

Scientist: _____
 Lab: Can you Echolocate?
 Time: _____ Season: _____
 Date: _____
 Weather Conditions: _____



Think,
 Question,
 Reflect!

Materials:

- *Blind Folds
- *Timers
- *Measuring Tape / Yard Stick
- * Token or marker
- * Wiffle Balls (2 per group)

Procedures:

1. Select one person to be the roller and one person to be the recorder.
2. Blind fold the roller.
3. Spin for 5 seconds and roll one wiffle ball in front of you. Let the recorder know when you think the ball hit a wall. The recorder should record the time on the handout. (Be sure not to share the time with the roller)
4. The roller should turn to the right and roll the second wiffle ball. Let the recorder know when you think the ball has hit a wall. The recorder should record the time on the handout.
5. Before removing the blind fold the roller needs to tell the recorder which wall they think is closer to them by what they heard.
6. After removing the blind fold measure the distance from the roller to each wall.

Question: How can you tell which wall is closer to you by using sound?

Hypothesis: If the wall is closer to the roller, then

_____.

Collect Data:

Ball #	Time *** (seconds to hit the wall)	Measurement (centimeters from roller)
A		
B		

*** Be sure not to give any clues to the roller.

Describe where the ball hit.

Roll A: _____

Roll B: _____

The roller predicted that roll _____ (A or B) hit first.

Was the prediction correct? _____



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Analyze:

Was your hypothesis proven? Why or why not?

Imagine you ran the experiment again by changing your location to larger area. Name some controlled variables (things to keep the same to make sure the experiment is fair).

Using what you learned, describe how echolocate helps bats and other cave animals.

Scoring Guide:

Scoring Criteria	1	2	3	4
Followed directions and completed activity				
Recorded a hypothesis				
Completed data				
Gave an explanation with details that suggested a reason for the results				
Listed at least three controlled variables				
	Total: _____ / 20			