

Monitoring Bird Populations

BACKGROUND

Bird behavior is very diverse. Birds must avoid predators, find mates, raise young, and, of course, find food. Scientists take a variety of approaches to studying these behaviors, depending on the kinds of questions they seek to answer. Some investigations can take place over a long span of time, others over great distances. Still others focus on examining a single small population. The area around a bird feeder is one such example. A bird feeder provides a stable place for the observation of eating habits and other types of behavior, and it can allow you to see the variety of birds that live in a certain area.

SCENARIO

A magazine that publishes articles on birds is planning an issue on bird behaviors. You have been hired by the editor of the magazine to investigate bird behaviors and write a short article about your observations. First, you will need to find a good location for observing birds, and spend some time watching and recording what they do. Then you will think of a question you want to have answered: are you interested in how birds of the same species interact with each other? How different birds compete? How they respond to predators? Once you settle on a question, you will write a prediction and then design an investigation to study it. Finally, you will carry out your plan and interpret the results.

PROBLEM

What factors influence the behavior of birds in a given area?



MATERIALS

- bird feeder (commercial or homemade)
- 4 cups bird seed
- bird identification guides
- computer with Internet access

PROCESS SKILLS

- Observing
- Designing Experiments
- Collecting Data
- Hypothesizing

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- Analyzing Data
- Drawing Conclusions

PROCEDURE

Part A: Observing Birds at a Feeder

1. Scout out a location from which to observe your bird feeder. Keep the following in mind:
 - You must be able to place a bird feeder in the area and have access to the feeder to refill it.
 - The location should allow you to observe the birds without disturbing them. This might involve observing them from indoors.
 - Ensure that the bird feeder is located so that the birds are not in danger from predators or pests such as dogs or cats. Squirrels especially should not have access to the food.
2. Before designing your investigation, spend several 10-minute periods observing birds at the location you chose. Make notes about the species of birds that visit the feeder, how long each bird stays, how the birds interact with each other, and anything else that seems interesting to you. Think of some questions you could ask about the birds that could be answered using a scientific investigation.
3. Use your observations to decide on a question you would like to answer about the birds you observed. Write down your question and prediction of the answer.

Question:

Prediction:

4. In the space below, write down your investigation plan as a series of numbered steps. Make sure the steps are in logical order. Include any needed safety precautions. Show your plan to your teacher for approval before you begin.

Name _____ Period _____ Date _____

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5. Observe the birds regularly for at least six observation periods. Record your observations using the data table given, or design your own table.
6. Use the bird identification guide to identify the types of bird that visited your feeder.

Name _____ Period _____ Date _____

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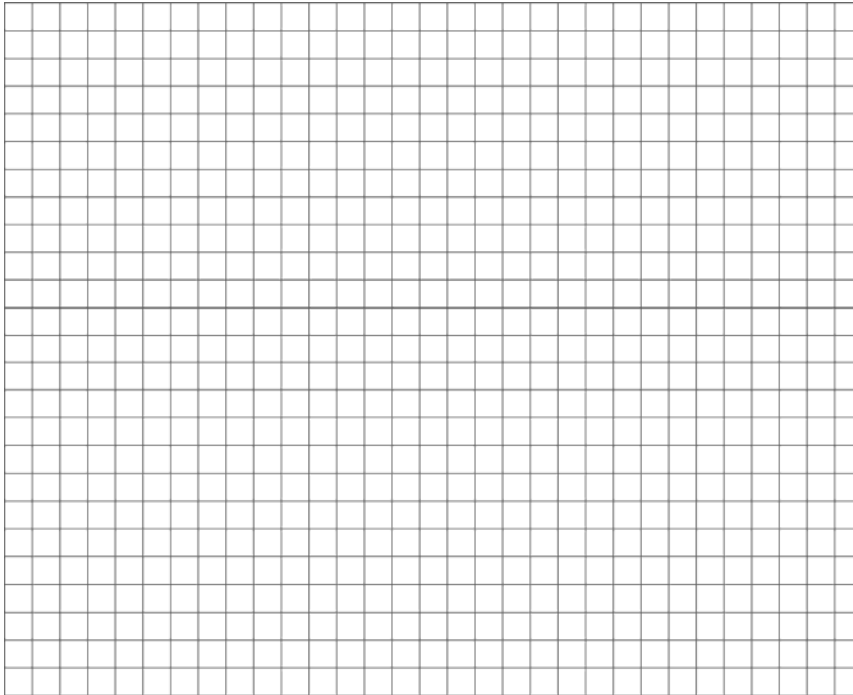
OBSERVATIONS

TABLE 1. BIRD OBSERVATIONS				
Day	Number and Type of Birds Seen	Time of Day, Weather Conditions	Feeding Habits	Other Observations
1				
2				
3				
4				
5				
6				

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ANALYZE AND CONCLUDE

1. Graph Data Choose an appropriate type of graph to display your results.



2. Analyze Summarize your observations in words. How did your observations compare to your prediction?

3. Infer What can you conclude about the behavior you studied?

4. Infer What effect would a human presence have on the birds?

EXTEND YOUR INVESTIGATION

Prepare a presentation of your work. You may produce a podcast, Web site, or write the magazine article. Use a digital camera to take pictures, and include those.