



Pigeon by Lea, Grade 3

PEARLS Elementary School, Yonkers, New York, Ms. Scaglione

About BirdSleuth Reports...

Students

BirdSleuth Reports is an online magazine which publishes student science reports which use birds as the focus of their projects.

The work featured in these pages might be your first science project. We hope you will try to submit a thoughtful, carefully prepared, report.

We encourage you to use a peer review process as one way of improving your submitted report. Let your friends help you to send in the best report possible.

We will try to draw your attention to some recurring report problems, and offer suggestions for improving future reports.

Micho Citrowski

BirdSleuth Editor

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Do Recorded Bird Calls Affect Bird Behavior?

Will Tape Recorded Bird Calls Affect The Number Of Birds Coming To Our Bird Sanctuary?

by Bryce, Bobby, Marie, Matt, and Courtney,
Grade 5, Seton School, Meadville, PA
Ms. Carone

Hello! Our names are Bryce, Bobby, Marie, Matt, and Courtney.

Our project is, "Will bird calls on a tape affect bird counts at our bird sanctuary?" We decided to do this project because we wanted to observe bird behaviors when faced with a taped call of birds as opposed to the call of a real bird. We had done some research and found out that a recording of owl calls will drive away birds from their territory. With this information in mind we decided to introduce bird calls from a tape to see if they attracted more birds or scared more birds away from our sanctuary.

Hypothesis

Our hypothesis is that the birds will be confused and frightened at first but then will become adapted to the calls and come back to the feeders. We feel birds have enough intelligence to eventually realize that the tape recordings are fake and then not be afraid of the fake calls and come back and eat at our feeders.

Materials

Our materials for this project are as follows:

- Bird Seed
- Tally Sheet



Blue Jay

by Jordan, Grade 4, New Haven Elementary School,
New Haven, NY, Ms. Griffin

- Pen/Pencil
- Tape Player
- Tapes of Bird Calls

Procedure

We first researched the way birds communicate and their behavior when hearing other calls. We set up a tape recorder near our classroom windows at the same time each day for a thirty minute time period for one week and counted bird visitors while the tapes were being played.

The next week we just observed the birds without the use of the tape recorded calls and counted the number of birds coming to the feeders. We repeated steps 2 & 3 for a total of four weeks. We analyzed our data and graphed our data and wrote up our manuscript of our findings.

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Downy Woodpecker

by Jordan, Grade 4, Bethany School,
Glendale, OH, Ms. Mellea



Downy Woodpecker

by Rebecca, Grade 7, Ascension School
Baltimore, MD, Ms. Ward

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Conclusion and Results

Our conclusion is that more birds visited our feeders while the tapes were being played. Our hypothesis is supported because the birds seemed to adjust to the taped bird calls and were not scared off. We do feel on some days during our experiment, weather could have played a factor with a couple of days of pouring rain that may have caused the birds to stay away. The weather also changed as we went from February through March, going from snow and cold temperatures to warmer and milder days.

Please look at our enclosed graph to see results of our data.

References

We used a book called *Song Birds* by Nobel Proctor; Ph.D., to help us understand bird songs and bird behavior.



Downy Woodpecker

by Gunnar, Grade 7
Minnehaha Academy,
Minneapolis, MN, Ms. Humason



American Goldfinch

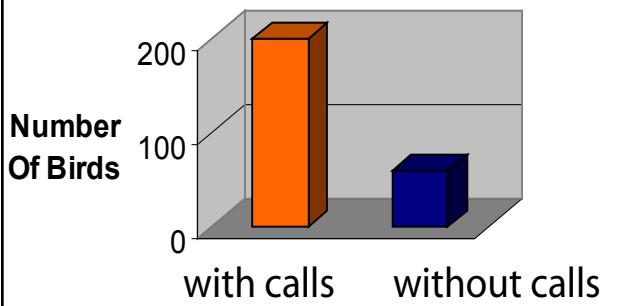
by Ishan, Grade 3, Pearls Elementary School,
Yonkers, NY, Ms. Scaglione



Great Blue Heron

by Daquan, Grade 7, the Orchard School
Yonkers, New York, Ms. Blinn

Average Number Of Birds Seen



Is House Sparrow Activity Influenced by Temperature?

by Leslie, Grade 9
Tualatin Valley Junior Academy
Hillsboro, OR
Mr. Kahler

This year I have decided to study House Sparrows at the bird blind. They can be found near where humans live, and in deserts, extensive woodlands, grasslands, and forests. What I decided to find out this year was if the temperature was a true factor in the activity and numerous seen House Sparrows at the bird feeder at my school.

My prediction is if it is 3° C (37° F) or below, then I expect to see more House Sparrows than when it is warmer, like 15° C (59° F). I chose this because in Fahrenheit, 3° C is 37°, and that is some cold.



Tufted Titmouse

by Maura, Grade 4, Assumption School
Morristown, NJ, Ms. Cooney

It should be cold enough for there to be lots of House Sparrows to see if my hypothesis is right or wrong.

My study population, which is all ready known, is House Sparrows. My independent variable was the temperature, meaning what it feels like outside. My dependent variable was the number of House Sparrows seen, or how many are at the bird blind when we go down to get data.

For 7 days I observed the birds, and each time saw one or two House Sparrows or more. Before

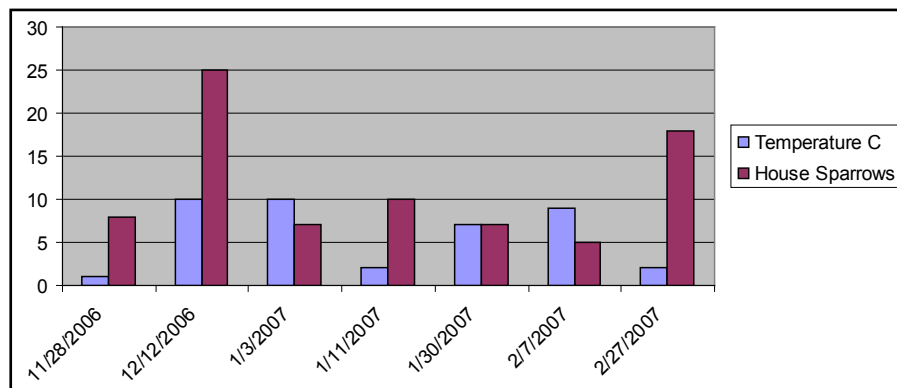
we would go down, we would collect the weather data. Each time I brought down my pencil, bird binder with tally sheets in it, and sometimes my bird book. At the

bird blind, my class and I would sit down, look at the time, and start bird watching, seeing all the different kinds of birds there at the time. Sometimes we would see a lot of birds, and sometimes we would see a few only. Every time we went down our biology teacher brought binoculars for us to use if we wanted to. At the bird blind, our biology teacher keeps the birds well fed with black oil sunflower seeds, and other wild birdseed. When we got back to the classroom, sometimes we entered our data into eBird.org. We would usually be outside for 10 to 25 minutes.

On one day, there was seen 25 House Sparrows, which was the most seen on the 7 days I had observed. It was 10° C on that day. The lowest number of House Sparrows seen in my observation period was 5, and it was 9° C outside. Every day I went out I saw House Sparrows. The temperature fluctuated between 10° C to 1° C during the 7 days.

By my observations and data, the temperature did not affect the amount of House Sparrows seen on any given day. When the most were seen, it was 10° C outside! That pretty much tells me that the temperature does not affect the birds as much as I thought it would. On the day when it was 1° C, I

saw 8 House Sparrows anyway. The lowest seen was 5, and it had been 9° C outside! I must reject my hypothesis because my data refutes it.



When I had started this report, I had thought that the temperature was a factor in the number of House Sparrows seen each day when I went birding at school. I really thought that if it was colder, there would be more House Sparrows, but that is not true. I can think of a few reasons why my hypothesis was rejected. One, my class is very noisy! Second, on the days we went out, it wasn't just cold or warm, it may have been raining, snowing, or blowing like crazy. The temperature is part of the weather, and the weather should be considered a

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factor too. Another one is about the main feeder. During a windstorm, a tree had taken down the roof. Since that is one of the main places to keep dry under, it could have prevented birds coming also. And last but not least, I only did birding for 7 days. If more had been done, there could have been better data to see if my hypothesis actually could have stayed true.

By looking at other data from a previous year, I can see that sometimes when it was cold, there would be more House Sparrows. But even when it was cold, there would sometimes be fewer House Sparrows. But when it was warm, there wouldn't be as many. Only a few were seen.

I hope you liked this report and gained something from it. House Sparrows are numerous in America, even if they weren't first native to this land. They like humans and hang around woodlands that are near civilization. Thank you for reading.



Mallard Duck

by Andres, Grade 3, PEARLS Elementary School
Yonkers, NY, Ms. Scaglione

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Song Sparrow

by Michela, Grade 3, PEARLS Elementary School
Yonkers, NY, Ms. Scaglione

Season in Which Most Bald Eagles Are Seen at Our School

by Maggie, Grade 7
Minnehaha Academy, Minneapolis, MN
Mrs. Humason

Question

At our school, in what winter month do we see the most Bald Eagles?

Hypothesis

If it is February, then we see more Bald Eagles than in any other winter month.

Independent variable: what month in winter

Dependent variable: number of Bald Eagles

Procedure

1. At Minnehaha Academy there are six 7th grade classes in Life Science. Every week since the beginning of November each class has gone bird watching for 10-15 minutes once a week. We go bird watching on Minnehaha Academy's front lawn and record the highest numbers of species of birds that we see. Located on the front lawn there are bird feeders containing many different kinds



Bald Eagle

by Tye, Grade 3, Wesley D Tisdale School
Ramsey, NJ, Ms. Dunne

of bird seed, and also suet. We keep these bird feeders out during the whole year.

2. When on eBird, go to "View and Explore Data", then go to "Summarize my observations" and create a year report starting on November 1st, 2006, and going till March 2006.

3. Pick the data submitted for all Minnehaha classes from November 1st, 2006, to March 2007.

4. Select the "Species Totals" tab and record the number of Bald Eagles seen each month.

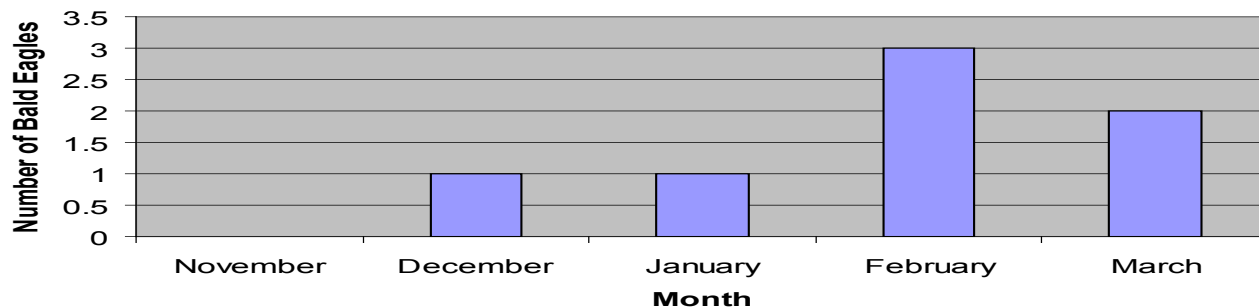
Analysis

This data shows that the number of Bald Eagles sighted throughout the winter. From November to December the number increased, and from December to January the number stayed the same. From January to February it increased, and from February to March the number decreased. This data may not have been completely accurate because in some months we did not go out bird watching as frequently as other months. Therefore, if we had not been there during a time a Bald Eagle was around then we could not have recorded the data.

Conclusion

My hypothesis stated that if it is February then we will see more Bald Eagles than in any other winter month. I thought that this would be true because in February I remembered more people saying that they had seen a Bald Eagle. This data does support my hypothesis. The data shows that February has the most sightings of Bald Eagles than in any other month we went bird-watching. It would be fascinating to see if the Bald Eagles were seen more frequently in the morning or the afternoon.

Sightings of Bald Eagles throughout the Winter
Minnehaha Academy; Nov 2006-March 2007



Do Birds Like Popcorn?

by Liza, Tori, Ashley, and Katie, Grade 8
Rye Junior High School, Rye, NH
Ms. Ellwood

Introduction

This project was chosen because we all were initially interested in birds and their appetites. After a series of discussions we realized the most intriguing thing was what different species of birds would be attracted to non-salted, non-buttered popcorn. We then became curious as to if they would eat food that large, and chose to go more in depth with the experiment by taking pictures and classifying the birds. To our group, whether or not they'd eat the popcorn was a mystery waiting to be discovered.

Objective

With this experiment we're trying to find out what bird species around the seacoast might eat popcorn placed in bird feeders.

Hypothesis

Null Hypothesis: There is not a variety of birds that are attracted to popcorn placed in a bird feeder.

Alternative Hypothesis: There is a wide variety of birds that are attracted to popcorn placed in a bird feeder.

Experimental Design

In order to conduct our experiment, our group needed four, two-foot-long and narrow bird feeders, non-buttered, non-salted popcorn, and a camera. When these materials were collected, we filled each of the feeders with the popcorn, hung it on a branch in a tree three and a half feet from the

ground, and waited several days for the birds to realize the food was there. After the two days we started to identify the types of birds, and recorded the amount, the time, and the day. These sightings and recordings occurred between 7:00 A.M. and 7:15 A.M. on the weekdays and 9:00 A.M. and 9:15 A.M. on the weekends. To help identify each bird species, pictures were taken with the creatures eating the popcorn. By doing this we had more time to look at the unique features every bird had. We then repeated this process for eight days before calculating the data.

Results

- Tuesday, March 6th, 2007: One House Sparrow, one cardinal (Northern Cardinal)
- Wednesday, March 7th, 2007: Six House Sparrows
- Thursday, March 8th, 2007: Two House Sparrows



Dark-eyed Junco

by Syna, Grade 3, PEARLS Elementary School
Yonkers, NY, Ms. Scaglione



Red-headed Woodpecker

by Natasha, Grade 7, FD Roosevelt Middle School
Bristol, PA, Ms. Mueller

- Friday, March 9th, 2007: One House Sparrow, one cardinal
- Saturday, March 10th, 2007: Seven House Sparrows, one Purple Finch
- Sunday, March 11th, 2007: Four House Sparrows, one cardinal
- Monday, March 12th, 2007: One cardinal, one House Sparrow

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- Tuesday, March 13th, 2007: Two goldfinches (American Goldfinch), one House Sparrow

Total Bird Count: Thirty birds throughout a period of eight days

The results show that the alternative hypothesis seems to be supported. Throughout this process a total of thirty birds including twenty-three House Sparrows, four Cardinals, one Purple Finch, and two Goldfinches visited the four feeders. (see table below)

The alternative hypothesis is supported because the null hypothesis is rejected.

Discussion

Throughout the experiment we ran into several problems ranging from pesky critters to bad weather. Each of us faced a squirrel that constantly ate the popcorn out of the feeder. In fact, Katie mainly recorded her squirrel and chipmunk sightings. These mammals must have scared away the birds. Dogs became another concern. Tori's dog kept knocking her bird feeder down after she set it up. For her, this made the experiment a difficult task. During the eight days, the weather varied from twenty degrees to sixty-five degrees. This made another problem. On the warmer days, more birds arrived at each feeder, while in the colder temperatures there were none to be found. The odd temperature changes evoked the idea that the weather had a main part in the total amount of feeding birds.

The temperature appeared to be a main factor in this experiment as well. Because of the wide temperature ranges, we feel the birds visited only on "above freezing" days. This climate issue seemed to have made a big impact on the experiment. Next time we should take this into consideration.



Northern Cardinal

*by Evan, Grade 4, Bethany School
Glendale, OH, Ms. Mellea*

To also make the experimental design better, our group could have chosen another type of food. Regular bird seed, sunflower seeds, and berries might have been more effective towards attracting the different bird species.

In addition to various foods is the location. Instead of placing the popcorn in one tree, we could have spread the food across the ground or in different trees, or even used other sized and shaped feeders. Perhaps we could put feeders in our front yards instead of our back yards.

	House Sparrow	Purple Finch	Goldfinch	Cardinal	Total
Observed	23	1	2	4	30
Expected	8	8	8	8	30

Our statistics* imply that that the alternative hypothesis was supported because our X² (Chi-square) critical value is less than our X² value. This rejects our null hypothesis. Although there weren't a lot of birds that visited the feeder, there was a somewhat wide variety (for winter birds). However, we did tend to see more House Sparrows than any other species eating the popcorn.

Conclusion

Our experiment implies that most birds around Rye, N.H., do not go to bird feeders filled with popcorn as a source of food. From the data we collected, we counted the total of 30 birds: 23 House Sparrows, four Cardinals, two Goldfinches, and one Purple Finch. The number of birds that we counted may seem like a lot of birds, but you have to remember that these observations were made over an eight day period.

One thing to remember: For this experiment we only did eight trials. In order to have better, more accurate information, there should be more than eight trials.

* These students applied a statistic called the "Chi-square Test" to the data in their table. Details are not shown here. X² (above) stands for Chi-square.

A NOTE FROM THE SCIENCE EDITOR

Congratulations to everyone who contributed to this issue of BirdSleuth Reports. What great questions you came up with! I appreciated your creativity and dedication in looking for the answers. I loved how many of you bird sleuths are using eBird. Data collected by citizen scientists like you are very important for other scientists and their studies, too!

I liked that the authors of the House Sparrow study on page 4 and the Bald Eagle study on page 6 realized their conclusions would have been stronger if data could be collected over a longer time. After scientists feel they've done their best, they first ask other scientists to read their work. These scientists may find errors or ask more questions. Sometimes the questions they ask make the original scientists go back and start all over! Sometimes they don't need to make drastic changes but may need more data. It can be disappointing to see problems with their work when they started out excited and happy with what they'd done. But science is about asking questions and seeking true answers; this is what makes research interesting and genuinely valuable.

Once a research project seems complete, the scientists send it to a scientific journal. Every journal has a panel of experts who carefully read every paper and make even more suggestions and ask even more questions. Then the paper goes back to the original scientists to fix up yet again. As Science Editor of BirdSleuth Reports, it's my job to ask you sleuths some of these kinds of questions.

I enjoy listening to bird vocalizations, so I really enjoyed the study about how birds respond to recorded owl calls on page 2. But I couldn't help

wondering why there were more birds counted when owl calls were played than when they weren't played. If birds had gotten used to the calls, wouldn't there have been about the same number counted as without the calls, rather than more? Some bird watchers imitate screech-owls or pygmy-owls or play recordings of their calls when they want small songbirds to come closer. That's because sometimes when small songbirds notice a little owl, they gather around it making scolding calls. This activity is called mobbing. How could you test whether the birds were investigating what they thought might be a predator? The authors mentioned that weather may have played a part in their results, with pouring rain on some of their study days. What an interesting point! When I looked at the graph, I wanted to know which days were those rainy ones.

The question about whether birds eat popcorn on page 7 caught my attention because I've wondered about that, too. It's great that you're using statistics to test your results! This approach can help you decide whether your results support your hypothesis. The Chi-squared test does tell us that the number of bird visits made was not the same for all four species. However, the reason for these differences cannot be determined with certainty by this experiment. Some species, such as House Sparrows, may like popcorn more than other species. Maybe House Sparrows are the least shy of the four species, or spend more time around feeders than other species. Can you think of how you would tease apart these possibilities? Scientists often do their research in a series of steps, experiment by experiment, to eliminate alternative explanations, including ones that they did not think of initially. After all, asking questions is what science is all about!



House Wren

by Kayla, Grade 4, New Haven Elementary School
New Haven, New York, Ms. Griffin



European Starling

by Carolina, Grade 3, PEARLS Elementary School,
Yonkers, NY, Ms. Scaglione



Northern Flicker

by Jayraj, Grade 3, PEARLS Elementary School
Yonkers, NY, Ms. Scaglione

SUGGESTIONS FOR CREATING A SCIENCE REPORT

- Follow a simple and logical sequence in setting up your report.
- Try to be concise.
- Explain your thinking in designing the project. Tell how you became interested in your topic. Explain how you decided which data to collect and how you used it to answer your driving question.
- Include all of the data that you analyzed, manipulated, or used to create graphs.
- Label your charts or graphs thoughtfully.
- If you used any statistics, explain why you chose to use that statistic, and show how you did your calculations. Check your math. Avoid using methods you do not understand.
- In your discussion section, report how your thinking evolved as the project went along.
- Note any problems you experienced, and explain what you did to overcome them.
- Allow your classmates to read your report; ask them for their opinions, and for suggestions for improving it.

Guidelines for All Submissions can be found on the BirdSleuth Website:
[www.birds.cornell.edu/
birdsleuth](http://www.birds.cornell.edu/birdsleuth)

Editorial Policy

BirdSleuth Reports is intended to be a publication of student work, focusing on science projects involving birds and bird observations. Material submitted will also be considered for publication in our printed magazine, *Classroom BirdScope*.

For the most part, what a student submits is what will appear in this publication. An editor may make small changes or corrections. Text, charts, graphs, and photos which may have been part of the original submission may be omitted. However, what does appear will be the work of the student, and not substantially changed by the editors.

It will be to the student's advantage to have her/his report reviewed, and revisions made, **before** it is submitted. We encourage peer review. If an adult such as a teacher or parent is involved in the review, we hope that the adult will allow the student to control the process leading to the final version of the report.

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Special thanks

Susan Spear

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BirdSleuth Reports

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