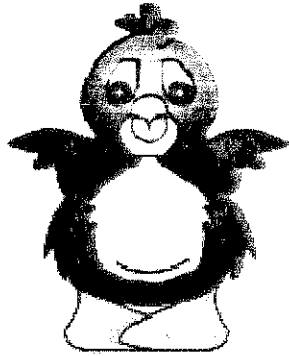


# Science Fun

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

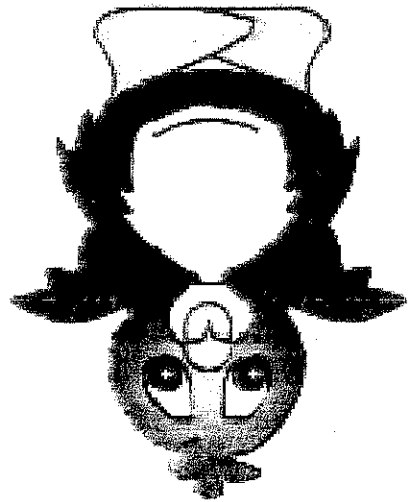
Create your blubber glove by opening up one of the Ziploc bags and placing the closed one inside it. Next, use the vegetable shortening/lard to fill the pocket created between the closed bag and the outer bag. When you have the entire pocket filled, open the inner baggie. The inner bag is going to be 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.

Wears 1 and 2 recording sheet

# How do penguins stay warm - Experiment



3 - Layers of protection

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

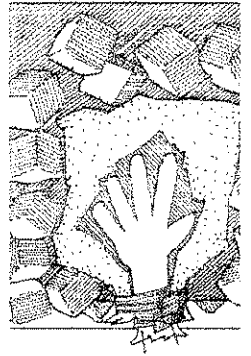
Observations after the experiment.

Color the hand that you coated with the petroleum jelly.

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

Which hand felt warmer?  
 Circle answer  
 Glove or No glove

Why?



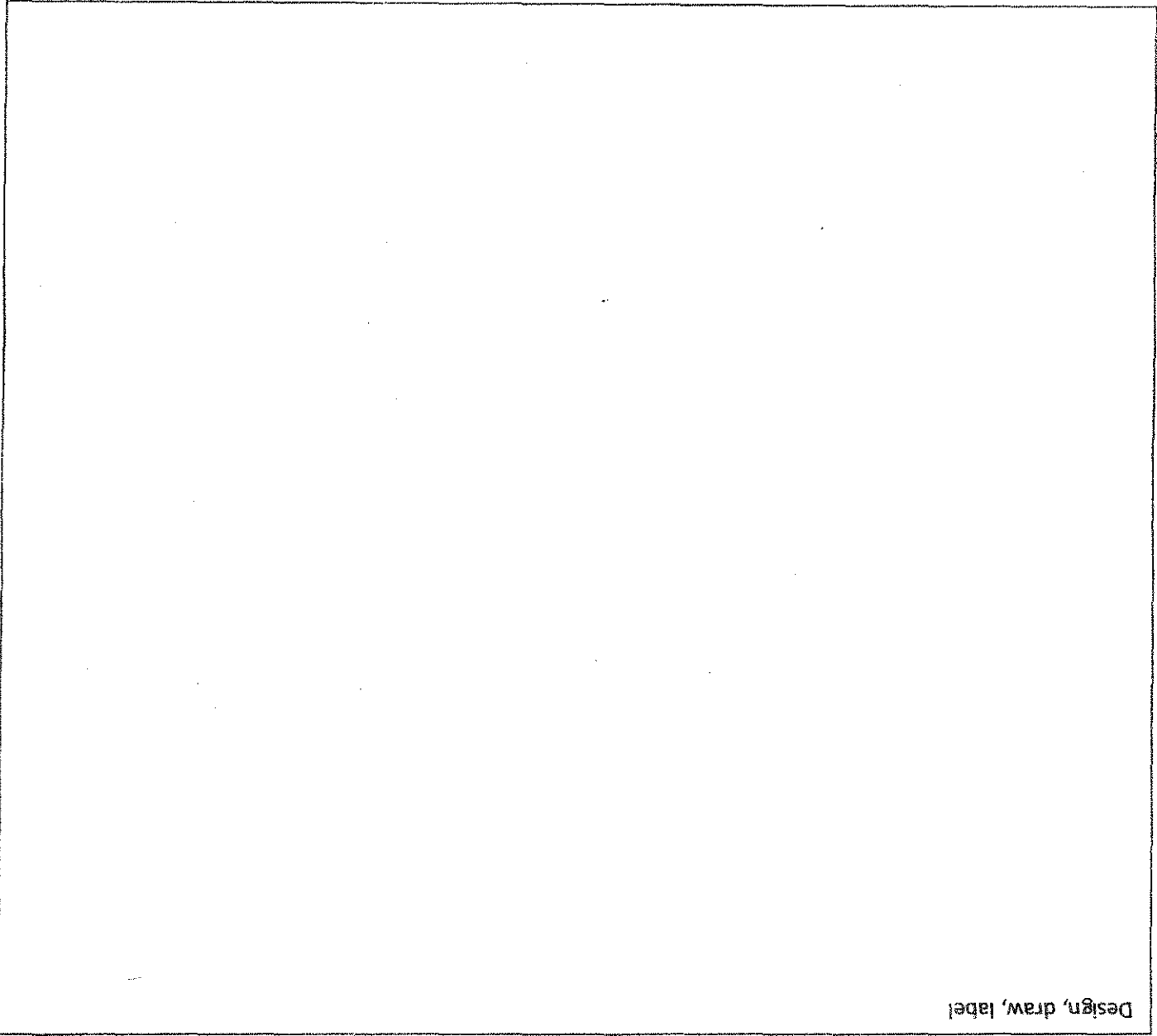


Name:

Designing your  
penguin habitat

Choose 5 materials you will use: 1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_

Design, draw, label



When building my insulator I first \_\_\_\_\_

\_\_\_\_\_. Next I

chose to add \_\_\_\_\_ because I thought it

would \_\_\_\_\_ . Then I added

\_\_\_\_\_ and my

insulator \_\_\_\_\_ . Finally,

My insulator was the shape of \_\_\_\_\_ .

My group did/didn't work well together. We think our

insulator was \_\_\_\_\_ .

One improvement we could make is \_\_\_\_\_

We learned that an insulator is \_\_\_\_\_



