

Name _____

CHALLENGE Measure the Diplodocus Femur

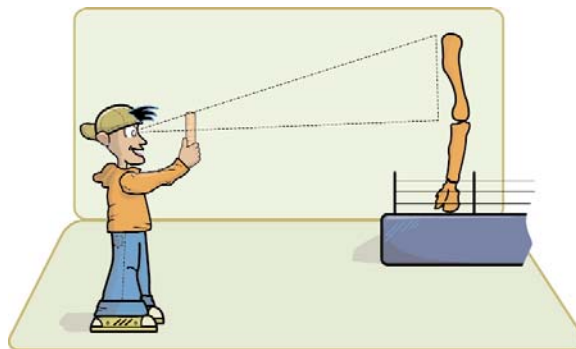
Kristi Curry Rogers, the paleontologist you met in the video, told you that an *Apatosaurus* was a long-necked dinosaur. A *Diplodocus* also is a long-necked dinosaur and the Science Museum has a whole skeleton of a *Diplodocus*. Let's measure its femur.

Use the map in the backpack to find where to stand. The map shows an X at that spot.

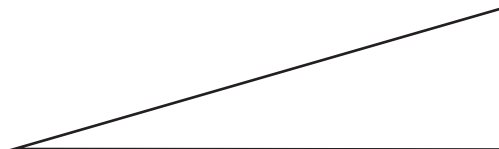
We cannot get up close to this femur because there is a fence, so we will have to find another way to measure it. Kristi has an idea using **similar triangles**:

First Guess how long the Diplodocus femur is: _____ cm

Next Stand where the X is shown on the map and look up at the Diplodocus femur. Hold up a ruler with your arm stretched out. Make the femur disappear with all or part of your ruler. Your eye and the ruler form a triangle. Your eye and the ends of the femur form another triangle. These triangles are **similar triangles**.



Measure



← Measure ruler length covering femur _____ cm
Hold out the ruler. Make the femur disappear with part of the ruler. Measure how much of the ruler you used to make the femur disappear.

↑
Measure arm length (ruler to eye) _____ cm
Ask someone to measure how far the ruler is from your eye.

Calculate and Estimate



← Calculate and estimate femur length _____ cm
Use the measurements you took and similar triangles.
Hint: How many times bigger is the **distance from your eye to the femur** than the **arm length**.

↑
Given: Distance from your eye to the femur 940 cm

Last How close was your guess to the Femur height? _____ cm