Teacher Work Sample

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A02033488
Elementary Education
February 5, 2018

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**Learning Context**

**School district:** Murray School District

**Name of school:** McMillan Elementary

**Title 1 school?** No

**Demographics of school:**

<table>
<thead>
<tr>
<th>McMillan School</th>
<th>Murray District (2016 - 2017 school year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal/Director:</strong></td>
<td>Sanford, Joy</td>
</tr>
</tbody>
</table>
| **Address:** | 315 E 5900 S  
MURRAY, UT 84107 |
| **Phone:** | (801) 264-7430 |
| **Grades:** | K - 6 |
| **School Type:** | Traditional |
| **Students:** | 526 |
| **Principals:** | 1 |
| **Counselors:** | 0 |
| **Teachers:** | 22 |
| **% Endorsed:** | 100% |
| **% Grad Degree:** | 63.7% |

**Enrollment by Grade**

<table>
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<tr>
<td>K</td>
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<td>2</td>
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**Enrollment by Ethnicity**

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**Enrollment by Gender**

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<tr>
<td>Male</td>
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**Subgroup Percentages**

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Econ Disadv</td>
<td>34.8%</td>
</tr>
<tr>
<td>ELL</td>
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</tr>
<tr>
<td>Ethnic Minority</td>
<td>26.4%</td>
</tr>
<tr>
<td>Special Ed</td>
<td>11.8%</td>
</tr>
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</table>
Description of school climate:

McMillan Elementary is an older school, built in 1954. At the time it was built it was called Hillcrest Elementary. The McMillan family formerly owned the property, and the name of the school was changed in 1960 to honor them. The school has been remodeled and has had additions built onto it over the years. It is in great condition.

The principal, Joy Sanders, has worked to create a positive environment for everyone. The teachers work together well, and it is very pleasant there. PLCs are in place where grade level teachers collaborate and strive to provide the best learning environment and opportunities for all students.

The PTA and parents are highly involved at McMillan. Some parents volunteer several times a week in classrooms, and can always be counted upon to help with field trips and other special activities. They care about their students and are there for them.

School-wide discipline plan

The school-wide rules are: Be Respectful, Be Responsible, Be Safe. Students are given positive consequences for following the rules.

Positive Consequences:

• Red Tickets for being caught doing well – these tickets will go into a weekly drawing for students to end up on our weekly bulletin
• Our “special” blue tickets which go onto our Principals 200 club and can earn a student a special field trip out with the Principal
• A school-wide reward once our red ticket bucket is filled
• Positive office referrals/post cards home
• Leadership opportunities
• Positive call home

In situations where a student has moved through their classroom discipline procedures due to inappropriate or disruptive behavior which impacts the learning and/or safety of others, the following disciplinary action may take place:

Think time: Students will be given a “think time”. During this time, students will be asked to go to another classroom to complete a form regarding their behavior choices. Parents will be notified of this “think time” by being asked to sign and return the “think time sheet” to school.

Parent Conference: Parents may be asked to come and conference with the teacher and student based on frequency and severity of behaviors. Only the Principal or Principal Designee may suspend a student. Parents will be required to conference with the Principal prior to the student returning to school.
School Counselor Referral: Students may be referred to the School Counselor to learn skills which may assist the student in changing his/her behavior. Parents will be notified and permission must be granted prior to the Counselor working with students.

Behavior Contract: Based on the frequency and severity of behaviors, the student may be put on a behavior contract which will be developed by the teacher, school counselor, administration and parent.

Office Referral: An automatic office referral will be made in situations where the safety of the students or others is compromised, such as bringing a weapon or facsimile of a weapon to school, fighting or aggressive physical/verbal contact, vandalism, leaving school grounds, sexual harassment, and/or threat of physical harm. An office referral may also be made if the student has received 3 or more “think times” in a year.

Should a student receive a “think time” or other disciplinary action, the following corrective consequences may occur:

- Think Time form (every time)
- Reteach of rules/expectations, likely during a recess or student free time
- Silent lunch/Time in during recess
- Parent Phone call
- Loss of in class privilege or school privilege

All Individual Student Behavior Plans supersede this school wide behavior plan.

Physical environment

Although McMillan is an older school, it is in good physical shape. It is a one-story brick building with a homey feel. The playground is large and has a variety of suitable equipment for the children to use. Within the school there is a multipurpose room, which has a stage, and is also used as a cafeteria. There is a library and two computer labs. There are also computers for student use in each classroom. Some of the classrooms have no windows, but are well-lit in spite of this. Coat racks are located outside of each classroom, with a strip of cork above, on which student art work is displayed.

Academic environment:

The academic environment is positive at McMillan Elementary. The teachers care about each student’s success, and have weekly meetings to discuss progress and how to ensure student growth. Data from test scores are analyzed to see where teaching needs to focus. McMillan is home to the Murray District Gifted and Talented Program.

Grade level: 2nd
Learning environment:

Attendance:

There is one student in the class who has been absent quite a bit. He missed about three weeks of school due to illness. His attendance has been better lately, but he still misses about one day a week. When he comes he is often tardy. Two of the students are tardy almost every day. One student recently was absent for two days to go to Disneyland for his birthday. Most of the other students are rarely absent.

Classroom management plan:

Classroom management is based on positive reinforcement. My mentor teacher, Mrs. Walters uses two clip charts. On one of them the students move up, but never move down. Moving up on the chart happens when students are ready to learn (quiet, eyes on teacher, etc.). Mrs. Walters believes that once the students earn a move up, that shouldn’t be taken away. When a student moves all the way up to the top in one day, he or she is given choices for a reward. The other clip chart is used for negative behavior. It is used for serious misbehavior, such as behavior resulting in someone getting hurt. It rarely needs to be used. The consequences follow the school-wide system. Mrs. Walters also gives table points when all of the students at a table are ready to learn. She also has a whole-class reward system, in which the class may earn a pajama day or other reward for good behavior.

This classroom management plan is very effective. It makes the classroom a positive environment where the teacher has clear, high expectations. The students live up to those expectations. There are a few students who need something more, and for those students there are individual contracts. The teacher works those out with the students and parents in order to help those students succeed.

Mrs. Walters uses countdowns to signal to the students that they need to be in their seats and ready to listen. The students are very well trained in this, and hurry to get to their seats before she gets to zero. She makes a list on the board for early finishers so they aren’t wandering around after they’ve finished their work. During instruction and independent practice she walks around the room to encourage participation and engagement.

Seating arrangement:

There are five tables in the room with four or five students sitting around each table. They have seat pockets in which to store their books, folders, and other materials. Making a seating chart is a challenge because there are quite a few students who need to be separated in order to help them get their work done. The seats at each table are numbered 1-5 so that different tasks can be assigned to students by their seat numbers.

Level of student engagement in learning:

The level of student engagement in learning is high in this class. Participation in
discussions is encouraged, and students love sharing their ideas. Having the students move around to different stations is a strategy that we like to use. Partner learning is utilized, and that ensures that everyone is participating. A few students have attention difficulties and we need to check in with them frequently to make sure they are engaged.

**Level of safety for learning:**

The level of safety for learning is high. Students know that mistakes are part of learning. Everyone’s ideas are respected and listened to. Discussion is encouraged and students build on each other’s ideas.

**Subject matter of lessons:** Science

**Total number of students:** 22

**Students with special needs and short explanation of the needs:**

With IEP: KE has an IEP for both reading and math. OL is being tested for reading and math.

Students who receive speech/language services: OL, JU, JA, and EL receive speech/language services.

English language learners: 0

**Gifted and talented:** EL is gifted in everything, but he has a hard time getting his ideas out orally and on paper. He is one of my focus students. MA is gifted in math, reading, and writing.

**Other:** AL is on a 504 due to attention difficulties.

**Students’ prior knowledge for these lessons:**

In kindergarten and first grade the students studied maps and globes. They learned directions on a map. They learned to locate their city, state, and the United States on maps and globes. They located and labeled the seven continents, the five oceans, the poles, and the equator. They also learned about the scientific method of creating a hypothesis, conducting investigations, collecting data, and drawing conclusions. They learned that living things depend upon their environment to satisfy their basic needs.

**Students’ background and interest for these lessons:**

I wasn’t sure that second grade students would be interested in maps. My mentor teacher assured me that they loved maps. I wanted to make it more fun and interesting for them by doing some hands-on activities like making maps and conducting experiments.

**How did your knowledge of these students and assessment of their prior knowledge inform your lesson planning?**

I knew that the students had some background with maps, so I decided to start by reviewing what they had already learned and activating that background knowledge. Then I
thought we would build on that knowledge by learning about animals that lived in certain regions, and the adaptations they have made in order to survive in those areas’ climates.

**Focus Students**

**Description of student 1 – EL**

**Prior learning**

EL’s parents have given him a lot of exposure to science. He seems to have quite a bit of interest and knowledge in that subject. His mother is an artist, so he has also had prior learning there. He loves to draw to figure things out. He was one of two students in the class who entered the STEM fair.

**Academic ability**

EL’s had the highest I.Q. of anyone tested for the magnet program. In spite of this his test scores were in the yellow category last year, indicating that he was approaching proficiency. He has a hard time getting his work done, and the team believes that it’s because his brain is working so fast that his hands can’t keep up with it in writing, and he can’t talk fast enough to express it. He has always struggled with writing.

**Personal background**

EL’s parents are very involved and supportive in his education. They are concerned about his test scores and want to make sure he gets the appropriate help that he needs. He has been tested to see if he qualifies for speech therapy—and he does because of his “r” pronunciation.

**Other relevant characteristics**

EL is a sweet, friendly child. The other students like him, but he doesn’t seem to have any close friends. He can be very stubborn. He is in counseling and on medication to help him with performance anxiety and OCD. He likes to doodle a lot—we think it helps him figure things out.

**Influence of all of these characteristics on your teaching**

Different strategies have been talked about and tried to help E be successful. His problem with writing is something that I need to focus on in my teaching. We haven’t found the answer yet, but right now we’re having him dictate what he wants to say, and someone else writes in with a highlighter for him. Then we’re having him trace the highlighting. Having him write about things he’s interested in has been tried, but hasn’t worked so far. Having him make up his own short hand has been proposed to him, but he’s not interested. Giving him choices could be helpful for his stubbornness. OT will be working with him to see if that helps with his writing.
Description of student 2 – AN

Prior learning

AN’s prior learning comes from what she’s learned in kindergarten and first grade. She is at grade level and has learned the objectives expected in first grade.

Academic ability

AN is an average student. She does her work willingly and is successful at learning. Her reading and math is on level for 2nd grade.

Personal background

AN’s parents are divorcing, and the family has been evicted from their apartment. She stays with her mom at her mom’s parents’ house. They will soon be moving to an apartment. She has been more serious and less fun-loving since this has happened. She is receiving counseling. Her parents are attentive and involved in her schooling.

Other relevant characteristics

In spite of AN’s home challenges she is not struggling academically. She is a pleasant girl who does her best at school.

Influence of all of these characteristics on your teaching

I’m not worried about making any special accommodations for AN. The lessons are 2nd grade level, so I don’t anticipate any problems with her learning the material. Being aware of her home issues will make me more sensitive to her needs and I will keep those things in mind if I notice her struggling with her emotions.
Lesson Plans

Lesson Plan 1

Lesson Title: Introduction to Arctic and Antarctic Habitats

Subject and grade level: Science, 2nd grade; Social Studies, 2nd grade

Approximate time: 1 hour

Rationale for methods:

It is important to activate students’ prior knowledge when introducing a lesson, so we will begin by reviewing what the students learned in kindergarten and first grade about maps and globes. Then we will build on that knowledge. Some of the vocabulary may be taught explicitly, if the students aren’t able to come up with the meanings themselves. Hands-on learning will be used as students will create a model of the world, which will help them retain what they’ve learned better.

Content standards:

2nd Grade Social Studies Standard 3: Geography: Students will use geographic tools and skills to locate and describe places on earth.

   Objective 2: Demonstrate geographic skills on a map and a globe.

      d. Locate and label the following on a map or a globe: the seven continents, the five oceans, the poles, and the equator.

2nd Grade Fine Arts: Visual Arts. Strand: Create (2.V.CR.). Students will generate artistic work by conceptualizing, organizing, and completing their artistic ideas. They will refine original work through persistence, reflection and evaluation.

   Standard 2.V.CR.2: Experiment with various materials and tools to explore personal interest in a work of art or design.

Academic language/vocabulary objectives:

1. Create a map with accuracy. Locate and label places on earth.

2. Map, continent, ocean, North Pole, South Pole, Arctic, Antarctica

Required materials, resources, and technology:

Video: “Do You Know the Continents?”

World map

Paper plate painted blue

Finished paper plate world map
Overhead projector  
Paper plates  
Blue paint  
Continents handout  
Crayons  
Scissors  
Glue  

**Lesson Objectives**

- Students will be able to locate the North & South Poles on a map. (Social Studies Standard 3, objective 2d)
- Students will experiment with various materials and tools to explore art. (Standard 2V.CR.2.)

**Instructional Procedures**

**Introduction:**

Show the world map. Discuss with the class what they learned about maps in kindergarten and first grade (Equator, North & South Poles, Utah, and USA). Ask someone to show the class where Utah and the United States are located. Have someone point out oceans, and ask how they know that those are oceans. Ask if anyone knows what the word “continent” means, and point those out.

Have students show where the North and South Poles are located, and ask the students if they know what the regions are called where those are found (Arctic and Antarctic). Tell the students that today each of them will get to make their very own world map, with continents and oceans. They will learn the names of those and put them in the right places on their map. Tell them that we will sing a song to help them learn. Show the video “Do You Know the Continents?” and have the students sing along.

**Learning Activity:**

Pass out the paper plates, blue paint, paint brushes, and continent sheets. Show the blue paper plate and the continent sheet. Explain to the students that the first thing they will do is paint their paper plate blue. Demonstrate with a dry brush. Tell them to paint one entire side blue. Ask them why they think we’re painting them blue. What does the blue represent on a map? Hold up the continent paper. Tell them that when they’ve finished painting they should color their continents with crayons while the paint dries. They may color them any color(s) they choose, but tell them not to color so darkly that the name can’t be read.
Ask if they think they should put their continents anywhere they want. Why or why not? (Maps need to be accurate.) After coloring, they should cut out each continent and glue them in the correct place on their plate. Show the finished paper plate world map on the overhead and show them where each continent goes. Ask if anyone has any questions. Tell them that I will be walking around the room to see how they’re doing. They may ask for help if they need it. Then let them get started.

Early finishers may start cutting out their pockets for their arctic animal cards for their lap books, or do a handwriting page.

Adaptations/accommodations

There are no English Language learners in this class. “JA”, “EV”, and “AS” may finish early and need to have something to do while the others finish. They can work on their animal fact cards. “EL” may need to be reminded to stay on task. “KE”, “MP” “OL” “DA”, and “JU” may need help reading and putting their continents in the correct places.

Assessment

The beginning level of understanding will be evaluated by the introductory activity. The students will demonstrate their knowledge of maps, continents, Poles, directions, oceans, Arctic, and Antarctic regions. As a formative assessment I will observe the students as they are creating their maps, and see if they are putting the continents, Poles, oceans, and regions in the correct places. For the summative assessment, at the end of the lesson I will collect the maps and check to see if they were done accurately.

Lesson 1 Materials
Lesson Plan 2

Lesson Title: Arctic Animals and How Blubber Helps Them Stay Warm

Subject and grade level: Science, 2\textsuperscript{nd} grade

Approximate time: 1 hour

Rationale for methods:

I’m activating prior knowledge by reviewing and asking questions at the beginning of the lesson. That accomplishes at least two things: I see what they already know and what they need to learn, and it helps them remember what they’ve already learned so we can build on that. I’m using formative assessments as we go along through the lesson so that I make sure they are getting it. I’m using discovery learning by letting them see for themselves what happens in the experiment. I’m not just telling them what will happen, but they are discovering it. I’m using multiple approaches in the lesson. The students are playing games, coloring, reading, and conducting an experiment. The students are not just sitting and doing worksheets. They are moving around the room and doing a variety of activities.

Content standards:

2\textsuperscript{nd} Grade Social Studies Standard 3: Geography: Students will use geographic tools and skills to locate and describe places on earth.

Objective 2: Demonstrate geographic skills on a map and a globe.

\hspace{1cm} d. Locate and label the following on a map or a globe: the seven continents, the five oceans, the poles, and the equator.

2\textsuperscript{nd} Grade Science Standard 1: The Processes of Science, the Communication of Science, and the Nature of Science. Students will be able to apply scientific processes, communicate scientific ideas effectively, and understand the nature of science.

Objective 1: Generating evidence: Using the process of scientific investigation (i.e. framing questions, designing investigations, collecting data, drawing conclusions)

\hspace{1cm} a. Framing questions: Observe using senses, create a hypothesis, and focus a question that can lead to an investigation.

\hspace{1cm} c. Conducting investigations: Observe, investigate, manipulate, describe.

\hspace{1cm} e. Drawing conclusions: Analyzing data, making conclusions connected to the data or the evidence gathered, identifying limitations or conclusions, identifying future questions to investigate.

2\textsuperscript{nd} Grade Science Standard 4: Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.
Objective 2: Identify basic needs of living things (plants and animals) and their abilities to meet their needs.

a. Communicate and justify how the physical characteristics of living things help them meet their basic needs.

2nd Grade English Language Arts: Writing Standard 7: Participate in shared research and writing projects (e.g. read a number of books on a single topic to produce a report; record science observations).

Academic language/vocabulary objectives:

The students will conduct an experiment, make a prediction, write their results, and make a conclusion.

Blubber, Arctic, caribou

Required materials, resources, and technology:

Technology:

BrainPop Jr Video: “Arctic Habitats”

BrainPop Jr Quiz

This is a video about the Arctic, which will introduce the students to the region, what it’s like, and how plants and animals survive in such a cold habitat. The quiz will help them review what they’ve learned.

Individual student whiteboards and makers (for quiz)

World map

Student maps from last lesson

For Student maps

Overhead projector

Arctic animals to color, cut, and paste

Crayons

Scissors

Glue

For Blubber Experiment

Blubber experiment sheet

Gloves
Lesson Objectives

- Students will locate the North Pole and Arctic region on a map. (Social Studies Standard 3, objective 2d)
- Students will be able to make predictions about how their hands will feel in ice water with a glove covered with fat. (Science Standard 1, objective 1a)
- Students will conduct an investigation to test their prediction. (Science Standard 1, objective 1b)
- Students will draw a conclusion and write what they learned about fat. (Science Standard 1, objective 1c)
- Students will be able to communicate and justify how the characteristics of living things help them meet their basic needs. (Science Standard 4, objective 2a)
- Students will be able to record science observations. (English Language Arts: Writing Standard 7)
- Students will be able to sort animals according to their suitability to the Arctic or Antarctic habitats. (Science Standard 4, objective 1b)
- Students will compare and contrast the characteristics of living things in different habitats. (Science Standard 4, objective 1a)

Instructional Procedures

Introduction

Pass out the world maps the students made yesterday. Tell the students that today we are going to learn more about the Arctic region, and the animals that live there. Ask them what they remember about the Arctic from yesterday. Have students point to the Arctic region on their maps. Ask them what kind of weather they think the Arctic has. Tell them that we are going to watch a short video about the Arctic, and have them listen for the word “caribou.” Tell them to try to figure out what “caribou” means. Also have them listen for ways animals are able to survive in the cold. Later we will do an experiment to learn about something that helps them survive.
Show the video “Arctic Habitats”. Do the quiz together, having the students answer the questions on their whiteboards. Use the answer that the majority of the students give, and see if it works. If they are incorrect, try another answer. After the quiz ask the students if anyone heard the word “caribou” in the video. What do they think a caribou is? What ways did they notice that animals survive in the Arctic?

**Learning Activities**

After the quiz pass out the sheets of Arctic animals to color. Tell the students that these are animals that live in the Arctic. They will color the animals and cut them out. Then they will glue them on their maps in the Arctic region. Ask them again where that will be on their maps. Point to non-examples and ask them if I should glue my animals in those places. Then model gluing the animals in the correct place. Ask if they have any questions.

Tell the students that while they are working on that I will pull them one at a time to come to the back of the room to do a quick experiment. Ask them what an experiment is, and discuss. If they finish early they will show me their work and then they may read books about the Arctic, play the Arctic animal memory game, work on their polar animal cards for their lap books, or do a handwriting page.

For the blubber experiment, call a few students back at a time and show them the “Blubber Experiment” sheet. Tell them to think about what they think will happen. That’s called “making a prediction.” Polar bears have blubber, which is a type of fat, under their skin. We’re going to put our hand in a glove. Then we’ll put shortening, a type of fat, on one finger of the glove. Then we’re going to put our fingers in some ice water. Write down how you think your fat-covered finger will feel in the ice water. Now put your gloved fingers in the ice water for five seconds. How did your fingers feel without the fat? Write that down on your sheet. How did the one with the fat feel? Write that down. Those are called your “results”. Now answer the question at the bottom: Write in a complete sentence what you learned about blubber. When you write down what you learned from an experiment it is called your “conclusion.”

**Conclusion:** After the students have all finished the map and experiment, have them go back to their seats and discuss what they learned from the experiment. Let them talk about what they noticed with the glove and how that applies to Arctic animals.

**Adaptations/accommodations**

There are no English Language learners in this class. “JA”, “EV”, and “AS” may finish early and need to have something to do while the others finish. They can work on their animal fact cards, read books, or play the memory game. “EL” may need to be reminded to stay on task. “KE”, “MP” “OL” “DA”, and “JU” may need help reading their blubber sheet and putting their animals in the correct places.

**Assessment**

To evaluate students’ beginning level of understanding we will begin the lesson by reviewing
what they learned about where the Arctic region and the North Pole are located on the map. Asking them what they think the weather is like there will give me an idea of what they already know about that. Having them do the quiz after the video will give a formative evaluation. Having them show me where they will put their animals on their maps will be a formative assessment. After they’ve put them on their maps I will be able to see if they understand where the Arctic region is located. Their finished blubber experiment sheet will show me if they understand how to do a scientific investigation with a prediction, an investigation, showing results, and making a conclusion. They will have recorded science observations. They have communicated and justified how the physical characteristics of living things help them meet their basic needs.

Lesson 2 Materials
<table>
<thead>
<tr>
<th>blue whale</th>
<th>Arctic tern</th>
<th>fur seal</th>
<th>ringed seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>snowy owl</td>
<td>Arctic wolf</td>
<td>humpback whale</td>
<td>wolverine</td>
</tr>
<tr>
<td>caribou</td>
<td>ermine</td>
<td>ribbon seal</td>
<td>narwhal</td>
</tr>
<tr>
<td>Arctic fox</td>
<td>musk ox</td>
<td>Walrus</td>
<td>puffin</td>
</tr>
</tbody>
</table>
# Blubber Experiment

**Scientist's Name:**

## Scientific Method

<table>
<thead>
<tr>
<th>Step</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ask a Question</strong></td>
<td>Will my hand be cold or warm in the blubber?</td>
</tr>
<tr>
<td><strong>Make a Prediction</strong></td>
<td>I think my hand will feel _________ in the blubber glove.</td>
</tr>
<tr>
<td><strong>Make a Plan and Follow it</strong></td>
<td>1. Put your hand in the ice water without blubber.</td>
</tr>
<tr>
<td></td>
<td>2. Stick your hand in the water for 5 seconds.</td>
</tr>
<tr>
<td></td>
<td>3. Do the same with the “blubber glove”.</td>
</tr>
<tr>
<td></td>
<td>4. Observe. How did your hand feel?</td>
</tr>
<tr>
<td><strong>Record the Results</strong></td>
<td>How did your hand feel <strong>without</strong> the blubber?</td>
</tr>
<tr>
<td></td>
<td>How did your hand feel <strong>with</strong> the blubber?</td>
</tr>
<tr>
<td><strong>Draw a conclusion</strong></td>
<td>Write in a complete sentence what you learned about blubber.</td>
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</tbody>
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Lesson Plan 3

Lesson Title: Locating Antarctica and recognizing Antarctic Animals

Subject and grade level: 2nd Grade Science

Approximate time: 1 hour

Rationale for methods:

I always like to begin my lessons by activating prior knowledge. I do this by reviewing what the students have learned in previous grades and in previous lessons. That helps them remember what they’ve learned so they have a foundation to build upon. It also helps me to know what they’ve already mastered. I use formative assessments as we go along through the lesson so that I make sure they are getting it. I’m modeling what to do, and gradually releasing responsibility to the students to work on their own as we do both the map and the penguin graph sheet. I’m using multiple methods of teaching in the lesson, so that all students may be successful. The students are playing games, coloring, reading, and completing a worksheet.

Content standards:

2nd Grade Social Studies Standard 3: Geography: Students will use geographic tools and skills to locate and describe places on earth.

Objective 2: Demonstrate geographic skills on a map and a globe.

   d. Locate and label the following on a map or a globe: the seven continents, the five oceans, the poles, and the equator.

2nd Grade Science Standard 4: Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.

Objective 2: Identify basic needs of living things (plants and animals) and their abilities to meet their needs.

   a. Communicate and justify how the physical characteristics of living things help them meet their basic needs.

2nd Grade Mathematics: Strand: Measurement and Data (2.MD): Standard 2.MD.10: Draw a picture graph and a bar graph (with single unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and comparison problems using information presented in a bar graph.

Academic language/vocabulary objectives:

The students will conduct an experiment, make a prediction, write their results, and draw a conclusion.
Antarctica, chinstrap penguin, emperor penguin, crabeater seal, orca, killer whale, elephant seal, bar graph

**Required materials, resources, and technology:**

World map

Student maps from previous lessons

Book—Discover the Continents: Antarctica, by Emily Rose Oachs

**For Student maps**

Overhead projector

Antarctic animals to color, cut, and paste

Crayons

Scissors

Glue

Penguin Graph

Pencils

Stations

Antarctic animal cards for concentration game

Books about the Antarctic

**Lesson Objectives**

- Students will locate the South Pole and Antarctic region on a map. (Social Studies Standard 3, objective 2d)
- Students will be able to communicate and justify how the physical characteristics of living things help them meet their basic needs. (Science Standard 4, objective 2a)
- Solve simple put-together, take-apart, and comparison problems using information presented in a bar graph. (Mathematics Standard 2.MD.10)

**Instructional Procedures**

**Introduction**

Pass out the maps the students have been creating this week. Briefly discuss and review what they’ve put on their maps so far. Tell them that today we will be investigating the continent called “Antarctica.” Ask if anyone remembers where that is found on the map. Ask if they
remember which direction it is on the map (south). Read pages 4-15 of the book “Discover the Continents: Antarctica,” by Emily Rose Oachs, Discuss the animals that are found there (pages 14-15). We will be putting some of the animal mentioned on our world maps today.

Pass out the Antarctic animal coloring sheets and go over the names of the animals. Ask students how they think these animals keep warm in the cold Antarctic weather. Tell the students that they will again color the animals and cut them out. Then they will glue them on their maps, this time on the Antarctic continent. Ask them again where that will be on their maps. Point to non-examples and ask them if I should glue my animals in those places. Then model gluing the animals in the correct place. Ask if they have any questions. I will come around and visit with them as they work. If they finish early they will show me their work and then they may read books about the Antarctic, or play the Antarctic animal memory game. Show them where those are located.

After about twenty minutes give the students five minutes to finish up what they’re working on. When the five minutes are up have them clean up and go back to their seats. We will then move on to our penguin graphing sheet.

Pass out the “Sizing up Penguins” graph. Use the overhead projector to go over the paper with them. Have them look at the graph and ask them what they think the purpose of a graph is. What does it show us? Do a few questions with them to model what they need to do, and show them how to use the graph. Ask them if they have any questions. Then tell them to go ahead and work on the rest of the graph on their own. I will walk around and offer support as needed while they’re working. Early finishers may look at books, play the memory games, work on their polar animal cards for their lap books, or do a handwriting page.

**Adaptations/accommodations**

There are no English Language learners in this class. “JA”, “EV”, and “AS” may finish early and need to have something to do while the others finish. They can work on their animal fact cards, read books, or play the memory game. “EL” may need to be reminded to stay on task. “KE”, “MP” “OL” “DA”, and “JU” may need help reading their penguin graph sheet and putting their animals in the correct places on their world maps.

**Assessment**

I will measure students’ beginning level of understanding by reviewing what we’ve learned so far in this unit. We will review where north and south are on the map. We will review where Antarctica is. I will walk around and observe the students as they work, and see if they are placing their animals on the correct place on the map, as a formative assessment. I will ask them if they have questions as we go along in the lesson, and clarify if necessary. When their maps are completed I will be able to see if they have located Antarctica correctly. Asking them for ideas on how Antarctic animals survive in the cold will help me assess their understanding of that objective.

Asking the students if they know what graphs are for will help me preassess the students’
understanding of graphs. After I have modeled what to do I will have the class do some problems together as a formative assessment. Visiting with them as they work will also be a means to complete a formative assessment. The summative assessment will happen when I correct their penguin graph papers

Lesson Plan 3 Materials
Answer the questions.
Use the graph.

1. Which kind of penguin is 40 inches tall?__________________________

2. Which two kinds of penguins are taller than the chinstrap penguin?__________________________

3. How tall is the rockhopper penguin?__________________________

4. Which kind of penguin is about the same size as the rockhopper penguin?__________________________

5. Which kind of penguin is just over one foot tall?__________________________

6. How many inches taller is the emperor penguin than the little blue penguin?__________________________

7. Which penguin is taller than the rockhopper penguin and shorter than the king penguin?__________________________

8. Do you think the emperor penguin weighs more than the chinstrap penguin? Why?__________________________
Lesson Plan 4

Lesson Title: Penguins’ Adaptations

Subject and grade level: 2nd Grade Science

Approximate time: 1 hour

Rationale for methods:
I’m activating prior knowledge by reviewing and asking what they know about penguins at the beginning of the lesson. That way I can see what they already know and what they need to learn. I’m using formative assessments as we go along through the lesson so that I make sure they are getting it. I’m using discovery learning by letting them see for themselves what happens in the experiment. I’m using a variety of approaches in the lesson. The students are playing games, coloring, reading, and conducting an experiment. The students are not just sitting and doing worksheets. They are moving around the room and doing a variety of activities.

Content standards:

2nd Grade Science Standard 1: The Processes of Science, the Communication of Science, and the Nature of Science. Students will be able to apply scientific processes, communicate scientific ideas effectively, and understand the nature of science.

Objective 1: Generating evidence: Using the process of scientific investigation (i.e. framing questions, designing investigations, collecting data, drawing conclusions)

c. Conducting investigations: Observe, investigate, manipulate, describe.

e. Drawing conclusions: Analyzing data, making conclusions connected to the data or the evidence gathered, identifying limitations or conclusions, identifying future questions to investigate.

2nd Grade Science Standard 4: Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.

Objective 2: Identify basic needs of living things (plants and animals) and their abilities to meet their needs.

a. Communicate and justify how the physical characteristics of living things help them meet their basic needs.

2nd Grade English Language Arts: Writing Standard 7: Participate in shared research and writing projects (e.g. read a number of books on a single topic to produce a report; record science observations).
Academic language/vocabulary objectives:
The students will conduct an experiment, make a prediction, write their results, and make a conclusion.

Adapt, Antarctica, aquatic

Required materials, resources, and technology:

Technology:

- BrainPop Video: “Penguins”
- BrainPop Quiz on Penguins
  This is a video about penguins, which we will be studying in this lesson. It will teach the students about how penguins adapt to their environment, and other facts about penguins. The quiz will help them remember what they’ve learned.

Individual student whiteboards and makers (for quiz)

For Penguin Oil Experiment

Penguin experiment sheet

Oil pastels

Spray bottles full of water

For Other Stations

Antarctic animal cards for concentration game

Books about the Antarctic

Penguin Books

Lesson Objectives

- Students will apply scientific processes, communicate scientific ideas effectively, and understand the nature of science, conduct investigations, draw conclusions. (2nd Grade Science Standard 1, objective 1c, e)
- Students will communicate and justify how the physical characteristics of living things help them meet their basic needs. (Science Standard 4, objective 2a)
- Students will record science observations. (2nd Grade English Language Arts: Writing Standard 7)
**Instructional Procedures**

**Introduction**

Write “adapt”, “Antarctica”, and “aquatic” on the board. Ask if anyone can tell us what each of these words mean. Tell the students that today we are going to learn more about an animal that lives in the Antarctic region--penguins. Ask them what they know about penguins. Tell them that we are going to watch a short video about penguins. Have them listen for ways that penguins adapt to the places where they live. Also have them listen for all the different places where penguins live. Later we will do an experiment to learn about something that helps them survive.

Show the video “Penguins.” Do the quiz together, having the students answer the questions on their whiteboards. Use the answer that the majority of the students give, and see if it works. If they are incorrect have them choose another answer. What ways did they notice that penguins survive? Where do penguins live besides Antarctica?

**Learning Activities**

After finishing the quiz pass out the penguin sheets for the students to color with the oil pastels. Tell the students that penguins have oil on their feathers. Coloring with oil pastels will help us learn why penguins have oil on their feathers. We need to make sure we’ve colored the entire penguin and left no white spots. Only color one penguin. Leave the other one blank so we can see what happens to a penguin that doesn’t have oil on its feathers. Ask them why they think the oil is there without telling them the answer. Tell the students that after they are finished coloring I will bring them to the back of the room, a few at a time, to do a quick experiment. Ask them if they remember what an experiment is, and discuss. Tell them that we will spray water on our penguins and see what happens. If they finish before it’s their turn they will show me their work. They may read books about the penguins, play the Antarctic animal memory game, work on their polar animal cards for their lap books, or do a handwriting page while waiting.

For the penguin experiment, call a few students back at a time and show them the “Penguin Experiment” sheet. Tell them to think about what will happen. That’s called “making a prediction.” Penguins have oil on their feathers, just like the ones they’ve colored. We’re going to spray both of our penguins with water. Do you think the colored penguin will get wet or not? Record that on your paper. Now spray water on your penguins. What happened to the colored one? What happened to the uncolored one? Write that down on your sheet. Those are called your “results”. Now answer the question at the bottom: Write in a complete sentence about what you learned about penguins, water, and oil. When you write down what you learned from an experiment it is called your “conclusion.”
Conclusion: After the students have all finished the experiment, have them go back to their seats and discuss what they learned from the experiment. Let them talk about what they noticed with the oil on the penguins, and how the oil helps them survive in their environment.

Adaptations/accommodations

There are no English Language learners in this class. “JA”, “EV”, and “AS” may finish early and need to have something to do while the others finish. They can work on their animal fact cards, read books, or play the memory game. “EL” may need to be reminded to stay on task. “KE”, “MP” “OL” “DA”, and “JU” may need help reading and completing their penguin experiment sheets.

Assessment

To evaluate students’ beginning level of understanding we will begin the lesson by reviewing what they learned about penguins. Asking them to watch for ways penguins adapt and then having them do the quiz after the video will give a formative evaluation. Asking them why penguins have oil on their feathers will preassess their understanding and help them with reasoning skills. Their finished penguin experiment sheet will show me if they understand how to do a scientific investigation with a prediction, an investigation, showing results, and making a conclusion. They will have recorded their science observations. They have communicated and justified how the physical characteristics of living things help them meet their basic needs.
Lesson 4 Materials
# Do Penguins Get Wet?

**Scientist's Name:**

## Scientific Method

<table>
<thead>
<tr>
<th>Ask a Question</th>
<th>Will my oil-covered penguin get wet?</th>
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| Make a Plan And Follow it | 1. Color one of the penguins with oil pastels.  
2. Spray water on the penguin to see if the pigeon gets wet.  
3. Spray water on the uncolored penguin to see if it gets wet. |
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| Record the Results | What happened to the colored penguin?  
What happened to the uncolored penguin? |
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<th>Draw a Conclusion</th>
<th>Write in a complete sentence what you learned about penguins and water.</th>
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Reflections and evaluations of lessons

Analyze student learning: Student 1

EL took a great deal of time working on this for lesson #1. He put much more detail in it than the other students, and was attempting to color each country (not continent) a different color. He started talking more than working, and didn’t seem motivated after coloring Europe/Asia. He was interested in the countries and was talking about them, and mentioned that his favorite “continent” was China. When I told him I wanted to take a picture of his work he got motivated and started coloring other pieces. He posed the picture for me, complete with the scissors. He didn’t finish the project that day. To modify the lesson, I might talk to him about the concepts more to meet the objectives, rather than expecting him to finish an art project.
For lesson 2, the blubber experiment, EL was excited when it was his turn to come to the back table and participate in the experiment. We were getting short on time, so I had 2 tables worth of students doing it at once. Everyone made their predictions and put their gloved hands (with one finger covered in shortening) in the bowl of ice water. Then they finished filling out their experiment sheet. When I got to EL he had lost his, and didn’t want to fill out another one. I asked him the questions and wrote down the answers for him. His answers weren’t what I expected. Instead of telling me his fingers were cold or warm, he described them as “okay” and “weird.” He reported that he learned “nothing” about blubber. I talked to Mrs. Walters about that and she told me that he says that sometimes when he already knew the answer before the lesson—hence, he learned “nothing.” To modify, I think I should make sure he is in a smaller group next time, and not so rushed so I can talk with him more.
For the map this day the students were supposed to add Arctic animals. EL did start coloring his seal, but still didn’t have anything glued onto his map by the end of the lesson. I talked to my mentor teacher about it because we had one more day where we would be adding Antarctic animals. She suggested that I ask him to cut and glue everything on first, then color.
Lesson 3 had a math component. Students were supposed to answer questions about penguins by using this graph. We worked together on it as a class. EL was quite engaged in this project and did well. He had some different ways of doing things, as we can see from the paper. We discussed different ways of finding the answers. He thought that counting up by fives would be a good way to answer question #6. I had him demonstrate that for us on the overhead. The problem he had was that he started counting from five instead of zero. Other students demonstrated other ways, including counting from zero. He was not convinced that we should start counting from zero, even though the answer was shown to be incorrect from using other methods.
This is the final day of the map project. I suggested to EL that he cut out and glue everything on his map, and then color it. He agreed to that. He did that with his penguins, but didn’t get anything else done. He does understand maps, and the concepts we talked about. I visited with him, and he knows where north and south are, and the animals that live in each area. This type of project doesn’t really show what he knows.
EL worked hard on lesson 4. Although I told the students that it didn’t matter how they colored their penguins—as long as they were covered completely with oil, EL made the colors accurate and took his time, making sure it was covered with oil for the experiment.
EL completed his scientific method paper. He made his prediction. His results part was interesting. He said the penguin covered with oil “lived” and the uncolored penguin did not live. Although he didn’t put whether they got wet or not, I think he got the concept about real penguins, that the oil on their feathers helps them survive.
Analyze student learning: Student 2

AN worked hard on the project for lesson 1. She completed it accurately and in a timely manner. She looked at the model and used it to make her map. The amount of time allotted was just right for her. She seemed to enjoy it. I don’t think that instruction would need to be modified for her on this project.
On lesson 2 AN did great. She put her arctic animals in the correct places, finished on time and worked on her “blubber” experiment sheet. She didn’t write a complete sentence about blubber, though. She wrote that she learned that it was thick. She apparently didn’t understand that blubber helps keep animals warm. I should probably have taken more time to get that concept across, although most of the students did get it. I would also encourage her to write a complete sentence.
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</table>
| **Make a Plan and Follow it** | - Put your hand in the ice water without blubber.  
- Stick your hand in the water for 5 seconds.  
- Do the same with the “blubber glove”.  
- Observe. How did your hand feel? |
| **Record the Results** | How did your hand feel **without** the blubber?  
Cold  
How did your hand feel **with** the blubber?  
**Warm** |
| **Draw a conclusion** | Write in a complete sentence what you learned about blubber.  
**Think** |
AN did well on lesson 3 with her penguin graph. I’m not sure why she didn’t answer question #7. I should probably get back with her and ask her to make sure she understood. She did understand the math concepts and solved the problems. She completed her world map, and put the Antarctic animals in the correct place.
Here is AN’s colored and uncolored penguin for lesson 4’s experiment. She did a great job coloring so that the entire penguin had oil on it. She completed her scientific method paper, and made a prediction, but it looks like she was a little confused on the results. Her colored penguin stayed dry, but there was water that beaded up on it. I think that’s why she put that it was both wet and dry. Her conclusion states that penguins aren’t cold in the water, but I’m not sure she understands why.
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Analyze teaching effectiveness: Lesson 1

When planning this lesson I thought that it would take up a full hour of time, so I didn’t plan much for early finishers. I did plan to visit with each student as they were working.

Discuss the instructional decisions you made before or during instruction, due to time constraints, students’ needs, other alterations:

- What did you do differently than what you originally planned? Why?
  I had to come up with things for early finishers to do because we ended up having more than one hour, and some students finished earlier than an hour anyway.

- What worked?
  The students loved the painting, singing, and most were engaged in the discussion. They learned the objectives of the lesson.

- What didn’t work?
  A couple of students didn’t finish. Some were wandering when they did finish. Why do you think it didn’t work?
  Maybe the instructions weren’t clear. Maybe the students didn’t enjoy that particular type of project. The wandering was likely because I didn’t instruct the students on what to do if they finished early.

- How would you modify the unit based on the focus students’ performance?
  EL probably needs to have the tasks modified. He likes to draw, and it may have been better to have him draw his map rather than color and cut it out. Having more one-on-one discussion with him would have helped. AN, and most of the other students did great, and wouldn’t need to have it modified.

- In what other ways would you modify the unit in the future? Why? What would you do differently in the future?
  I would try to get around and visit more with students like EL who weren’t completing the task. That way I could make sure they were understanding the concepts. I would I would make sure to have a list of things for early finishers to do, no matter how sure I am that nobody will finish early. I would do this because quite a few students finished and began wandering and asking me what they should do next. I would try to be better prepared.

Analyze teaching effectiveness: Lesson 2

When planning this lesson I planned to have a full hour to complete it. We ended up having a field trip right before it, and had 45 minutes for the lesson.

- What did you do differently than what you originally planned? Why?
  We spent more time on the discussion at the beginning of the lesson because the
students were quite engaged in it. They wanted to take both quizzes at the end of
the video because they did so well with the first one. We ended up with less time
than planned for the experiment, and had to rush a little to finish up with the last
group.
• What worked?
The video and quiz worked great. The experiment was good too, but it would
have been better if we’d had a little more time for it. I had a list of things for early
finishers to do, so everyone stayed on task.
• What didn’t work? Why do you think it didn’t work?
Being rushed with the last group didn’t work because we had some students who
needed more individual attention.
• How would you modify the unit based on the focus students’ performance?
AN, as well as most of the class, did great. It doesn’t need to be modified for her.
EL needed more time and individual attention, so I would make sure he is in a
smaller group for the experiment.
• In what other ways would you modify the unit in the future? Why? What would
you do differently in the future?
I would allow more time in order for the experiment not to be rushed, and for
students who need more help to be able to get it. I would also take time at the end
to wrap up the lesson and discuss what the students learned about blubber. Then
they could compare their results with each other and think about it more.

Analyze teaching effectiveness: Lesson 3

When planning this lesson I had one hour set aside for it. I had two separate
activities planned because I didn’t think either one would take up much time. I did have a
list of things that early finishers could do in case anyone needed it.
• What did you do differently than what you originally planned? Why?
We did the entire penguin graph activity together. I did that because I noticed that
the questions got harder as we went along. We discussed the questions together
and students came up to the board to show how they thought the problems could
be solved.
• What worked?
I did have some early finishers on the map activity. It worked well to have a list
on the board of things that they could do. That prevented chaos.
• What didn’t work? Why do you think it didn’t work?
We weren’t able to resolve a difference of opinion about how to solve one of the
problems on the penguin graph. It kind of threw me off. Maybe I should have
allowed more time for that part of the discussion and thought about what if's.
• How would you modify the unit based on the focus students’ performance?
  I needed to allow more time to discuss the graph and help the focus students understand it better. EL would have benefitted from more one-on-one time to discuss his map.

• In what other ways would you modify the unit in the future? Why? What would you do differently in the future?
  I might not do the map over three days’ time. Most of the students seemed interested still, but I think a few of them, including EL, were getting tired of it. Maybe I could come up with an alternative activity for those who don’t enjoy cutting and pasting.

Analyse teaching effectiveness: Lesson 4

When planning this lesson I again had 1 hour to fill. I planned to have the class watch a video and do a quiz after to begin. Then we would do the experiment for the second part of the time. I did have a list of tasks for early finishers.

• What did you do differently than what you originally planned? Why?
  Most of the students finished coloring their penguins quickly, so I immediately had them come to the back table to have them sprayed with water. That kept me busy for most of the rest of the time.

• What worked?
  The students loved the BrainPop video and quiz on penguins. They really paid attention and did great on the quiz. The students enjoyed the experiment and most of them understood the concept that oil on feathers keeps penguins dry and healthy in their wet habitat. They learned to make predictions, record results, and draw conclusions. We had a class discussion to wrap up the lesson, with the students comparing their results and conclusions.

• What didn’t work? Why do you think it didn’t work?
  The students finished coloring faster than I had anticipated, so I failed to write on the board what early finishers could do. I should have written it before they started.

• How would you modify the unit based on the focus students’ performance?
  I think I would have spent more time talking with my focus students about why they answered the questions the way they did, in order to make sure they understood. They both seemed to enjoy this lesson, and I think they understood, but I felt I may not have spent enough time on it.

• In what other ways would you modify the unit in the future? Why? What would you do differently in the future?
  I think I would allow more time for class discussion. It felt a bit rushed. I would like to make sure my students have a deeper understanding of what we’re learning. I also might incorporate more choices for different learning styles.