Jump or Be Lunch!

OBJECTIVES

Students will predict how high they can jump and then compare the height of their jumps to how high a rockhopper penguin can jump out of the water. They will practice mathematical skills for determining averages.

MATERIALS

- measuring tape (inch and centimeter)
- chalk
- ***Jump or Be Lunch!*** funsheet on page 15
- pens or pencils

BACKGROUND

To avoid predators along the shore, penguins can jump up onto rocks and ice for safety. A 43-centimeter (17-inch) rockhopper penguin can jump 0.9 to 1.2 meters (3–4 feet) out of the water to escape predators—a jump nearly three times the penguin's height!

ACTION

1. For this activity you will use an outside wall of your classroom, handball wall, or another smooth outside wall.
2. Students work with partners and take turns. First, each student, holding a piece of chalk, stands facing the wall with his or her toes almost touching it. Keeping both heels on the ground, the student raises both hands overhead and marks with chalk the highest point he or she can reach. The student's partner records this number (in inches and centimeters) on the funsheet. Each student reaches three times, recording each reach.
3. Students predict how high they can jump. They record this number.
4. From a standing position, each student jumps and marks the wall with chalk. The partner records the measurement. Each student jumps three times, recording each jump.
5. Students calculate an average measured reach and an average measured jump. (Add together the numbers from the three trials and divide by 3.)
6. Students calculate how high they can jump (average jump height - average reach height = total jump). How do their jumps compare to their predictions?
7. Have students calculate how high they would have to jump to reach three times their height.

Adélie penguins can jump onto shore to escape marine predators.

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Student 1 name: _____

jump prediction: _____ in. _____ cm. _____

	measured reach		measured jump	
trial one	in.	cm.	in.	cm.
trial two	in.	cm.	in.	cm.
trial three	in.	cm.	in.	cm.
AVERAGE	in.	cm.	in.	cm.

actual jump height: _____ (average measured jump) — _____ (average measured reach) = _____

"rockhopper" jump potential: _____ (student's height) × **3** = _____

Student 2 name: _____

jump prediction: _____ in. _____ cm. _____

	measured reach		measured jump	
trial one	in.	cm.	in.	cm.
trial two	in.	cm.	in.	cm.
trial three	in.	cm.	in.	cm.
AVERAGE	in.	cm.	in.	cm.

actual jump height: _____ (average measured jump) — _____ (average measured reach) = _____

"rockhopper" jump potential: _____ (student's height) × **3** = _____