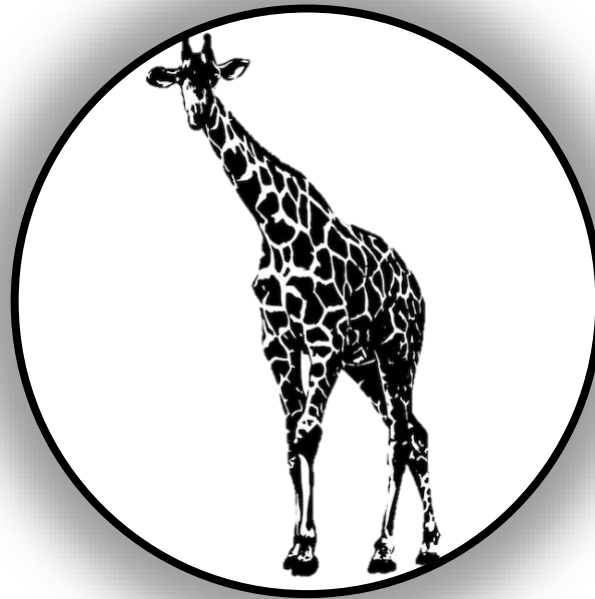


## Measuring Mammals

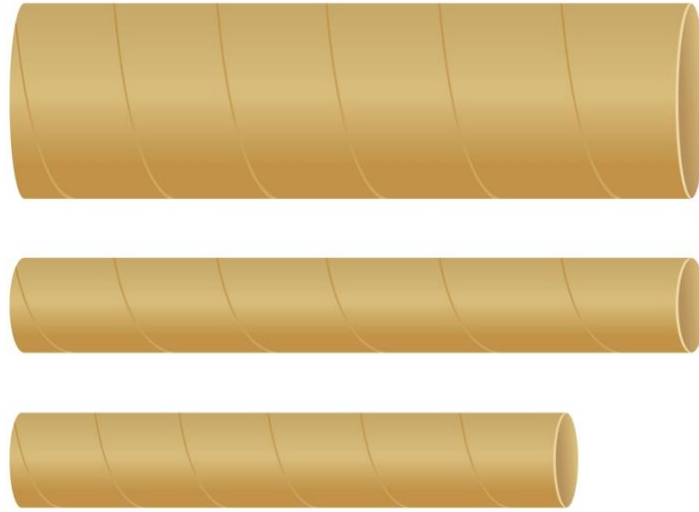
### Level C

You are a naturalist. You have heard that other naturalists are using scopes to calculate the size of animals in the wild. By viewing the animals through a scope, the height of an animal can be found.



You know that scopes come in different sizes. You think that by using the scopes along with mathematics, you can determine a relationship between the actual heights of objects that you see through the scopes and distance you stand from the object.

— Inside Problem Solving: Measuring Mammals —



Experiment with various-sized scopes to determine what you can see at different distances with different scopes.

- Choose one scope and use it to view five different objects around the room, filling the diameter of the scope with your view of the object. Record the height of each object and your distance from it. Create a graph with this data and write an equation that represents the data.
- How do the dimensions of a particular scope affect the relationship between the distance from an object and its height?
- Does this relationship hold for other sizes of scopes? How do you know?

Select a scope of a particular size that you have used in your experiment. Suppose you were 60 feet away from a giraffe and the animal's image exactly filled the scope. How tall is the giraffe?