

Objectives (Letter People & Common Core)

Students will be able to...

- Ask questions and show interest in natural world. (LP: S, SAI)
- Use the five senses to observe, and discuss observations. (LP: S, SAI)
- Conduct safe, simple investigations to test observations/draw conclusions/form generalizations. (LP: S, SAI)
- Describe/discuss predictions, explanations, and generalizations. (LP: S, SAI)
- Recognize the relationship of organisms to their environments. (LP: S, LS)
- ❖ Use senses to gather, explore, and interpret information. {CC.S.1ST.a}
- ❖ Use a variety of tools and materials to test predictions through active experimentation. {CC.S.2ST.b}
- ❖ Identify cause and effect relationships. {CC.S.3ST.b}
- ❖ Verify predictions by explaining “how” and “why.” {CC.S.3ST.c}
- ❖ Make age appropriate, logical conclusions about investigations. {CC.S.3ST.d}
- ❖ Observe, record, and explain how plants and animals respond to changes in the environment and changes in seasons. {CC.S.5LT.h}

Materials

- ✓ Sandwich Bags (2 per student; 10–12 total – bags can be reused)
- ✓ Shortening/Crisco
- ✓ Spoon
- ✓ Bucket of Ice and Water
- ✓ Art Shirts
- ✓ Walrus Pictures (*materials are below*)

To make a blubber glove:

1. Fill a gallon sized Ziploc bag with shortening/Crisco. Be sure to coat the bottom and both sides of the bag to about an 1 ½ from the top.
2. Nestle a second Ziploc bag down into the first. A pocket is created.
3. At the top, seal off the opening where the two bags meet on either side with duct tape.
4. Make enough bags so that each student at the center group can have one.



***Please test this experiment out *before* center time. This will give you time to make adjustments to the experiment to ensure it works properly during centers.**

Anticipatory Set

1. Show students the pictures of the walruses and ask them to identify the animal. Have the group repeat the word “*walrus*” to the best of their abilities.
2. Ask the students:
 - a. **Is it cold or warm where the walruses live? How can you tell?** (There is snow in the pictures.)
 - b. **How do you stay warm when it is cold outside during the winter?**
 - i. Have students share their answers. (They wear jackets, boots, gloves, hats, scarves, layers of heavy clothing, etc.)
 - c. **How do you think these walruses keep warm? Do walruses wear jackets, hats, and gloves to stay warm?**
3. Explain to the students that walruses have a thick layer of blubber (fat) under their skin. The blubber keeps them warm.
 - a. Optional: Use body language to convey *cold* and *warm*.
4. Have students identify other animals that live in the in the cold areas, such as the Arctic.
 - a. Polar Bears, caribou, seals, whales, wolves, etc.
 - i. Explain that polar bears, seals, and whales all have blubber (fat) to keep them warm. Penguins also have blubber (fat), but do not live in the Arctic.
 - ii. Walruses, polar bears, seals, whales, and penguins not only live in cold, snow *habitats*, they also swim in the cold waters in order to find food.
5. Help students to understand the cause-and-effect relationship between insulation (blubber) and body temperature.

Activity


1. Tell students that they are going to do a science experiment.
2. Have students put on their art shirts. (Note: Students should not get wet during this experiment; but this is a precaution.)
3. Place the bucket of ice and water on the table.
4. Ask students to make a prediction about how the icy water will feel if they place their fingers in it. Have students share their predictions.
 - a. Have students place a few fingers in the ice water. Ask them to describe how the water feels. Did they predict that the icy water would feel cold?
5. Ask: **How do you think we can make your hand stay warm when we place it back in the icy water?** Have students brainstorm some ideas. Remind them that walruses, whales, polar bears, etc. use blubber to stay warm.
 - a. If a student says, “we can use blubber to keep our hands warm,” praise them. If students do not come to this conclusion, explain that they are going to use “blubber” to keep their hand warm in the icy water, just like animals use blubber to keep their bodies warm.
6. Introduce the “blubber glove.” Explain that you have used Crisco/shortening, which is fat, inside of the glove.
7. Ask students to make a prediction about how the icy water will feel if they place their hand, in the blubber glove, in the water.

- a. Have students share their predictions. Do they think the blubber will keep their hand warm?
8. Have students take turns placing their hand in the “blubber glove.” If you have made enough gloves, give each student a glove and have them place their hand inside.
9. Have students place their hand, in the glove, in the water.
 - a. Ask them to describe how the water feels. Did they predict that the icy water would feel warm inside the blubber glove?
 - b. Optional: Teachers can have students place one hand in the blubber glove and the other hand in the icy water at the same time. Have them compare the sensation of sticking one hand directly in the icy water and using the blubber glove to protect their other hand.
10. After students have each had a turn, discuss the results of the experiment. Ask:
 - a. **Which hand was colder? Why?**
 - b. **What did the shortening (“blubber”) help to do when you put your hand in the icy water?**
 - i. Remind students that the shortening is like the blubber that keeps walruses and other animals (whales, penguins, polar bears) warm.



Differentiation

- Higher:
 - When making predictions, students will use complete sentences. Students will be encouraged to describe their thinking as they make their predictions. Encourage students to use the vocabulary word “*blubber*” in conversations about the experiment.
- Lower:
 - When making predictions, encourage students to use complete sentences. Students can say short phrases such as “*warm*” or “*cold*” to make their predictions. Some students can say “*yes*” or “*no*” to make their predictions. The teacher will need to ask yes/no type questions. For example: **Do you think your hand will get cold in the icy water?**

 little Lukes Preschool and Childcare Center	Title – How Do Walruses Keep Warm?
	Theme – Animals – Ms. P

Possible Modifications

- ❖ If placing their hand or fingers in the icy water is not tolerated, the teacher can place their hands/fingers in the icy water. Have the student feel your hands/fingers. This will still give them the sensation that the water is cold without having to touch the water directly.

Assessment

- Informal observation of where each student is in his or her development of listening skills.
- Informal observation of students' ability to participate in and/or listen to conversations about the experiment.
- Informal observation of students' ability to make predictions about the experiment.
- Informal observation of students' understanding of cause and effect relationships.
- Informal observation of students' ability to test their predictions through active experimentation.
- Informal observation of students' ability to follow directions to conduct an experiment.
- Informal observation of students' ability to use their sense of touch to describe how the water felt.
- Informal observation of students' recognition of the relationship of animals to their environment.

WALRUS

