



## Animal Behavior: How Do Animals Respond to Stimuli?

Taxis is the term that describes the movement of a plant or animal in response to a stimulus, for example heat or food. These responses arose over time through evolution. By observing how an organism responds to a stimulus, scientists can make inferences about how the organism behaves in the wild. For example, scientists can use an understanding of an animal's responses in pest management. Codling moth are a major pest for apple growers. Apple growers often use traps containing synthetic apple compounds to control the moths. This application is an example of chemotaxis (movement in response to a chemical stimulus).

### Watch Video 1

#### Observe

Did the fruit flies prefer the honey or the apple cider vinegar? Why do you think this was?

#### Identify an Experimental Design Flaw

The experiment used wingless fruit flies. What would have been the difficulty of using winged fruit flies instead?

#### Refine/Expand the Experiment

How do you think fruit flies detect the various compounds? How could you expand the experiment to test your hypothesis?

### Watch Video 2



## Practice Scientific Reasoning

With reference to information in **Video 2**, explain why you should not touch a nocturnal animal if you see it out during the day.

## Connect to Your World

Bees perform a waggle dance to provide other bees directions to a food source. The bees prefer to use the sun as a reference point when performing this dance. What other points of reference might a bee use to communicate this information when it is not sunny?

## Learn More by Exploring This Link

<https://evolution.berkeley.edu/evolibrary/home.php>

## At Home Extension

You can build a simple insect trap by inserting a funnel into the neck of a bottle. Build two such devices and place a different bait inside of each to see which is preferred by insects in your area.