7.1 POLAR SURVIVAL

What Should We Eat in Antarctica?

Activity Time: 20 minutes

Background

Because life is so cold and harsh in Antarctica, it is very important to not only dress warm, but eat correctly. Maintaining a diet rich in fat while balancing the intake of protein and carbohydrates is imperative in order to sustain energy. This lesson is designed to help students identify which foods are rich in fat and which ones are not.

Directions

1. Divide the class into groups of 5 students.
2. Display the 5 food items.
3. Discuss with the class the similarities and differences of the food displayed.
4. Explain that animals need fat in their diet to stay warm.
5. Show pictures of polar animals that survive due to their fat. (See Example 7.1)
6. Ask what fat would look like if rubbed on a piece of paper.
7. Have each student write a prediction for which food will contain the most fat.

Activity

1. Rub food on the matching box.
2. Trade food and repeat.
3. Ask students to hold each paper up to a window or the lights on the ceiling. (If there is a grease [translucent] spot, the food they tested is made out of fat.)
4. Which food rubbings show fat marks on the paper?

Discussion

1. Why is fat important for polar researchers? (It provides energy, absorbs certain nutrients and keeps your core body temperature warm.)
2. Should we still eat the carrot and potato? (Yes, it is important to eat healthy foods like carbohydrates and proteins.)
3. Why is balance in your diet important? (Balance in your diet is important because it will ensure you will get all the nutrients your body needs.)
4. What foods would be good to take to Antarctica? (Be sure to pack fatty foods such as chocolate, cheese, nuts, and buttery foods before your Antarctic expedition.)

Assessment

• Complete “Food Lesson Assessment” worksheet.

Extension

• Use “Why Do Animals Have Blubber?” bookmark experiment.

Materials

• Images of polar bears, penguins, seals, whales
• Worksheet (See Activity 7.1)
• Food
• Cheese
• Butter
• Chocolate
• Carrot
• Potato
• Pencil
• Notebook paper

Vocabulary

Fat: A natural oily or greasy substance occurring in animal bodies.

Energy: Power created from using physical or chemical resources

Proteins: The plant or animal tissue rich in essential nutrients for the body.

Carbohydrates: Food such as bread, rice, and potatoes that provide your body with heat and energy.

Diet: The kinds of foods that a person, animal, or community usually eats.

ALIGNMENT TO NGSS:

Scientific and Engineering Practices:
• Analyzing and Interpreting Data
• Asking Questions and Defining Problems
• Obtaining, Evaluating, And Communicating Information
• Planning and Carrying Out Investigations

Crosscutting Concepts:
• Patterns
• Cause and Effect
• Energy and Matter

Disciplinary Core Ideas:
• K – 2: K-LST-1.0, 2- PSI-1.A