

The Cornell Lab of Ornithology
BirdSleuth K-12

BirdSleuth INVESTIGATOR 2017



Science reports and original art
for and by students

Dear Students

Owls and hummingbirds and woodpeckers — how different they seem, yet they are all birds. All have feathers, lay hard-shelled eggs, and have hollow bones. You'll see in this issue of *BirdSleuth Investigator* that they all were very popular subjects of study this past year. More than any other bird, however, the Black-capped Chickadee wins the award for most submissions. What is it about chickadees that makes them so universally appealing? You'll find some answers to that question throughout the following pages. And maybe you'll be inspired to find out some answers of your own.

As young scientists, the students whose work is featured in this magazine find inspiration from observing the natural world. This year, be sure to gaze at the world around you — on the playground, in the park, around your neighborhood, and out your window. And if you're inspired to ask and answer

scientific questions, send us the results of your study. If you're creatively inspired by the birds you see, we'd love to consider your artwork or poetry for publication in the next *BirdSleuth Investigator*. The deadline for each year is always the last day of June. I can't wait to see your submissions!

Sincerely,



Stacie Mann
Editor, *BirdSleuth Investigator* 2017



by Anhar, Grade 4
Salina Intermediate
Dearborn, MI, Ms. Aljebori

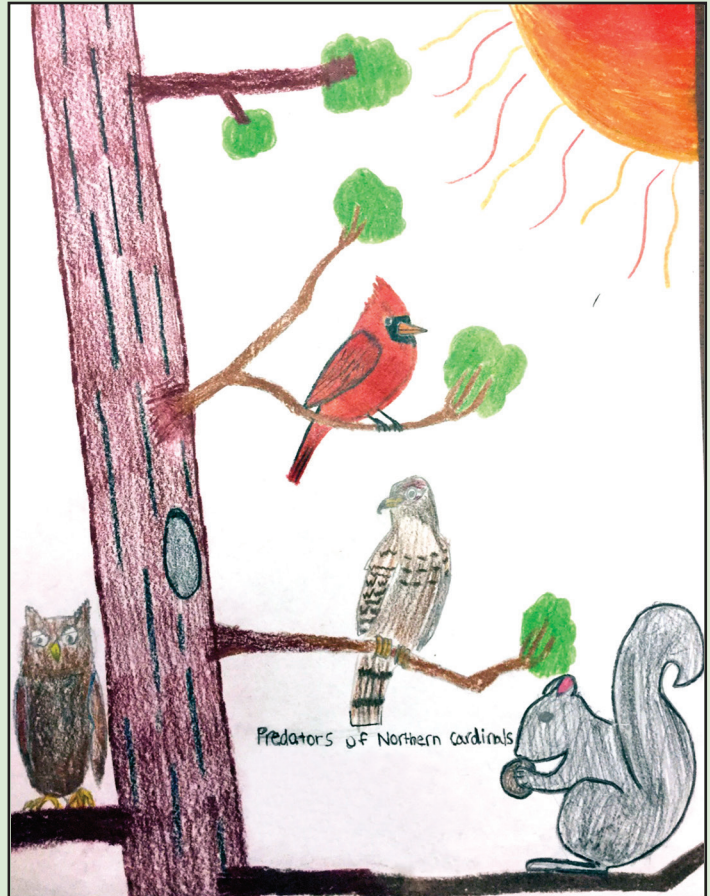
Front Cover: Cedar Waxwing by Sophia, Grade 5, St. Stanislaus School, Winona, MN, Mrs. Nadeau



by Gwen, Grade 6
Cedar Rapids Home School Assistance Program
Cedar Rapids, IA, Ms. Malek



by Sabrina, Grade 8, Tualatin Valley Academy
Hillsboro, OR, Mr. Kahler



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

Do Hummingbirds Prefer Feeders Up High or Feeders Down Low?

by Danica, Grade 3
Mark L. Fine Elementary School
Las Vegas, NV
Ms. Murtaugh

Introduction

The place where we did the project is our school's natural habitat. It is a rocky desert. It has a few trees and a bunch of yellow flowers.

We chose to do this experiment because we are interested in hummingbirds. We found out that hummingbirds are prey to cats. That is why we did this experiment. We wanted to see if they would choose the higher feeder to stay safe from predators.

Hypothesis

If we put one feeder up high and one feeder down low, more birds will visit the feeder up high.

Variables

Independent: Placement of the feeders

Dependent: Number of birds that visit

Constant: Location, feeders, sugar water, observation time

Procedures

Materials: Two hummingbird feeders, sugar water, a place to hang the feeders, two different lengths of string, a wildlife camera.

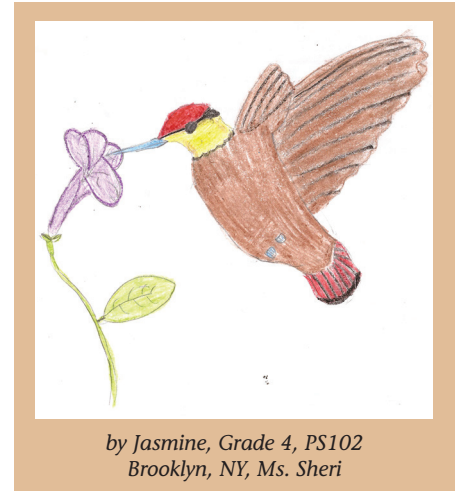
For four days we hung up two feeders on the same tree. We put a feeder up high and one down low, and we put up a wildlife camera. The wildlife camera records how many birds visit each feeder. We checked the videos and counted how many birds visited each feeder. We used that data to answer our question.

Results

On February 13, there were 3 birds at the high feeder and 2 birds at the low feeder. On February 14 and 15, we didn't see any birds. On February 21, we saw 2 birds visit the high feeder and 0 visit the low feeder.

Discussion

We are still not sure if our hypothesis is correct because we feel like we don't have enough data. Since we have two days where the hummingbirds used the high feeder more than the low feeder, we think our hypothesis would be correct if we had done the experiment for a longer time.



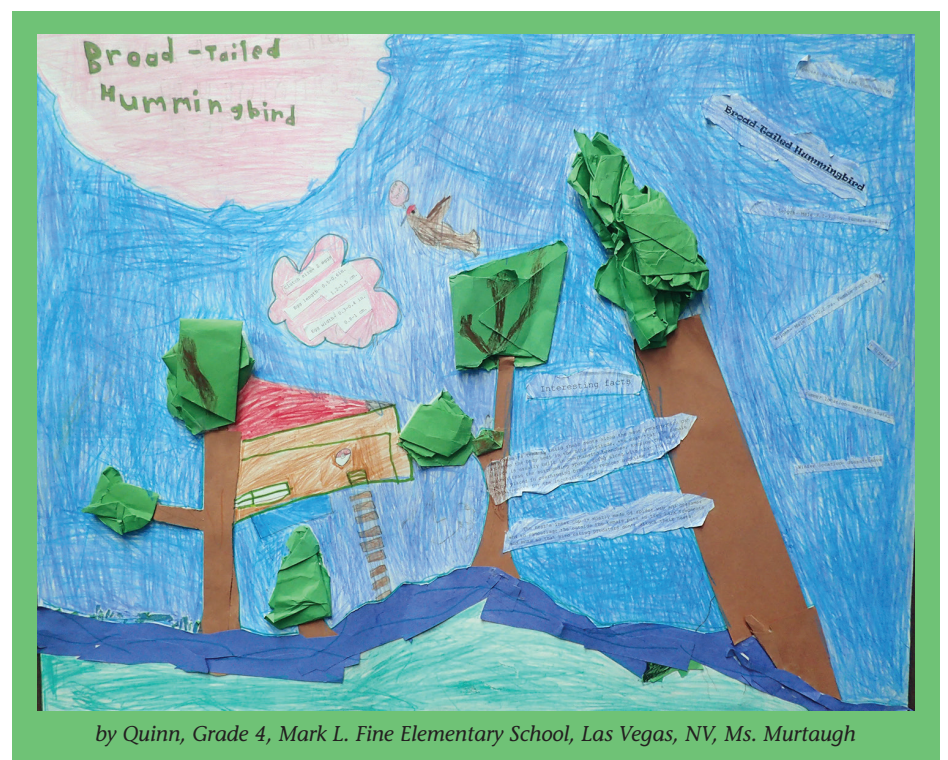
by Jasmine, Grade 4, PS102
Brooklyn, NY, Ms. Sheri



by Lona, Grade 6, Essex Middle School
Essex, VT, Mrs. Dunn



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



by Quinn, Grade 4, Mark L. Fine Elementary School, Las Vegas, NV, Ms. Murtaugh

Do Black-capped Chickadees Prefer a Certain Time of Day to Visit?

by Emma, Kira, Gabe
Grade 6
Essex Middle School
Essex, VT
Mrs. Dunn

Introduction

Black-capped Chickadees are a very common bird in Vermont, flying in small flocks in woods. They are full of hyper behavior and have a cheery-sounding call as they fly from tree to tree⁽¹⁾. Chickadees normally flock with an assortment of nuthatches, creepers, kinglets, and other small birds⁽¹⁾. The Black-capped Chickadee is a common visitor to backyard feeders across the U.S. and Southern Canada⁽¹⁾, particularly in the cold, winter months when lots of other species of birds have flown south to warmer places⁽²⁾. Chickadees are considered cute everywhere because of their huge head, tiny body, and adorable curiosity⁽³⁾.

When people hang bird feeders, they don't usually think about the time of day they watch it. We wondered if the time of day affected the visits by birds. We made this experiment about Black-capped Chickadees because they are common in Vermont and will come often so we can easily record them. So do Black-capped chickadees prefer a certain time of day to visit? Our hypothesis is that Black-capped Chickadees eat as needed at any time.

Materials and Methods

We watched bird feeders for 10 minutes and counted each visit by a Black-capped Chickadee. We watched for chickadees every day from 1/18/17 to 1/27/17, except on 1/24/17. On those days, we watched in the morning, at around 9:00, at

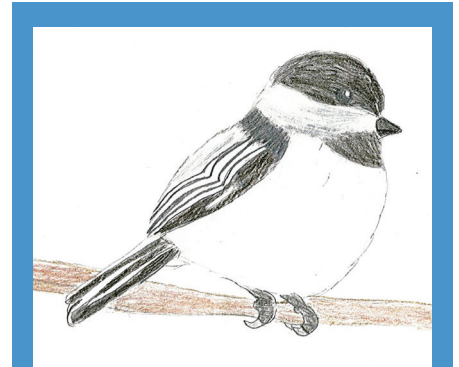
midday, and sometimes in the afternoon at around 3:00. We watched from the library, where we could get a good view of the class' bird feeders. Two of our group members, Kira and Gabe, watched from the window on the far side of the library, while Emma watched from the window in the back of the library. We saw plenty of chickadees, some other birds, and lots of squirrels.

Results and Analysis

Our results were an average of at least 7 visits in the morning, 12 midday, and 4 in the afternoon. Each day we watched for 10 minutes in the morning and most of the time at midday and afternoon. We ended up observing 151 Black-capped Chickadee visits in total. On average, that's 23 chickadee visits per day. You can see how those numbers measure up in our graph.

Discussion and Conclusion

Our hypothesis was that chickadees would not have a preference for a time of day. Surprisingly, the Black-capped Chickadees did have a preference for when to visit. The chickadees seemed to prefer midday, somewhere around 12:00, as we normally saw more chickadees at that time. We will have to reject our original hypothesis and state that chickadees prefer midday. Because of our finding, we suggest that if you want to watch for Black-capped Chickadees at your bird feeder, you should watch at around noon and make sure your feeder is full. You may see more Black-capped Chick-

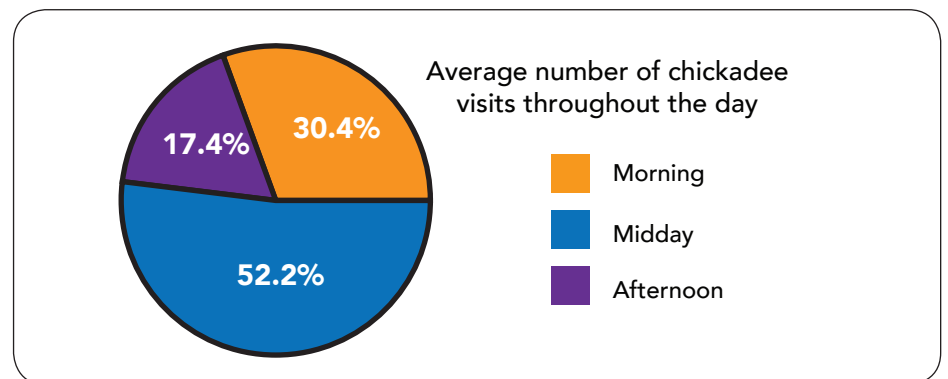


by Ellie, Grade 6, Essex Middle School
Essex, VT, Mrs. Dunn

adees at this time than you would see in the morning or in the afternoon. Our results spark more questions in need of experimenting such as, "Do other birds prefer a certain time of day to visit, too?", "Why do chickadees prefer midday?" and "What might make any birds prefer a certain time of day, such as midday?" Maybe you can run your own experiments and find out!

References

1. Kaufman, Kenn. "Black-capped Chickadee." Audubon. National Audubon Society, 01 Mar. 2016. Web. 23 Jan. 2017.
2. Harrison, George H. "How Chickadees Weather Winter." National Wildlife. George H. Harrison, 1 Dec. 2007. Web. 23 Jan. 2017. <<https://www.nwf.org/News-and-Magazines/National-Wildlife/Birds/Archives/2008/Backyard-Birding.aspx>>.
3. "Black-capped Chickadee." The Cornell Lab of Ornithology. N.p., n.d. Web. 16 Jan. 2017.



How Time of Day Affects Black-capped Chickadees

by Sabrina, Grade 8
Tualatin Valley Academy
Hillsboro, OR
Mr. Kahler

Introduction

Black-capped Chickadees are some of the most well-known birds among bird enthusiasts; perhaps that's because of how small and cute they look and how they're curious towards people. Black-capped Chickadees are small, round, and usually chubby little birds with black, gray, and white feathers.

I have decided to study Black-capped chickadees and whether they prefer mornings or afternoons. Last year, while I was still in 7th grade, my teacher had us go out to our school's bird blind in the late afternoon. This year, we've started going in the early morning. So my hypothesis is, if Black-capped Chickadees like mornings then I will see less of them in the afternoon.

Materials and Methods

Materials include our bird binder, bird identification books, our school's bird blind, binoculars, pencils, and a weather station.

First, we enter data from our weather station into our bird binder. When we get to the bird blind, we write down our start time and then we watch for birds and gather data for as long as we can. Once we're finished observing, we write down our end time.

Independent and Dependent Variables

Time of day is my independent variable since I was able to decide what times I went out to bird watch. The Black-capped Chickadees are my dependent variable because I couldn't control how many of them showed

up. The number of Black-capped Chickadees that show up depends on the time of day we collect data.

Results

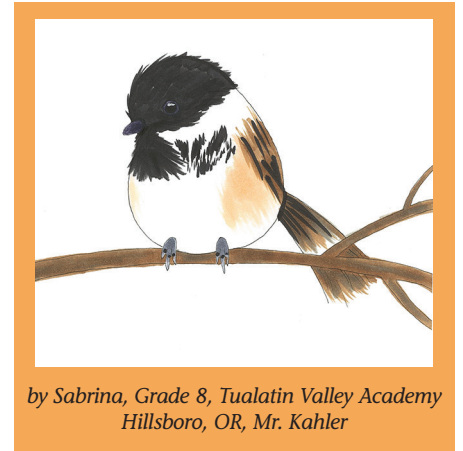
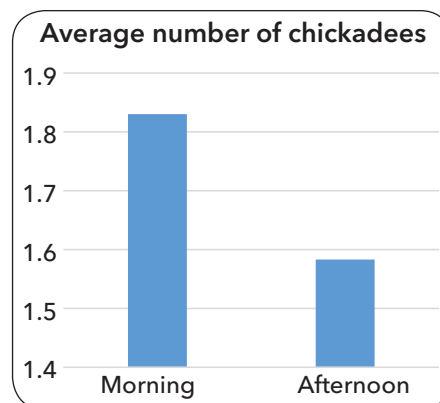
After computing my two years of data, I realized that there wasn't much of a difference in the number of Black-capped Chickadees that showed up in the morning compared to the afternoon. In the span of 12 days, I counted 22 chickadees in the mornings and 19 in the afternoons.

I decided to manipulate my data and average the numbers I saw. To do that, I first took the total number of chickadees and divided by the number of days. The average number of Black-capped Chickadees seen in the morning was 1.83 and in the afternoon 1.583. These numbers aren't too far apart; one is only a little more than 0.2 more than the other. While choosing which way to display my data, I found that some graphs make the difference look much bigger than it really is. So instead of just one graph, I decided to put in two to show this difference.

Conclusion

In the end, my hypothesis was supported by the data I collected. The Black-capped Chickadees did seem to show up more in the morning than they did in the afternoon, even

Time of Day	Average Number of Chickadees
Morning (Average)	1.83
Afternoon (Average)	1.583



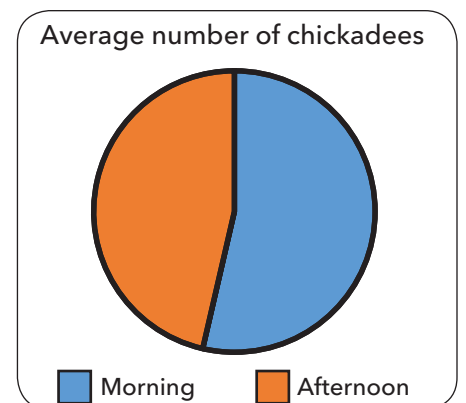
by Sabrina, Grade 8, Tualatin Valley Academy
Hillsboro, OR, Mr. Kahler

though the numbers were fairly close. The one thing I'm not sure about is if it was the time of day that made more of the Black-capped Chickadees come or if it was how cold it was outside.

If I were going to do another project I'd probably try to find how weather affects Black-capped Chickadees. To improve this project I would go out earlier in the morning and a little later in the afternoon. I would also stay out for longer periods so I could really see if my hypothesis is supported or if it isn't.

References

- (2015) https://www.allaboutbirds.org/guide/Black-capped_Chickadee/id Retrieved December 15, 2017.
- (2016, March 24) <http://www.sialis.org/chickadee.htm> Retrieved December 16, 2017.
- (2015) <http://www.wild-bird-watching.com/Chickadees.html> Retrieved December 15, 2017.



Did More Birds Come to the Feeder in the Morning or the Afternoon?

by *Sasha, Grade 6*
New Canaan Country School
New Canaan, CT
Ms. Mackey

Purpose

The objective of the study was to find out how many birds would come in the afternoon versus the morning.

Hypothesis

More birds will come in the morning because they need to have energy for the day.

Variables

Independent: Morning or Afternoon

Dependent: Feeder Activity

Constant: Feeder location, time of day, observation location, seeds, observer

Materials

Feeder, hook, black oil sunflower seed, notebook, pencil

Method

The experiment was conducted in front of the neighbor's house at an already established bird feeder. The feeder was hung on a tree that was pretty close to the road. An open bird feeder was used and so was black oil sunflower seed.

The feeders were filled every day. Binoculars were used sometimes. Observations took place on Sundays, Wednesdays, and Thursdays. They were all at 7:25am or at 4:30pm. The feeders were observed for 10 minutes every day. The study ran for three weeks.

Results

A total of ten observations were made. Figure 1 shows that more birds visited the feeder in the morning versus the afternoon. A total of 92 birds visited the feeder in the morning and

50 birds visited the feeder in the afternoon. Figure 2 shows the number of birds within each species and which ones came in the morning or afternoon. During a few observations, some birds didn't come in the morning or afternoon. In all, eleven species were seen. The bird most seen was the House Sparrow. On days 4 and 5 it was snowing. On days 7, 8 and 10 it was warm and on day 9 it was really cold but not snowing.

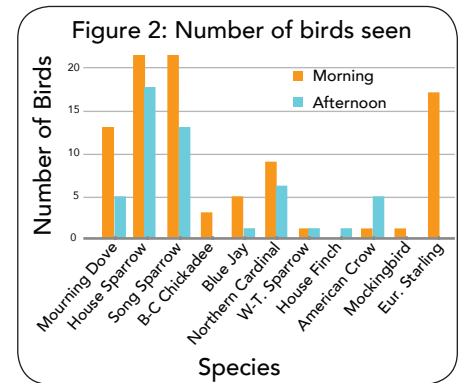
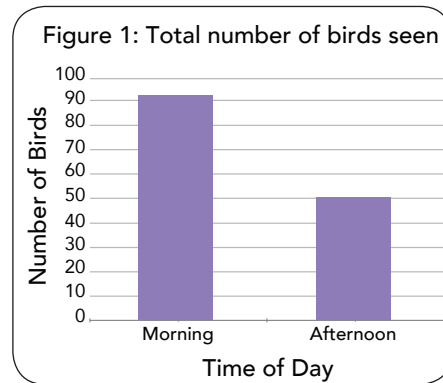
Discussion

After conducting this experiment, I have learned that most birds prefer feeding in the morning. As you can see in Figure 1, 92 birds were seen in the morning and 50 birds were seen in the afternoon. While most birds followed this pattern, the House Finch and American Crow visited the feeder more in the afternoon. Also, the House Sparrows and Song Sparrows visited most in the morning and afternoon. I believe that more birds visited the feeder in the morning be-

cause they get hungry overnight and go to the feeder to get more energy.

There were a few possible sources of inaccuracy in my study. Sometimes I needed to refill the feeder because the birds had eaten all of it the day before. Squirrels invaded the feeder a lot and sat right in the middle of it and didn't let the birds eat. The weather was either really hot, really cold or snowing which made the birds stay in the bushes. I had to move the feeder to the front of my house and then that didn't work so I had to change the type of feeder.

There are some factors that I could improve if I were going to do this experiment again. I could have filled the feeder before I did my observations so the birds would know that there was food in the feeder. I could have decided that I was going to use the other feeder in the beginning of the study. I could have decided on my times quicker and not have to go five minutes earlier than expected.



	Morning	Afternoon
Mourning Dove	13	5
House Sparrow	21	18
Song Sparrow	21	13
Black-capped Chickadee	3	0
Blue Jay	5	1
Northern Cardinal	9	6
White-throated Sparrow	1	1
House Finch	0	1
American Crow	1	5
Mockingbird	1	0
European Starling	17	0
Total	92	50

Does the Location of the Bird Feeder Matter?

by Calvin, Grade 6
 New Canaan Country School
 New Canaan, CT
 Mrs. Frey

Purpose

The objective of this study was to determine whether birds care where the feeder is, closer or farther away from humans.

Hypothesis

I think that the birds will be scared of us (the humans) and almost all of them will go to the far feeder. This will be true because whenever humans go close to birds they fly away.

Variables

Independent: Location of the feeder

Dependent: How many and what birds go to which feeder

Constant: The feeder, seed type

Materials

Two tube feeders, black oil sunflower seeds, notepad, binoculars, pen

Methods

This experiment was conducted in the outside yard by Mrs. Frey's room. There is one bush that all the birds like to hide in. The feeders were hung approximately 30 feet away

from each other. The close feeder was six feet from the window. The far feeder was 36 feet away from the window.

Two tube feeders were used. Black oil sunflower seeds were used to fill the feeders. The observations of the feeders were conducted from inside the classroom looking through the window. If the bird could not be identified, binoculars were used. Observations were conducted for 10 minute periods for 3 observations. The data was recorded in a notebook.

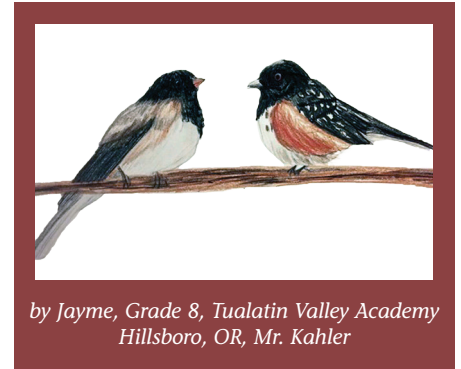
Results

In Figure 1 you can see how many birds went to the near or far feeder. Figure 2 shows the species of birds that went to each feeder. I saw a total of 6 species and a total of 68 birds. The Tufted Titmouse visited a total of 38 times!

Discussion

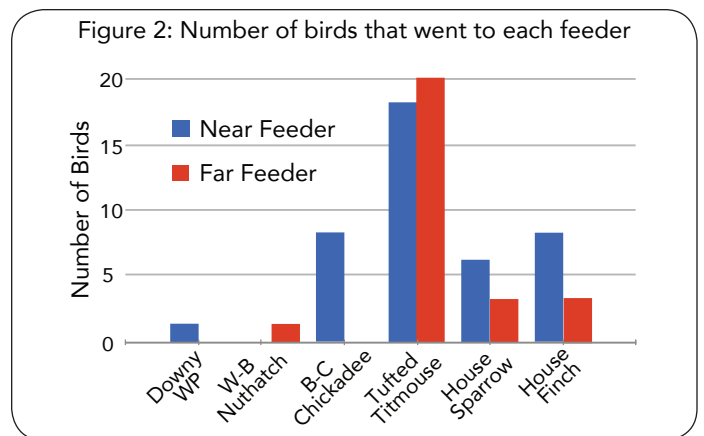
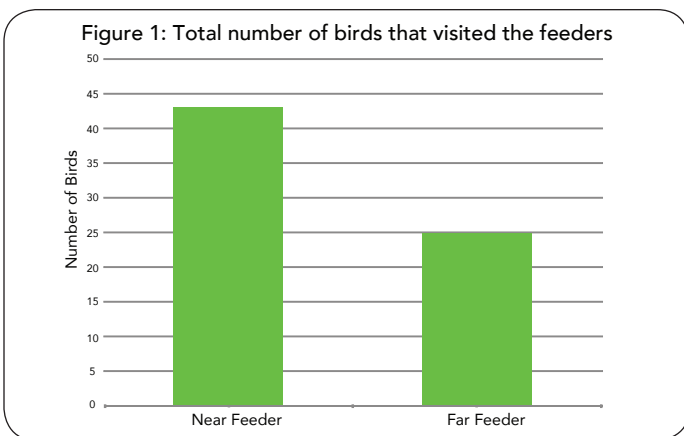
After conducting this experiment, I have learned that birds like feeders that are closer to humans rather than feeders that are farther. As you can see in Figure 1, 43 birds came to the close feeder and 25 went to the far feeder. While most birds followed the pattern, Figure 2 shows that the Tufted Titmouse came very often to both of the feeders. For example, the House Finch and the House Sparrow came mostly to the near feeder.

There could have been some inaccuracies in my study. It was really



windy one day and that could have affected the birds that came to the feeders. Another possible inaccuracy is the temperature. There were some days when it was extremely cold and others when it was very hot. Also, I did not put the same amount of seed in each feeder. This could have affected my study because some of the feeders could be empty so the birds did not come to the feeders. Lastly, there were people walking around during some of my observations.

There are some ways to improve the accuracy of my experiment. I could fix these problems by waiting till the weather is close to the same as other days. I could have filled the feeders every time I had an observation. Finally, I could have nicely asked the people to leave. If I had to pursue this experiment further, it would be interesting to put the feeders in different places and see how the birds react. Another thing that might be interesting is to adjust the height of the feeders and see how the birds respond.



The Frugal Backyard Birder: Maximizing Variety and Minimizing Costs

by Mary Ellen, Grade 6
St. Andrew Apostle School
Silver Spring, MD
Ms. Sheehan

Purpose

I enjoy backyard birding and have been birding for 3 years. Some people give up backyard birding if they don't see enough of a variety of birds or if it's too expensive. I wanted to find a seed that attracts a lot of different birds and doesn't cost too much.

Hypothesis

My hypothesis was that a mixture of seeds would attract the greatest variety of birds at the lowest cost. The mixture would need to have seeds that birds like and not a lot of fillers that would be wasted. According to my research, sunflower and white millet attract the greatest variety of backyard birds, and safflower is appealing to cardinals [1, 2, 3]. The mixture that I used had all of these seeds and 2 fillers.

Variables

Independent: Seed type

Dependent: Cost of seed per number of species attracted

Constant: Type of feeder, location of feeder, observation time



by Daniel, Grade 4, homeschool
Rogers, AR

Materials

1. Seeds
 - White Proso Millet
 - Safflower
 - Sunflower Hearts and Chips
 - Gourmet Blend (sunflower, milo, wheat, white millet, safflower)
2. Squirrel-resistant feeders
3. Digital kitchen scale
4. Trail camera with 30 GB flash memory card
5. Container for measuring and pouring seed

Methods

The experiment was conducted in my backyard between December 20, 2016 and December 27, 2016. I looked at four different seed types: millet, safflower, sunflower, and a gourmet blend. The gourmet blend included these three seeds plus milo and wheat.

Each type of seed was placed in the feeder and observed for two days. Only one seed type was present at a time. For each type of seed, I measured the cost of the seed eaten and the number of different species of birds that came to the feeder.

To measure the cost of seed eaten, I weighed the seed before putting it in the feeders. After two days, I weighed the remaining seed and found the amount of seed eaten. I calculated the cost of seed eaten by multiplying the cost per ounce of seed by the ounces eaten.

To measure the number of different species of birds, I set up a trail camera that takes pictures every time it senses motion. I attached the trail camera to our deck railing to view the bird feeders. For each seed type, I looked at pictures over the two days that the seed was present between 7:30am and 8:30am, 11:30am and 12:30pm, and 3:30pm and 4:30pm. I calculated the average number of species per hour over the six time periods.



by Alyse, Grade 3, Wesley D. Tisdale School
Ramsey, NJ, Mrs. Dunne

For each seed type, I looked at the frequency of visits for each bird species. I calculated the percentage of visits that each species was present (number of visits for a species divided by the total number of visits in the hour). I also recorded the temperature at the beginning of each hour and whether or not it was raining or snowing.

Results

The gourmet blend attracted the greatest variety of birds at the lowest cost (Table 1). Birds ate 27.5 ounces of the gourmet blend over the two-day period. The cost of the gourmet blend eaten was \$1.37. I saw an average of 8.2 different species per hour. Therefore, the cost per species attracted was 17 cents for the gourmet blend. The other three seed types had higher costs and attracted fewer species.

For the gourmet blend, there was an average of 21 visits to the feeder per hour. The most frequently seen species (present in at least 10% of all visits) were House Sparrow, Tufted Titmouse, Dark-eyed Junco, Black-capped Chickadee, Northern Cardinal, Red-bellied Woodpecker, Mourning Dove, and House Finch (Figure 1).

Discussion

The results may vary in different seasons due to migration patterns. The weather could have affected the results. It was warmer when the

gourmet blend was in the feeder. There was rain one day when the sunflower was in the feeder. Different prices could have affected the results. Costs were based on the prices of the seeds at a mix of my local store and online stores.

I'm still curious about why the birds ate less of the gourmet blend. I didn't see any waste on the ground but they may have picked out preferred seeds and left other seeds in the feeder. Next time, I would also look at the types of seeds that are left in the feeder instead of just weighing them. I learned that you can see a lot of different birds at your feeder and that you don't have to spend a lot of money to do it.

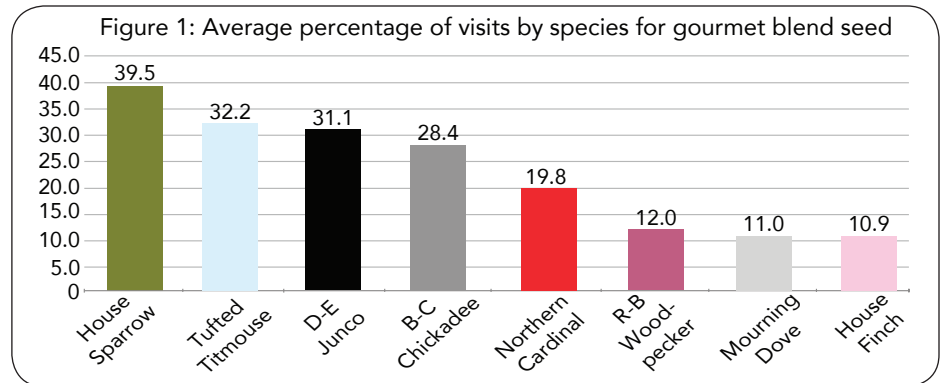
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2. Martin, Deborah. *Secrets of Backyard Bird-feeding Success*. New York: Rodale Inc., 2011.
3. Cornell Lab of Ornithology. *Feeding Birds: A Quick Guide to Seed Types*. <https://www.allaboutbirds.org/types-of-bird-seed-a-quick-guide/>
4. Tekiela, Stan. *Birds of Maryland and Delaware*. Cambridge: Adventure Publications Inc., 2005.

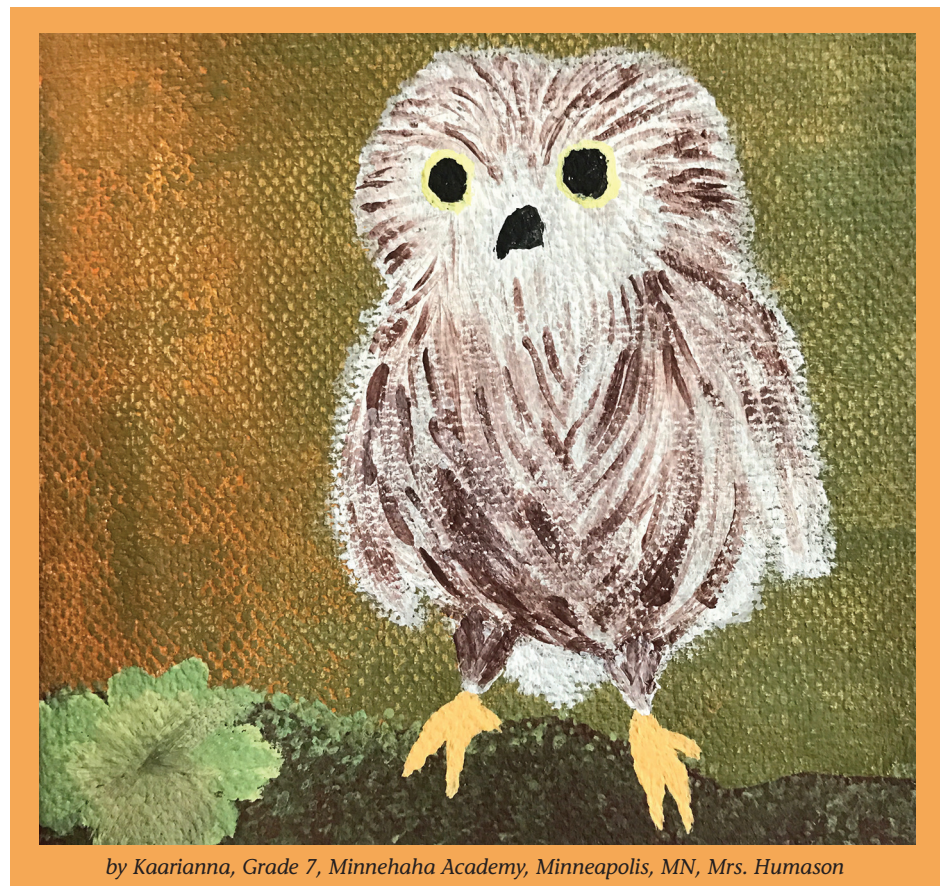
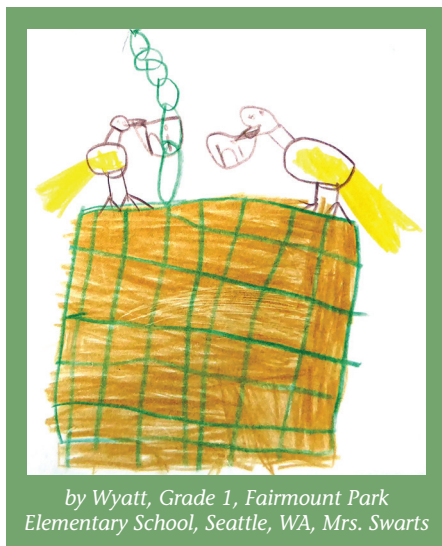
Table 1: Cost Per Species Attracted of Seed Types

Seed	Cost per Ounce ¹	Ounces Eaten ²	Total Cost ³	Average Number of Species ⁴	Cost per Species ⁵
Millet	\$0.09	37.05	\$3.33	4.50	\$0.74
Safflower	\$0.11	28.92	\$3.18	4.17	\$0.76
Sunflower	\$0.09	43.45	\$3.91	7.83	\$0.50
Gourmet Blend	\$0.05	27.45	\$1.37	8.17	\$0.17

¹Purchase price excluding tax ²Amount of seed eaten in 48 hours ³Cost of seed eaten in 48 hours
⁴Average number of species observed during 6, hour-long observation windows
⁵Total cost / average number of species



This chart presents only bird species that were present in 10% or more of the visits. Species that were present in less than 10% of the visits were American Goldfinch, Carolina Wren, Downy Woodpecker, White-breasted Nuthatch, and White-throated Sparrow.



The Red-winged Blackbirds; Their Behaviour In Spring

by Zoë, Grade 5
Homeschool
Victoria, BC

Day One, April 12th 2017,
Swan Lake Nature
Sanctuary, Saanich B.C.

The air is filled with the calls of competing male Red-winged Blackbirds. I watch as a male eats duck food off the dock. He lets out a long high-pitched whistle and rubs his neck on the deck for a quick moment. After some hopping, he flies away.

**Day Two, April 19th 2017,
Swan Lake Nature Sanctuary,
Saanich B.C.**

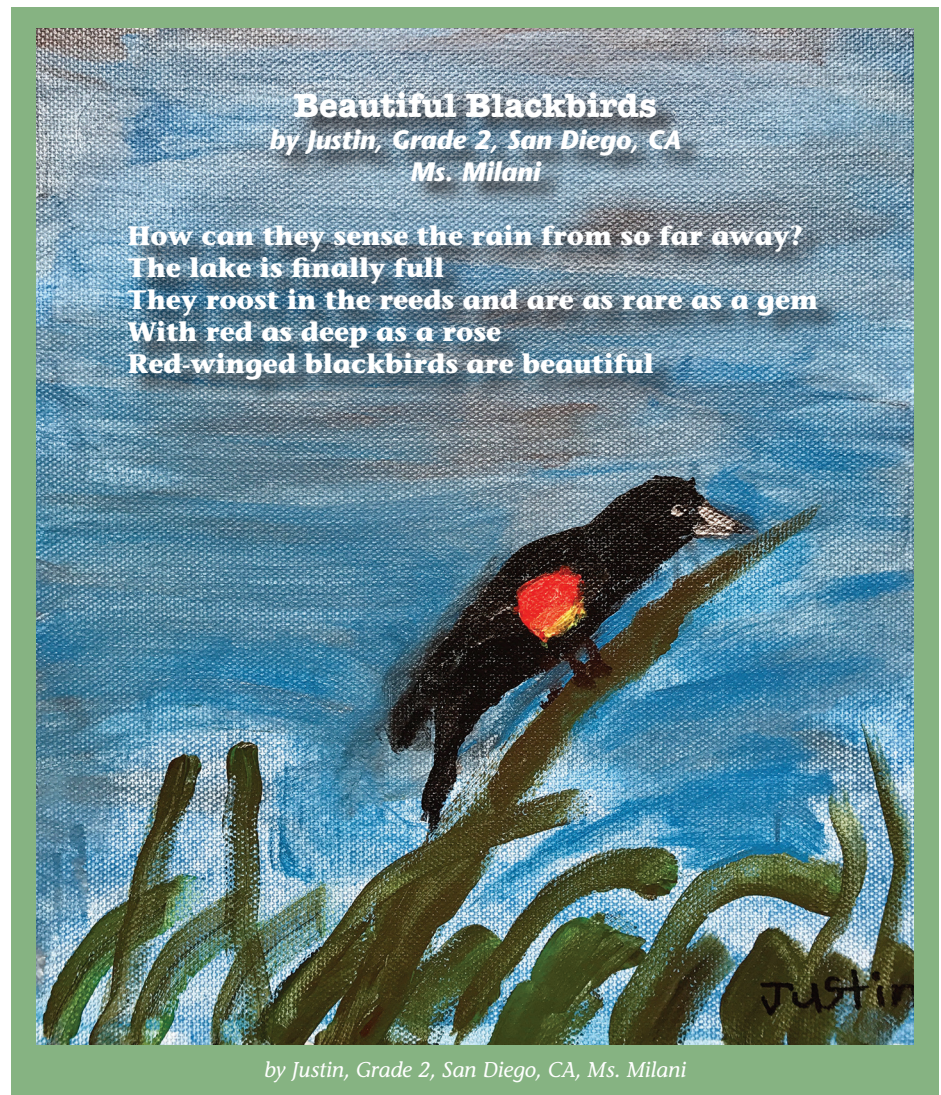
The lake is pretty quiet today. On the dock a female Red-winged Blackbird is eating duck food. A male has come a couple of times to fluff his wings and call to her. I think it's him who is going "conk-la-ree" in the shrubs around the lake. Maybe even he was the male I saw last week here on the dock.

**Day Three, April 28th 2017,
Swan Lake Nature Sanctuary,
Saanich B.C.**

Red-winged Blackbird males chase a crow.



by Sutekh, Grade 6, Woodfield
Macon, GA, Mrs. Alderman



by Justin, Grade 2, San Diego, CA, Ms. Milani

**Day Four, May 8th 2017, Swan
Lake Nature Sanctuary,
Saanich B.C.**

A female Red-winged Blackbird flutters in the cattails. She flaps her wings and calls out loudly in midair. A male perches on the dock, calls and puffs his wings. Then he flies away. A

little while later he comes back and does the same. There are two crows flying about. The male Red-winged Blackbirds chase them. A female comes to the dock, then flies away. The female Red-winged Blackbird is back. A male is flying after her and calling. Another female shows up and the male shows off to both.



by Eman, Grade 4, Salina Intermediate, Dearborn, MI, Ms. Aljebori

Birds of the Juan

by *Christina and Lexi*
Grades 11 and 10
Page High School
Page, AZ
Ms. Carryer

In 2015, 26 friends, colleagues, and strangers began and completed an adventurous journey down the San Juan River—84 miles of pure wilderness, each of us becoming birdwatchers, but going far beyond that. We young, aspiring birdwatchers spotted the birds, learned how to identify the species, recorded the river mile the bird was spotted, and then finally tallied up the number of birds and their species—coming to a grand total of 338 birds of 22 different species.

As we traveled down the San Juan, slowly being cooked by the sun, we grew more intrigued by the wonder of the winged creatures inhabiting the canyon walls that surrounded our five small rafts. Incredible birds from Black-chinned Hummingbirds to Red-tailed Hawks, even the Great Blue Heron, let their home be our home. Worldwide there are approximately 10,000 different bird species! The hummingbirds fascinated us in many ways: the way they zoomed around and their ability to hover in the air almost as if they have stopped to stare at you.

The Cliff Swallows were the answer to our question about the strange cone shaped structures on the canyon walls. It was as if the canyon walls had freckles but no, they were homes. Cliff Swallow nests are very strange looking things, almost like someone had thrown a ball of tape at the wall, and it stuck. Cliff Swallows create this type of nest by collecting pellets of mud enabling them to create a nest on a vertical wall.

Glancing under the rims of our straw hats, we see something. In



Christine and Lexi, Grades 11 and 10, Page High School, Page, AZ, Ms. Carryer

fact we see two somethings. Large birds far above us soaring, putting other birds to shame with their strength and elegance. These birds have a pale stripe along the underside of their wings. Much like how a pale stripe marks a skunk this stripe marks a Turkey Vulture.

Why are Turkey Vultures so detested? How did such a strong creature have such a preconceived disliking? Turkey Vultures feed on carcasses. They also have bald heads colored red. Based on these facts “they look scary and eat dead things,” we wouldn’t like them either. Digging deeper, we discovered what these birds really are. They’re our cleaning crew. Feeding on dead animals means we don’t have rotting carcasses everywhere smelling up our streets, parks, farms, backyards—you get the idea. We may not notice the impact Turkey Vultures have in the world, but we would see it if they weren’t here.

Another amazing bird we spotted on the river, and by far the most abundant species, was the Canada Goose. Within our group we saw a

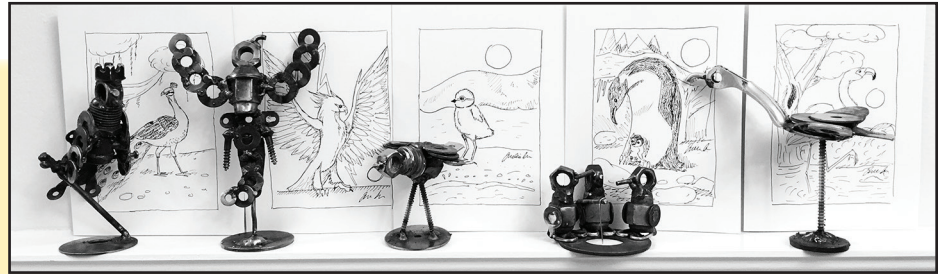
total of 118 Canada Geese. Always sticking together, their flock size ranged from the smallest at three, to a flock of twenty geese seen cruising along together. Though some consider these creatures pests, on the river we were able to see their importance in this thing we call, “the circle of life”.

Though we misunderstand some of the creatures that roam the earth, like the Canada Goose and the Turkey Vulture, they are just as important in the circle of life as any other creature, us included.

Overall, by the end the trip we developed a new appreciation for birds, before never really paying mind to them. Birds play a big role in the environment, even in our daily lives. Seeing 338 different birds and with still many more unseen, the search continues. The river taught us everything plays an important role, no matter how seemingly small. Thank you to The Outdoor Foundation, Grand Canyon Youth, Page High School, and Glen Canyon National Recreation Area for an amazing experience!

Bird Rap

by Jordan and Isa, Grade 6
Essex Middle School
Essex, VT
Mrs. Dunn



by Julia, Grade 6, Cranbrook Girls Middle School, Bloomfield Hills, MI, Mrs. Lorey

The Chickadee says “chick a chick a dee dee dee”
The White-breasted Nuthatch walks down the tree
You can see the Hairy Woodpeckers bright red plume,
But then the squirrel barges in and says “Make some room!”
The Tufted Titmouse has a pointy, gray head
And eats while the hibernating bears are in bed
The American Goldfinch is sun bright yellow
While the Mourning Dove’s brown color is pretty mellow.
So now it’s over, our song is done, you should go birdwatching, it’s really fun!



by Maria, Grade 3, Wesley D. Tisdale School,
Ramsey, NJ, Mrs. Dunne



by Ariel, Grade 8, Tualatin Valley Academy
Hillsboro, OR, Mr. Kahler



by Brooke, Grade 2, PS87 William T. Sherman
New York, NY, Ms. Furman

Recommendations for a Bird Investigation in the City

by Nathaniel, Grade 7
Cedar Rapids Home School Assistance Program, Cedar Rapids, IA
Ms. Malek

For any investigation requiring a bird feeder, I have a few but probably obvious recommendations. These are some recommendations you should know if you want to do an investigation in the city.

First off, you should always know not to place it where birds are scarce. Place it where you hear the most chirping. If you place it where there is barely any chirping, then there probably won't be very many birds coming to that spot.

The next recommendation is also about the location. You should place it in a big tree with lots of greenery. The birds like to hide out in the greenery where predators can't see them. Make sure it's also as far away from the street as possible. The height is another thing you should take into account. Make sure the feeder is high in the tree, where the birds hang out.

The next step is to make sure there is plenty of seed. If you are using a handcrafted bird feeder, then make sure there are no holes where the seed can fall out. Also make sure it's on a stable branch. It isn't just the branch that would break; the feeder can too if it's not stable enough. The weight of the birds can cause the branch or even the feeder to break if they cannot support the weight.

Always try to follow all of these recommendations if at all possible. This will help your experiment to go smoothly and you could get a lot more info than if you don't follow these steps.



by Charlie, Grade 6, Essex Middle School
Essex, VT, Mrs. Dunn

Bird Haiku
by Betsy, Grade 7
Minnehaha Academy
Minneapolis, MN
Mrs. Humason

The wind blows slightly,
as the Black-capped Chickadee
hammers open seeds.



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



by Sofia, Grade 4, homeschool
Lake Stevens, WA



by Julia, Grade 6
Cranbrook Girls Middle School
Bloomfield Hills, MI, Mrs. Lorey



by Audrey, Grade 7
Cedar Rapids Home School Assistance Program
Cedar Rapids, IA, Ms. Malek

Winged Creatures

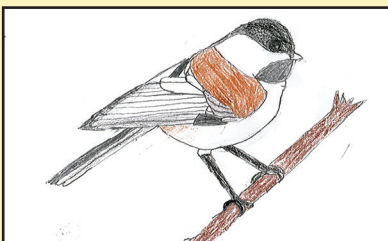
by Dori, Grade 7
Minnehaha Academy, Minneapolis, MN
Mrs. Humason

Swooping, diving, soaring,
flitting, bouncing, flying,
the air swallows the black capped's body,
the wind supports the eagle's large wings.

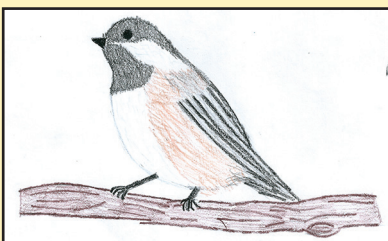
The hawk circles the bridge,
while the sparrows hide in the trees,
day in and day out, the chickadees flit from branch, to branch,
but the robin stays in its nest.

The prey has no where to run from the mighty hawk,
while the fish better swim away from the taloned claws,
but the seeds sit waiting for the smaller, meeker birds.

Stop these movements in time to find what you seek,
these mere winged creatures are much more than classified beings,
they are living and breathing just like you and me.



by Isa, Grade 6, Essex Middle School
Essex, VT, Mrs. Dunn



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

Spring

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

Birds sing a song
It welcomes us to spring
Now that winters gone
We do come out to sing
A bird's song is a calling
A calling to new life
As white snow falls away
And creates true life
We watch the bunnies hop along
And the blue birds sing
Now this is really what
I do believe is spring



by Micah, Grade 6
Cedar Rapids Home School
Assistance Program
Cedar Rapids, IA, Ms. Malek



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



by Jada, Grade 7, Minnehaha Academy
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by Luke, Grade 7, Minnehaha Academy
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by Danielle, Grade 7
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by Clare, Grade 1
homeschool, Cazenovia, NY



by Kadek, Grade 4, Begawan Foundation, Bali, Indonesia, Ms. Dunstone

BirdSleuth
INVESTIGATOR

Volume 6, Fall 2017

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BirdSleuth Investigator is a publication of works by students participating in BirdSleuth, an education program at the Cornell Lab of Ornithology. BirdSleuth is designed to promote science literacy through hands-on indoor and outdoor science learning experiences and student participation in citizen science.

To learn more about BirdSleuth, visit birdsleuth.org

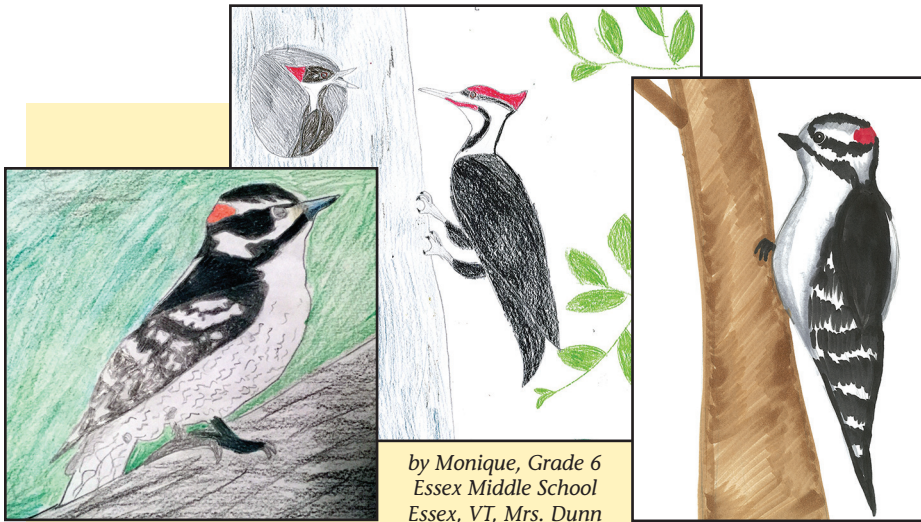
We would like to thank 3-D® Pet Products and Wild Delight® Outdoor Pet Products for their generous support of this publication.

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Dear Educator

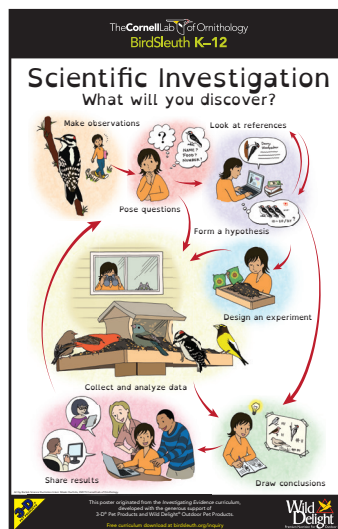


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Bluebird by Sarah, Grade 11, Cortland High School, Cortland, NY, Mrs. Jackson



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