**Keeping Warm in the Freezing Cold**

**Blubber Activity**

Context: animal adaptations

Grade level(s): K - 2

Science Concept: Penguins, whales, and other animals that live in very cold climates are adapted to their habitat by the presence of a layer of blubber beneath their skin. This layer of blubber acts as an insulator to protect them from the freezing temperatures of the air and water.

Materials: per group of 2 (prepare the gloves ahead of time)

 Shortening

 One pair of rubber gloves

 One latex surgical glove

Squeeze shortening into each finger of the rubber glove. Put on the latex glove and slip into the shortening-filled rubber glove. Add more shortening until the entire hand is insulated with “blubber”.

 Ice water in bucket deep enough to immerse hand

 Stopwatch or watch with second hand/digital watch with seconds

 Penguin Pete, or Tacky the Penguin, or The Little Penguin

Procedures:

Focus

1. Discuss what the child already know about penguins/whales.
2. Read the book.
3. Discuss what you read and compare it to what the children already knows.
4. How do you think penguins/whales stay warm in the very cold temperature?

Explore

1. Chilk will insert his/her hand into the single rubber glove and then into the cold water. Remove hand when temperature becomes too uncomfortable. Record the amount of time the hand was held in the water.
2. Repeat with the insulated glove.

Reflect:

Questions:

1. How did your hand feel in the cold water with the single glove?
2. How did you hand feel in the cold water with the glove with shortening?

Apply:

1. Why did your hand feel different with a different glove?
2. Do penguins and whales wear shortening?
3. What do they have that is similar to shortening?
4. How does this protect the penguins/whales?
5. What other animals have this (blubber or fat) to protect them from cold temperatures/water?
6. What questions do you now have?
7. How can we answer these questions?