

Are Crickets Scared of the Dark?

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Grade Levels: 4-6th grades (Middle School)

Observations:

Some insects are nocturnal and prefer to be more active during nighttime hours. This experiment is an attempt to illustrate to students that not all insects are active during the day.

Question:

Do you think that crickets prefer light or dark places?

Hints to form a hypothesis: Many crickets live under rocks and logs in meadows or pastures with long, tall grass. Most are mostly active at night (nocturnal).

Hypothesis: Crickets prefer dark places as opposed to light places

Materials Needed:

- Fifteen to twenty crickets, a lamp or flashlight, a plastic box (shoebox), black construction paper, and a stopwatch. Crickets can be purchased at your local pet store.

The Experiment:

- Place crickets in the plastic shoebox and place the lamp or flashlight over the shoebox. Make sure that there are no dark places in the box. Allow the crickets to get used to their home before moving on to the next step. **Note:** If you will be keeping the crickets for an extended point of time you may want to cut holes in the top of the shoebox and place mosquito net over those holes so that the crickets can breathe.
- With the flashlight or lamp still over the shoebox, place the black construction paper over half of the box, and the light on the other half of the shoebox. Now observe the behavior of the crickets. Use the stopwatch to count how many crickets are on the dark side and how many are on the light side every minute for five minutes.
- Move your construction paper to the opposite half of the shoebox and the light to the side where the black construction paper used to be. Again, use the stopwatch to count how many crickets are on the dark side and how many are on the light side every minute for five minutes.
- Conduct at least three trials of the experiment to see if you get similar results in each trial.
- Present your graph as the mean number of three trials. Label the left y-axis as the number of crickets in the dark, and the right x-axis for number of crickets in the light.

You should see these two lines cross each other.

Results:

Have students complete a table like the one below. Add all of the crickets that are in the light at the end of the experiment, and add all of the crickets in the dark at the end of the experiment. Are there more crickets in the light than in the dark? Compare your results from trial one and trial two. Do crickets seem to prefer, light or dark? **Answer:** Crickets tend to prefer dark places to light places.

Time of Observation	Crickets in the Dark	Crickets in the Light

Discussion:

Have students share their results with the class. Make sure to ask them to note if their hypothesis was correct or incorrect.

References: Students can find information about crickets at the following websites:

- <http://kids.yahoo.com/animals/insects/3660--House+Cricket>
- http://en.wikipedia.org/wiki/Cricket_%28insect%29
- <http://insected.arizona.edu/cricketinfo.htm>

Estimated Time: 30 minutes

Estimated Cost: \$10

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