

3.4 Fly Like an Eagle

Exhibit Title: Skiing the Sky

Core Connection

Fourth Grade Language Arts Standard 6: Vocabulary - Students learn and use grade level vocabulary to increase understanding and read fluently.

Fourth Grade Language Arts Standard 7: Comprehension - Students understand, interpret, and analyze narrative and informational grade level text.

Summary: Students will demonstrate their understanding of the scientific principles of ski jumping and label a diagram of the various parts of a ski jump.

Lesson Learning Objectives:

1. Students gain an understanding of the scientific principles involved in the sport of ski jumping.
2. Students learn new vocabulary words by reading informational text.
3. Students will label diagrams of the various parts of a ski jump.

Materials: copy of "Secret #1: How Does Science Help Ski Jumpers?" for each student lesson worksheets

Time Approximate: 45 minutes

Instructions:

1. As a class, read and discuss the information in "Secret #1: How Does Science Help Ski Jumpers?" Introduce and explain new vocabulary words during reading.
2. Show the pictures of the two different skiing styles and discuss with class. Using the information from the pictures and the article, have students complete the "Fly Like an Eagle" and "Predictions" worksheets. Students may work in small groups.

When worksheets are completed, discuss results as a class.

Flying Like an Eagle: Then and Now



Alf Engen showing his world record ski jumping style, circa 1935. Ski jumpers of the past kept their skis together and used their arms for balance during the jump. They also flew much higher off the ground than do modern jumpers. Also, note the clothing Alf is wearing - sweater, cap, baggy pants - and compare that with the clothing worn by the modern-day jumper.



Today's ski jumpers use the "V" formation to get the most lift possible during their time in the air. They also follow the contour of the hill and are only about ten feet off the ground during their jump. This change in hill construction has allowed women to become ski jumpers because the landing is much softer than it was in the past. The aerodynamic suit allows the jumper to go farther in the air and the helmet provides safety in case of a fall. Ski jumping today is a much safer sport than it was when Alf Engen was jumping.

Fly Like an Eagle

Directions: Each picture illustrates the different phase of a ski jump. Define the terms below, then label each picture with the correct term. Practice these positions at home so that you can fly like the best.

In-Run _____

Take-of _____

Flight (V Formation) _____

Telemark Landing _____



1. _____



2. _____



3. _____



4. _____

Predictions

Directions: Using the list of materials below, choose which items would cause the least amount of friction and which would cause the most. Then, on the lines below, explain why you chose those materials.

Wood

Fiberglass

Steel

Aluminum

Rubber

Plexi-Glass

Cardboard

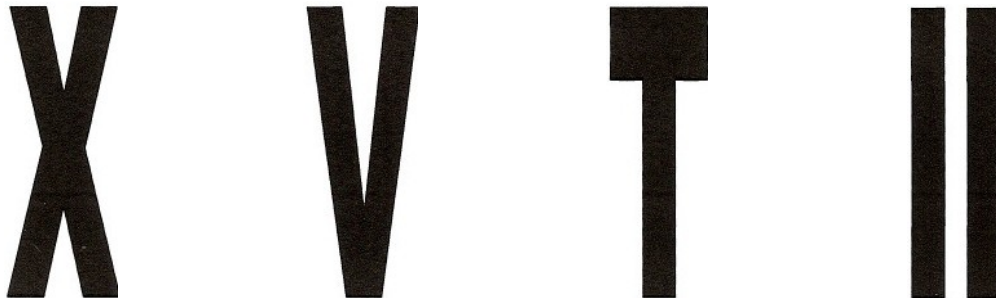
Leather

Causes least amount of friction

Causes most amount of friction

Explanation:

Which symbol represents the BEST way an athlete should position the skis while "flying"?



Why?
