of five students will come up to the bucket and place one finger in the cold water. When they have done this, the next group goes until every child has had the opportunity to stick their hand in the cold water. For the second step of this experiment, the students will be wearing the plastic gloves and will have a dollop of Crisco placed on their pointer finger. They will then place the finger with Crisco on it into the ice water. Before I let anyone place the Crisco on their finger, I will explain that Crisco is fat. By doing this part of the experiment, the students will be able to experience how blubber works as an insulator to keep the polar bear warm. Each child will have the opportunity to try this portion of the experiment. I will remind the students to not have the fat fully submerged in the water; that would ruin the effect. After each child has had the chance to cover their finger in Crisco and dip it into the cold water, we will regather and discuss the experiment as a whole group.</p> <p>2. After the experiment part, the students and I will discuss the results of the experiment. To help keep track of all of their ideas, they will be given an experiment sheet that will help guide their learning. This experiment sheet is divided into three columns. The first column has images of all of the stages of the experiment. The second column is labeled 'predictions'; here the students will write down what they believe it will feel like when they stick their hand in the water at each stage of the experiment. The third column is labeled 'results'. Before the students partake in the experiments, they will fill out all of the 'prediction' sections. When they have completed the experiment, they will fill in all of the 'results' sections. This will be turned in at the end of the activity.</p>
<p>3 minutes</p>	<p>Review (wrap up and transition to next activity):</p> <p>1. "Let's review our two goals for the day. It says, I can experiment to help me understand how polar bears' bodies stay warm in cold temperatures. We did this during our experiment. The second one says, I can explain how a polar bear's body can help them survive in cold temperatures. We talked about that before, during, and after our experiments. So why don't polar bears have to wear winter coats like we do?"</p> <p>a. Allow time for the students to respond.</p> <p>2. "Right. What is fat?"</p> <p>a. Allow time for the students to respond.</p> <p>3. "Fat is a layer underneath the animal's skin that helps keep them insulated. That is a big word; does anyone remember what an insulator is? I will give you a hint, a winter coat is an insulator."</p> <p>a. Allow time for the students to respond.</p> <p>4. "Right! It helps keeps the heat in. Great work today! I will call you by your table groups to come hand in your experiment sheet to me. Please walk over to me; if you run, you will be sent back. Make sure your name is on your sheet."</p> <p>a. Dismiss the students by tables to have them hand in their experiment sheets.</p> <p>b. If students run, send them back. If their name is not on it, send them back.</p>
<p>Formative Assessment: (linked to objectives, during learning)</p> <ul style="list-style-type: none"> Progress monitoring throughout lesson (how can you document your student's learning?) <p>The experiment sheet that the students will be filling out before and after the experiment will be my main form of formative assessment. Before performing the experiment, the students will have to fill out the prediction sections. Each prediction section correlates with a stage in the experiment. The driving question that I will ask to help them make the predictions is 'do you think your finger will stay warm or will get cold?' They will then have to write either the word 'cold' or 'warm' which ever correlates with their predictions. This should be an independent activity. After we have completed the experiment, we will come back to the experiment sheet and record the results in the designated column. The students and I will be documenting the results as a group. Once again, they will just be required to write 'warm' or 'cold' in the designated areas based on our results. There is one final question at the bottom of the sheet that asks the students 'how do polar bears stay warm?' We will answer this question together. The students will turn in their experiment sheet to me; I will be able to analyze their predictions and make sure they recorded the</p>	<p>Summative Assessment (linked back to objectives, END of learning)</p> <p>Polar bears are just one of the animals that have body features that assist them in their environment. The students and I would spend a few more days discussing other animal structures that help them survive in a particular habitat. After discussing a few of these animal adaptations, I would have the students create a new animal that has a particular structure that helps it survive its habitat. The students can draw the animal and give a brief overview of the habitat it lives in and its structure that helps it survive in that habitat. The drawing portion would be optional for the students.</p>

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results. Throughout the experiment and the discussions, I will be able to informally assess the students. If I notice that they are not grasping the concept, I would review this idea the following day.

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

I was excited to teach this lesson and have been waiting for the chance to implement it in the classroom setting. As I was preparing the bowls of icy water, I could tell that the students were intrigued by what was going on. Several of them asked why I brought ice to the classroom, I simply informed them that they would have to wait and see. The setting up of the experiment was an engagement piece in itself. However, I did go with the engagement idea that I had planned on doing as seen in this lesson. The students loved the polar bears playing in the snow. They were making comments about how cute they were and even asked questions about what they were wondering. I was thrilled to see that they were hooked already. I informed the students that we were going to be doing an experiment and that everyone needed to listen very carefully to the directions. They were all ears. They were ready to learn about what they had to do in order to experiment. I went over what they would be doing by briefly modeling the experiment. Then, I handed out the experiment sheet where the students had to predict what they thought would happen at the two stages of the experiment. The engagement level went down slightly during this time; the students were active participants when it came to filling out the prediction section on the experiment sheet, but I could tell they just wanted to experiment. Before I let them experiment, I gave them their expectations. While I know that giving students expectations in every grade is essential, it is crucial in first grade. Simple steps that most people would not think twice about, I had to anticipate. This is difficult because I am never sure how the students might react with these new materials. My biggest expectations were to have the students not splash the water, not eat the Crisco, and to throw away their gloves. There was no splashing or Crisco eating that I had observed which is excellent. There was one or two used gloves left on the table, but the rest made it in the garbage; I considered this to be a success as well. The one component of my lesson that I need to work on is filling in the down time that the children have when they are waiting to experiment. While the experiment process lasted a maximum of five minutes, that is plenty of time for first grade students to find something to do; these tasks that they find to do usually involve wandering, talking, and playing around. I knew this would be an issue, so I tried to think on my feet before I taught the lesson. I let the students that were sitting watch the full video of the polar bears playing in the snow but it was only a minute long. I wanted to find more videos about polar bears, but none of them had the content that I wanted to expose the students too. I made do with what I had and played the rest of the video that we started with. This entertained those that were watching for a short period of time. When it was over, there was more movement and talking. I tried to remind the students about their expectations if they were not doing the experiment portion. The extra movement and noise was not as bad as I had initially anticipated. When everyone had experimented, we returned to our experiment to record the results we received from the test. By this time in the lesson, I noticed that the students had lost interest and wanted to move onto something else. During this lesson, I was able to articulate the expectations I had for the students and they adhered to them for the most part this was a successful component of the lesson. Another triumph I had during this lesson was the engagement portion. Children love science; they are curious and science helps nurture their curiosity. Something as simple as putting ice cubes into a bucket drew them in. They wanted to know what was going on, and they wanted to be a part of it. I was happy about this because I was excited about the lesson. Some alterations that I would make for the lesson would be to find extra videos to display to keep the students' engagement up. Not all of the children could do the experiment at the same time; it would have been too chaotic and difficult to manage in the classroom. Having them sit in their desks allowed time for them to lose interest and mess around. Next time, I would try to find educational videos about polar bears, so the students can still be learning while they wait.