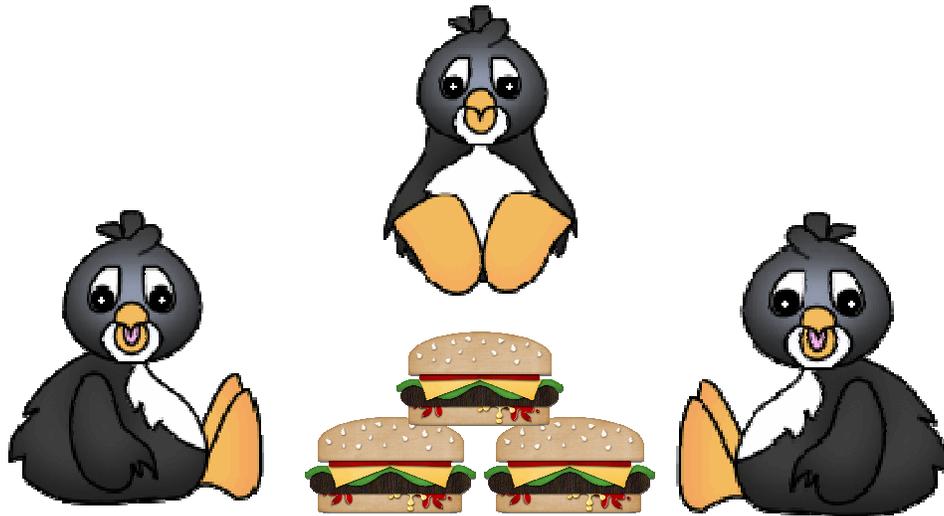


What do Penguins do?



By Penny Waddingham

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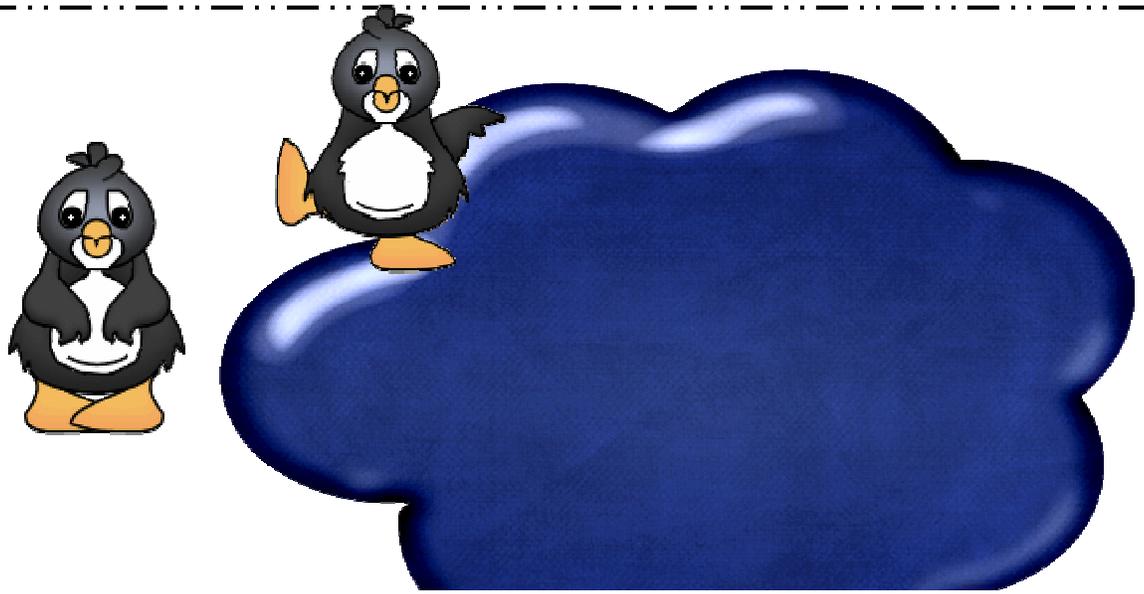
Do penguins eat hamburgers?



No, penguins eat fish.



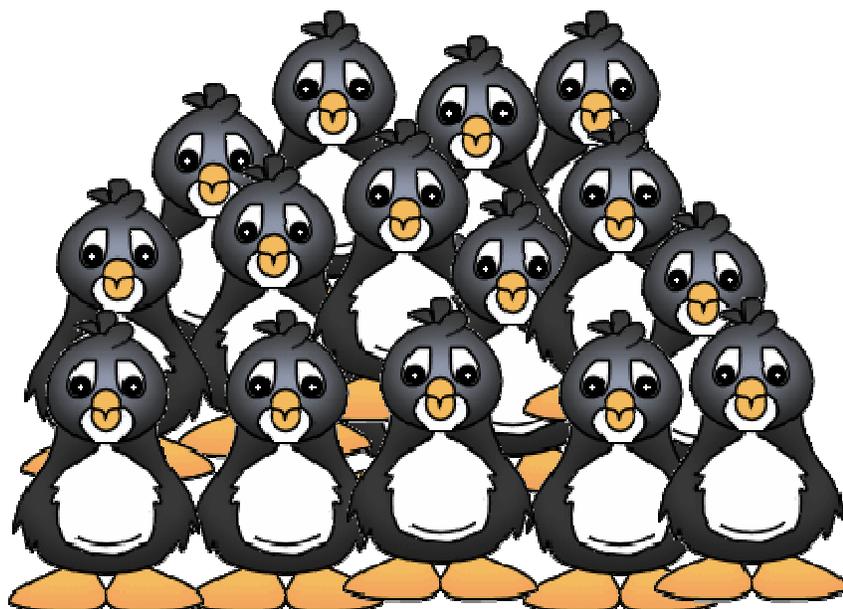
Do penguins use diving boards?



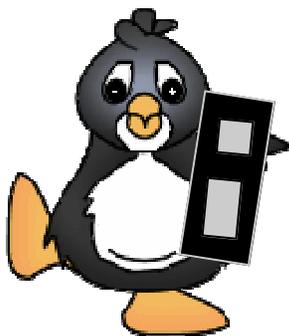
No, penguins slide into the  
deep ocean  
water on their bellies.



Do penguins wear clothes to  
stay warm?



No, penguins huddle together  
to stay warm.



Do penguins use cell phones  
to find their parents?



No, baby penguins sing special songs to help their parents find them.

What do you know about penguins?

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# Science Fun

How do penguins stay warm?



Here is an experiment to help your students understand how the different layers protect the penguin.

For the first part of the experiment, have your students place petroleum jelly on the outside of one of their hands. Next, have the students place their hands in a container of water. Have the students observe what happens when they removed both hands. What is happening to the water on the hand with the petroleum jelly?

Students may record their observations on the data recording sheet.

This experiment shows how the oil on the stiff outer feathers acts as a barrier, protecting the soft feathers and keeping them dry.

# Science Fun—Part 2

## How do penguins stay warm?

The second part of our experiment will help us understand how the blubber layer keeps the penguin warm. To do this we will be making a blubber glove.



### Materials

2-Gallon size Ziploc bags

Some duct tape.

1- Large container of vegetable shortening or lard.

1-container of ice water

Create your blubber glove by opening up one of the Ziploc bags and placing the closed one inside it. Next, use the vegetable shortening/lard to fill the pocket created between the closed bag and the outer bag. When you have the entire pocket filled, open the inner baggie. The inner bag is going to be the pocket where you place your hand. To secure everything, tape the top of the outer bag to the inner bag. Remember, you are creating a glove to put your hand in. Do not tape the inner bag shut.

One at a time have the students come up to table. Have the student place one hand in the blubber glove. Next, have the student place both hands in the ice water. Ask them which hand feels warmer?

Have the students record their observations on the data recording sheet.

# How do penguins stay warm- Experiment



3- Layers of protection

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Color the hand that you coated with the petroleum jelly.

Observations after the experiment.

How did your hand feel with the petroleum jelly on it?

\_\_\_\_\_



Which hand felt warmer?

Circle answer

Glove or No glove

Why? \_\_\_\_\_

\_\_\_\_\_

# Science and Physical Education

Another way that penguins stay warm is by huddling together. The penguins huddle in large groups. The center of the huddle is the warmest. When the penguins in the center get too hot, they move to the outer layers.

For this activity, you will want to go outside, preferably on a cold day. Have the students number off into small groups of 3 students each. Have the first group be the center of the huddle and one at a time, have each of the other groups join the huddle.

Talk about how we are creating layers of protection for the center group and how we are trapping the heat inside the huddle. Then have the first group move to the outside of the huddle and the second group move into the center. Close the huddle back up. Repeat until all of the groups have had a chance being in the center and the outside of the huddle.

\*\*\* To incorporate physical movement change this activity into a game. Have each group of 3, stay together and run around until you holler "huddle". You then, point to the group that is the center and huddle around them. After a minute or so, say "break" and have the huddle break up and run around again. Repeat this game until each group has had a chance to be the center.