

The Cornell Lab of Ornithology
BirdSleuth K-12

Science reports
and original artwork
for and by students



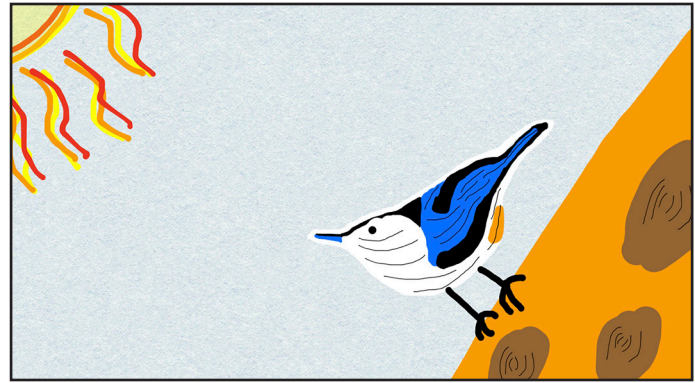
BirdSleuth
INVESTIGATOR
2016

Dear Students

Publishing *BirdSleuth Investigator* is my favorite responsibility here at the Cornell Lab! I thoroughly enjoy seeing the creativity, curiosity, and enthusiasm for birds and science that shines so brightly in the submissions received each year. Sharing and celebrating excellent student work is a special treat and I hope you enjoy reading this issue as much as I have enjoyed putting it together.

The questions students asked this year and the fresh approaches they took in exploring their hypotheses was quite impressive. What a joy it is to see how birds inspire creativity through poetry, stories, and visual art!

As you peruse the pages of this magazine, I hope you're inspired to ask and answer your own scientific questions, to write creatively, and to break out your art supplies. I look forward to publishing YOUR submissions in *BirdSleuth Investigator 2017*!



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

Sincerely,

A handwritten signature in black ink that reads "Stacie Mann".

Stacie Mann
Editor, *BirdSleuth Investigator* 2016

Front Cover: by Maya, Grade 7, Tualatin Valley Academy, Hillsboro, OR, Mr. Kahler

National Park Service—100th Anniversary

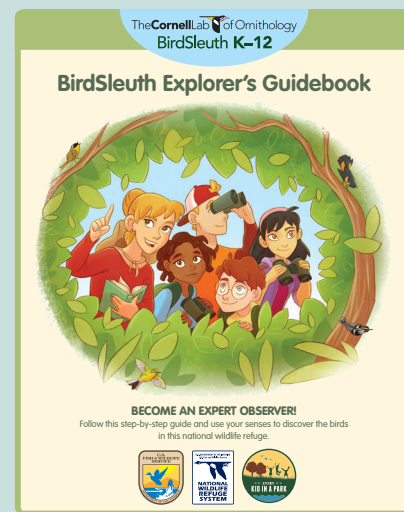
This year is the 100th anniversary of America's National Park System, and that's a pretty cool thing! While Yellowstone was established as the first national park in 1872 and others were added in the next several decades, the early parks lacked an over-arching focus. Some people argued that we should use the resources in these lands to create wealth and power for the country, while others thought we should preserve and protect them for future generations. The preservationists won and the National Park System, what writer and naturalist Wallace Stegner called "the greatest idea we ever had," was created in 1916.

Since then, we've added many more national parks, national monuments, national game refuges, bird sanctuaries, and millions of acres of national forests. These lands belong to you and me. They are part of the story of America. When we think of what makes our country special, we often think of symbols like the Grand Canyon, Yellowstone, and the Statue of Liberty. And sometimes, like Elsie on the following page, we ask a good question about our national parks and get our report published!

Have you been to a national park? What's your favorite? Looking at Elsie's data analysis article, Bald Eagles seem to like Yellowstone! If you could visit one national park this year, which one would you choose? If you could do a scientific investigation in your favorite park, what question would you

ask? We'd love to see the results of your investigations and data explorations in next year's *BirdSleuth Investigator*!

To help you get started, we created the *BirdSleuth Explorer's Guidebook*. Inspired by the federal Every Kid in a Park initiative, this step-by-step handbook will help you explore our country's diverse habitats and the birds that live there, in a park or any outdoor place. Thanks to a generous supporter, this resource is available as a free download at birdsleuth.org/guidebook. Get your copy today, then visit a national park and share in America's natural legacy.



DATA ANALYSIS

National Parks and Bald Eagles

by *Elsie, Grade 7*
Minnehaha Academy
Minneapolis, MN
Mrs. Humason

Question

Were Bald Eagles more frequently found in Yellowstone National Park, Zion National Park, Badlands National Park, or Glacier National Park in 2015?

Introduction

I am interested in national parks and I want to know which park sees the most Bald Eagles since it is our country's bird.

Procedure

1. Go to eBird.org
2. Go to Explore Data, then Line Graphs, then type "Bald Eagle." Click Continue
3. Click Change Location
4. Select United States, Wyoming, Important Bird Areas. Click Continue
5. Scroll down and select Yellowstone National Park. Click Continue
6. Download the information
7. For Badlands National Park, repeat steps 2 & 3 and the following steps:
8. Select United States and South Dakota, then select Bird Conservation Regions
9. Scroll down to Badlands and Prairies and download the information
10. For Zion National Park repeat steps 2 & 3 and the following steps:
11. Select United States and Utah, then Important Bird Areas
12. Scroll down to Zion National Park and download the information

13. For Glacier National Park repeat steps 2 & 3 and the following steps:

14. Select United States and Montana, then Important Bird Areas

15. Scroll down to Glacier National Park and download the information

16. Calculate the average frequency of Bald Eagles for each park

Analysis

The range of this data is 0% average frequency to 100% average frequency of Bald Eagles. The pattern I see are that Bald Eagles are found more in the national parks that are farther north and cooler. Zion National Park has a canyon with a river but it often gets to over 100 degrees in the summer. That is why there is only a .92 average frequency of Bald Eagles. Yellowstone National Park has lots of high and rocky places which make nice nests. Yellowstone is also cooler so it has the highest average frequency of Bald Eagles, 16.48 Badlands are an area with very dry plains but not too hot. It has a 10.12 average frequency of Bald Eagles. Glacier National Park has lakes and grasses. Its average frequency is 6.81. The location of the national park is the major pattern in this data.

Conclusion

Based on this data, I conclude that Bald Eagles are, on average, found

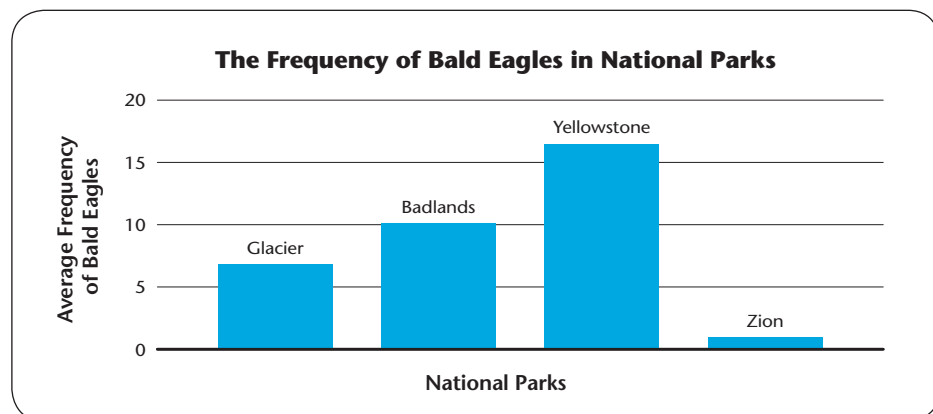


by *Will, Grade 7, Minnehaha Academy*
Minneapolis, MN, Mrs. Humason

most frequently in Yellowstone National Park. Yellowstone has an average frequency of 16.48 and the closest average frequency to that is Badlands with 10.12.

The data could have been improved by using the data of other years and of more national parks. I think there would have been a clearer pattern with more national parks. The more national parks and the more years of data, the more accurate the data will be.

From this study I have new questions. First, I wonder if the average frequency of Bald Eagles in national parks has increased or decreased in the last 10 years. I also am interested in knowing what species of bird is the most common in all national parks.



DATA ANALYSIS

Comparing Mute Swan and Snow Goose Visits in Vermont

by Cora and Madison, Grade 6
Essex Middle School
Essex, VT
Mrs. Dunn

Introduction

For our project we decided to compare the Mute Swan and the Snow Goose. Mute Swans are usually found in city parks, bays and lakes. The Snow Goose is usually found in ponds, shallow lakes, coastal salt marshes and streams.⁽¹⁾ Mute Swans are very large, have short legs and a long slender neck.⁽¹⁾ Snow Geese have white bodies, a sturdy bill and a long neck.⁽¹⁾ The Snow Goose has a wingspan of 54.3 inches (138 centimeters). The Mute Swan has a wingspan of 81.9–93.7 inches (208 centimeters). Our hypothesis is that the Snow Goose is more common in Vermont than the Mute Swan. This is important to study because it helps to understand more about birds that live in Vermont. This project was chosen because we wanted to study birds that are new to us and that we have not studied yet.

Materials and Methods

We used eBird to get the information on how many visits Vermont gets from the Mute Swan and the Snow Goose. After that we looked at the bar charts and frequency graphs on eBird and compared their data to see which one is more common.

Results and Analysis

The Mute Swan and the Snow Goose had very different results. The Snow Goose is more common in Vermont than the Mute Swan. On eBird we found out that the Snow Goose is most common in October and the Mute Swan is most common in February, March, April, May and November.

Discussion and Conclusion

In our study, we found a lot of great data from both of the birds. We think that it was a great opportunity to learn about two different birds that we have never heard about before and compare their visits. In the future, some other questions we could use are, does weather impact when the Mute Swan and Snow Goose visit or does the wind chill affect the visits from the Snow Goose and the Mute Swan.

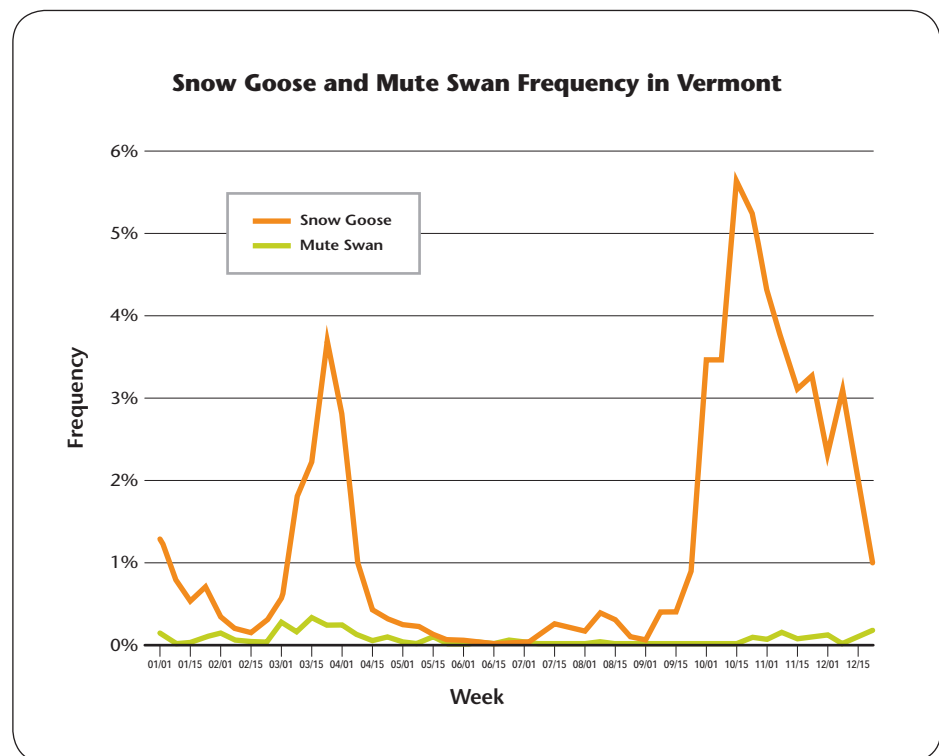
Resources

1. All About Birds “Online Bird Guide, Bird ID Help, Life History, Bird Sounds from Cornell.”
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<<https://www.allaboutbirds.org/>>.
2. eBird “News and Features.” *EBird*. The Cornell Lab of Ornithology, n.d. Web. 21 Mar. 2016.
<<http://ebird.org/content/ebird/>>.
3. Energy and Environmental Protection “DEEP: Mute Swan Fact Sheet.” *DEEP*:



Mute Swan Fact Sheet. Ct.gov, n.d. Web. 21 Mar. 2016.
<<http://www.ct.gov/deep/cwp/view.asp?A=2723&Q=326046>>.

4. Bird Web “Snow Goose.” *BirdWeb*. Seattle Audubon Society, n.d. Web. 21 Mar. 2016.
<http://www.birdweb.org/birdweb/bird/snow_goose>.



The graph shows that our hypothesis was supported, that the Snow Goose was more common than the Mute Swan.

INVESTIGATIONS

Bird Sounds Through the Year

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

Question

How does the time of year affect the frequency of bird vocalizations in St. Paul, MN?

Introduction

I chose this question because I am interested in learning if birds are more vocally active in spring than at other times in the year.

The independent variable is the time of year.

The dependent variable is the frequency of bird vocalizations.

The factors that will be kept constant are the place of observation (my backyard), the time of observation, and method of counting.

Hypotheses

- H1: If the time of year is winter, then fewer bird vocalizations will occur.
- H2: If the time of year is winter, then more bird vocalizations will occur.
- H0: If the time of year is winter, then the frequency of bird vocalizations will not change.

Procedure

1. Go to my backyard every Monday, Wednesday, and Saturday at 6:30 am between January and March.
2. Observe for 15 minutes.
3. Tally all bird vocalizations heard. A vocalization is every time a bird makes an individual noise. For example, a quick succession of chirps is one vocalization.
4. Repeat for all listed observation times.

Data

Date	Tally of Bird Vocalizations
1/27/2016	2
1/30/2016	0
2/1/2016	0
2/3/2016	5
2/6/2016	0
2/8/2016	3
2/13/2016	1
2/15/2016	0
2/17/2016	1
2/20/2016	20
2/22/2016	42
2/24/2016	45
2/27/2016	96
2/29/2016	77
3/7/2016	96
3/9/2016	120
3/12/2016	89
3/14/2016	147
3/16/2016	134

Analysis

The data collected shows a huge increase in the number of bird vocalizations starting February 22, 2016. This is notable because it was very close to the time period when snow was melting quickly and spring began in my backyard. There was a large range of data, from 0 to 147 bird vocalizations recorded in the 15 minute segments. Generally, the number of vocalizations increased as time passed.

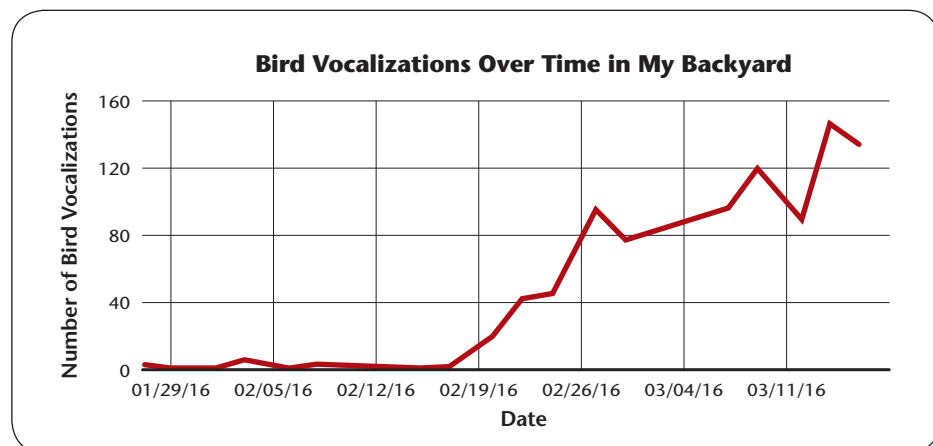


by Antonio, Grade 9, Maplewood High School
Nashville, TN, Mr. Mitchell

Conclusion

This data has supported my first hypothesis: If the time of year is winter, then fewer bird vocalizations will occur. This conclusion can be reached because the number of bird vocalizations greatly increased as the time of year progressed from January (winter) to March (spring).

To improve this experiment, I would have collected data over the course of an entire year to get a better view of seasonal changes. I also would have gathered data in multiple locations. This would provide a more overall view of when birds are active in my city. This study raises a few questions, such as what time of day are birds most vocally active, and how does temperature affect bird activity? Additionally, how many species are vocally active in my backyard during different times of the year?



How Do Grey Squirrel Visits Affect Tufted Titmice Visits?

by Maddy and Ivy, Grade 6
Essex Middle School
Essex, VT
Mrs. Dunn

Introduction

Eastern Grey Squirrels spend a lot of time and energy eating. By the end of the week they have consumed more than their body weight in food.⁽³⁾ They can generally jump 8–10 ft between objects and 4–5 ft vertically⁽³⁾. In addition, they smell bird seed from great distances⁽³⁾ which means that, while also being able to get to the bird feeder with ease, they can find it efficiently too.

In this study we explored the interaction between Tufted Titmice visits and squirrel visits. Our hypothesis is that more visits by squirrels to bird feeders will decrease the visits by Tufted Titmice because squirrels will scare most of the birds away as well as taking up most of the space in the feeder while also eating significant amounts of the feed.

Materials and Methods

We put our bird feeders 11 meters from the school building and at the edge of a medium density forest with a paved area in front and a field just behind. We observed from December to February two times per month, 3 times per day, 10 minutes per session, 30 minutes between each session. We observed from 8:30 to 12:00 in the morning.

Bird visits were recorded as one bird that came to a feeder then left. We used binoculars and recorded our data on pencil and paper then entered it into the computer. We had many different types of feeders that we observed, most of which were made out of recycled materials made by students. There were also one suet, two nyjer, one tube,



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

and one hopper feeder. Thank you to Mrs. Kenyon, a science teacher at Essex Middle School, for the squirrel-proof feeders that worked very well. The seed that we put into the feeders was black oil sunflower, nyjer, and suet.

Results and Analysis

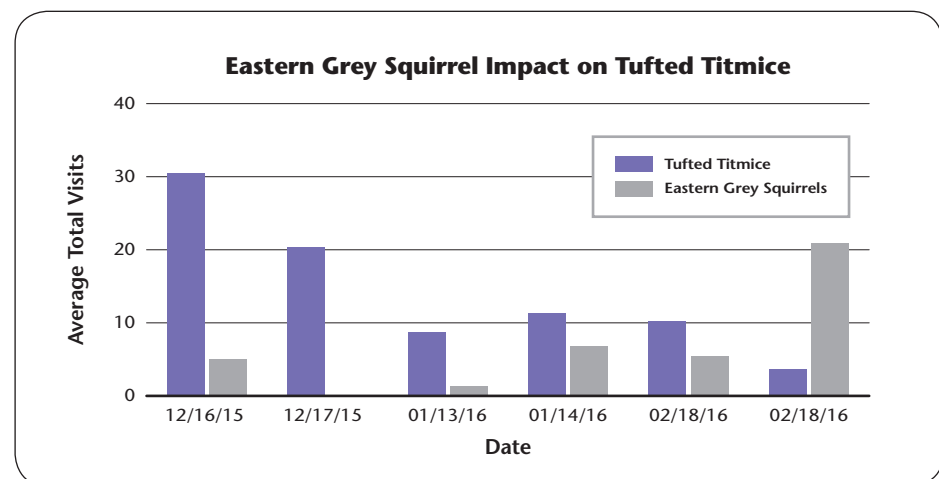
There is a simple relationship going on with the squirrels and the Tufted Titmice. In most of the cases, we find that when there are more visits by the Eastern Grey Squirrels, there are less visits from the Tufted Titmice. For example, on the last day of observation the squirrels had many more visits than the Tufted Titmice and it is clear that the squirrels were most likely scaring them away. But there was a funny pattern on the first day. There were more Tufted Titmice than squirrels. We don't know what that pattern means. Maybe they try to avoid each other. Further study on this particular topic could be helpful for a more accurate correlation.

Discussion and Conclusion

In our study, our data supports our hypothesis sometimes but sometimes they are pretty close and it's hard to tell. The squirrels always seem to disturb bird feeders, so there may be no way to keep them away from the birds. There are a couple of ways to help such as putting out a squirrel feeder as well as a bird feeder. If you hang a bird feeder in the trees and put a squirrel feeder on the ground, they will probably be more attracted to their own feeder. Further study on this topic could include more data collection to provide a more accurate correlation, maybe including data from making a squirrel feeder and seeing what would transpire with that.

References

1. Jones, Tamera. "Grey Squirrels Stop Garden Birds Using Feeders." *Planet Earth Online*. Tamera Jones, 17 Jan. 2014. Web. 21 Mar. 2016. <http://planetearth.nerc.ac.uk/news/story.aspx?id=1589&cookieConsent=A>
2. "Squirrels and Bird Feeders." RSS. BBB, 23 Aug. 2012. Web. 21 Mar. 2016. http://www.humanesociety.org/animals/resources/tips/squirrel_proof_feeder.html
3. Wild Birds Unlimited. "Educational Resources." *Squirrels*. Pathways to Nature Conservation Fund, 2012. Web. 21 Mar. 2016. <http://www.wbu.com/education/squirrels.html>



INVESTIGATIONS

Song Sparrows and Their Calls

by Alexa, Grade 7
Tualatin Valley Academy
Hillsboro, OR
Mr. Kahler

Purpose

Song Sparrows are common birds located in a large part of the United States. They are usually found alone, but sometimes you can see them in small groups. Song Sparrows are brown with coarse streaks along their nape (the back of a bird's neck); they have darkish red-brown wings and blurry streaks running along the length of their round bellies and up to the beginning of their round tail. They have a length of about six inches and a wingspan of about eight inches.

A Song Sparrow emits a series of clear little trills. It goes something like "seet seet, zleeeee, zeet zeet." I think that is a beautiful sound for a little bird to make.

I wanted to figure whether playing a series of chirps and trills of a Song Sparrow would affect the number of Song Sparrows seen at the bird blind. Because I didn't want to mess up any of my classmates' data, I took time during my lunch period to visit the bird blind. I believed that if I play a Song Sparrow's call, there will be more Song Sparrows seen at our school's bird blind.

Procedure

Before going out to the bird blind, I needed my field guide, a pair of binoculars, a smart device to play the Song Sparrow call, and paper and pencil for notes.

While at the bird blind, I played a few chirps and songs from the Song Sparrow.

The bird calls were my independent variable because I controlled playing them or not. The number of Song Sparrows that appeared was my dependent variable because I

was looking for their response to the bird calls.

During this process I organized a list of things I saw and noticed and recorded them in my notepad.

Results

It really didn't seem like there was a difference in the number of Song Sparrows I saw with or without the calls, but I did hear a lot of calls from other Song Sparrows and I was never expecting a bunch of other birds to chirp back in response to the recorded Song Sparrow calls. When I played those songs I got so much chatter from other birds that I could barely hear my recordings play.

Conclusion

Although my data did not support my hypothesis, I did learn a lot more than I expected. I learned that even if I don't see any Song Sparrows, this doesn't mean that there aren't any around. When I

was playing the calls, sometimes I didn't see any Song Sparrows, but I sure heard them. I also learned that the Song Sparrow call had an impact on other birds. I noticed that some birds that weren't common to our bird blind started appearing more frequently.

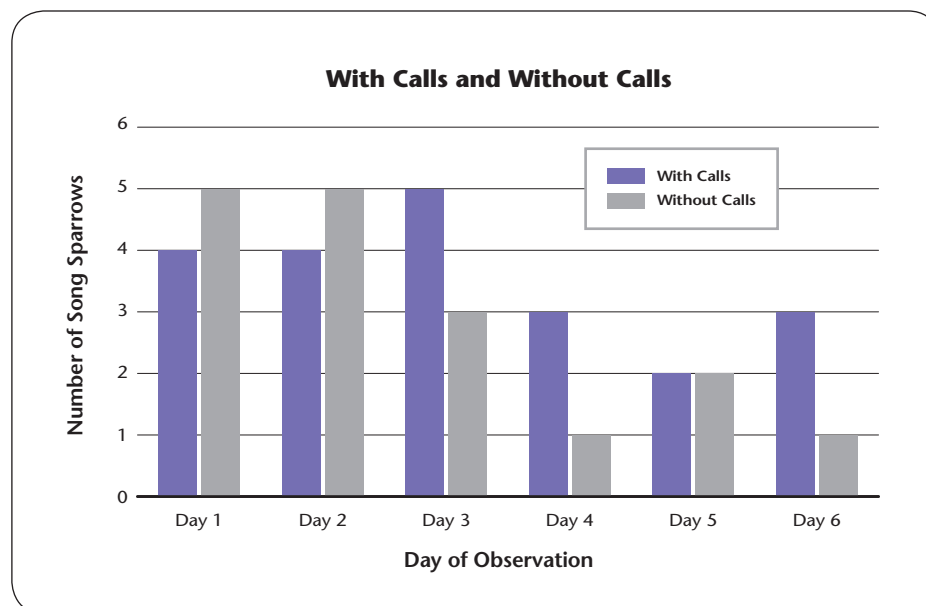
I believe that I could improve my project by playing the Song Sparrow calls again, but instead of observing the Song Sparrows, I could watch and listen how other types of birds react.

References

1. Brinkley, Edward S. Ed. Andrew Stewart. Field Guide to Birds of North America. New York: Sterling Pub., 2007. 472 and 480. Print.
2. Dunn, Jon L., and Jonathan K. Alderfer. National Geographic Field Guide to the Birds of North America. Sixth ed. Washington, D.C: National Geographic Society, 2011. 478. Print.
3. Sibley, David A. The Sibley Field Guide to Birds of Eastern North America. New York: Alfred A. Knopf, 2003. 422. Print.

With Calls	10-Feb	17-Feb	18-Feb	23-Feb	24-Feb	1-Mar
Number of Song Sparrows Seen	4	4	5	3	2	3

Without Calls	28-Jan	9-Feb	11-Feb	12-Feb	18-Feb	23-Feb
Number of Song Sparrows Seen	5	5	3	1	2	1



INVESTIGATIONS

If the Feeder is Red, Will it Attract More Birds than if the Feeder is Yellow?

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

Purpose

The objective of this study was to find out if red or yellow feeders affect bird activity.

Hypothesis

My hypothesis was that a red feeder would attract more red birds and a yellow feeder would attract more yellow birds. I thought this because of how birds are attracted to the color of mates.

Variables

Independent variable: Color of the feeder

Dependent variable: Feeder activity (species, number)

Constants: Time of day, observing from the same window, feeders hung side-by-side, seeds, observer

Materials

Red feeder, yellow feeder, black oil sunflower seed, notebook, pencil, chart.

Method

The feeders were hung on tree branches about 1.25 meters off the ground. The yellow feeder was hung closer to the tree than the red feeder, as shown in the photo above. There were neighboring feeders that were parts of other experiments, a house, evergreens, a road, a school parking lot and a stone wall around the area. Both feeders were hung next to each other and observed simultaneously. The type of seed that was used was black oil sunflower seed.



The feeders were observed from the window in the science office. Binoculars were not utilized. Observations were made every available morning at around 8:05 am. Each observation's length was 10 minutes. The study lasted for four weeks and there were ten total observations. The amount of birds and species for each feeder was recorded.

Results

Six birds were spotted, two on the red feeder and four on the yellow feeder as shown in Figure 1. There

were four American Goldfinches, two on the red feeder and two on the yellow one. There was also one House Finch and one White-breasted Nuthatch on the yellow feeder as you can see in Figure 2. On days 3 and 5 it was snowing. The yellow feeder was closer to the tree than the red feeder. During almost every observation, someone came out of the house and ran across the field where the feeders were located, potentially scaring the birds.

Figure 1: Total Birds on Yellow Feeder vs. Red Feeder

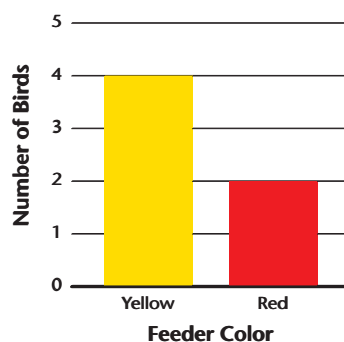
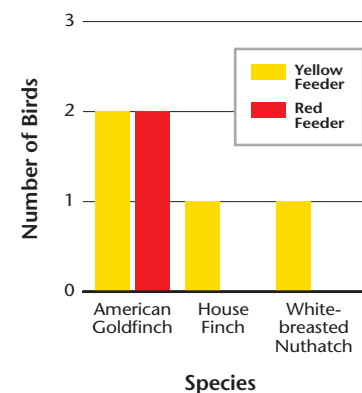


Figure 2: Amount of Birds that Landed on Yellow Feeder vs. Red Feeder



INVESTIGATIONS

Discussion

I have come to the conclusion that birds prefer a yellow feeder over a red feeder. As you can see in Figure 1, I saw a total of six birds and three species. There were two Goldfinches that landed on each feeder as well as one House Finch and one White-breasted Nuthatch on the yellow feeder. There were more species and more total birds on the yellow feeder. I think that birds like the yellow feeder more because yellow is the color of a lot of insects, corn and seeds which are three things that birds love to eat.

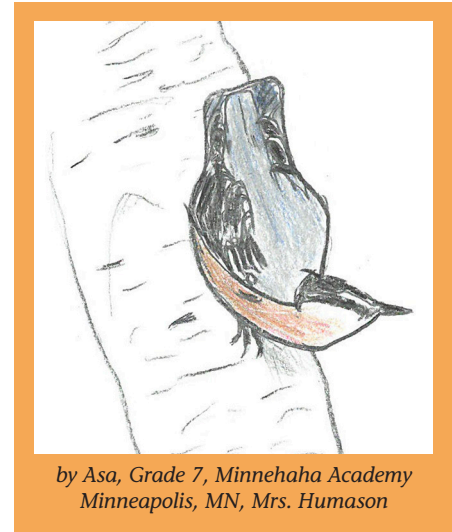
Although my results show the yellow feeder was preferred, there

are some variables that were out of my control. One thing that may have affected my results is that the yellow feeder was closer to the tree than the red feeder. This may have affected my results because birds perch in trees and the yellow feeder was more accessible from the tree. Another thing that may have affected my results was weather and air pressure. Some birds come out when it is a certain temperature. It even snowed during my 3rd and 5th observations. As stated in the results section, there was a boy who ran across the field and scared the birds away. This may have affected my results because the birds

BirdSleuth says: Seth's Discussion is an excellent example of how much we can learn when an investigation doesn't go as planned. How would you control variables in this experiment?



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



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

that could have potentially eaten from my feeder were scared away. There were also neighboring feeders and experiments happening nearby. This may have affected my results because birds want to feed off of the best feeder and other feeders may be more appealing to birds. Overall, there were a lot of flaws to my study that I could not control.

There are lots of improvements that I could have made to this experiment. One tweak would be to observe later so the person that ran across the field on each of my observations would not cut into my experiment. I would have also tried to change the place where I leave my feeders and move them away from anything that could have affected my results. One last tweak I would make is to move my feeders away from other experiments so my experiment would not be interrupted. In this case, the yellow feeder was closer to the tree than the red. Another thing I would have done is change one of the colors to a dull color and see if the vibrant one is preferred. Then I could really see if color affects feeding activity. In the end, this experiment still has high potential as long as some changes are made.

Human Watching

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

Today my class and I are going human watching! We are gathering data for our anthropology paper. Humans are quite interesting and I absolutely love collecting data relating to them. We were taught to look for distinctive features to tell the humans apart, like hair color, size, build, type of clothing, etc. We have to mark down every human we see. There are so many of them and most of them look the same. Some of my class is using past data for their papers but, personally, I think that is the lazy way out of human watching. Well, it's time to go collect data.

I push my wings up and down quickly trying to get to the food-filled observation spot first. I come in for a landing and grip my feet on a small branch that supports my body. I rearrange myself a few times before I am completely comfortable. Here comes my flock of friends. We usually announce ourselves so the humans will look at



by Hannah, Grade 5, Olympic Heights Elementary, Calgary, AB, Mrs. Furey



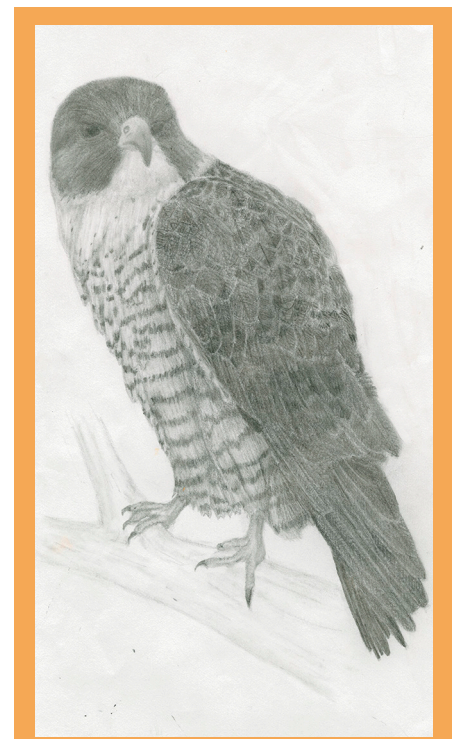
by Alison, Grade 7, Minnehaha Academy, Minneapolis, MN, Mrs. Humason

us and we can identify them more easily. We stare at them and they stare back. Why are they looking so intently at us? We are the ones watching them, not the other way around.

I start hopping around to different feeders in the observation area. There is so much food the humans provide us with. We will never get hungry again if they keep this up. Well, I've been in this spot for a few seconds. I'll hop to another one now. It's important to get a view of the bizarre specimens from all angles. There's that tall, blonde one I saw earlier, or maybe it's a different one. I can't mark it down for my data as a different one unless I see them both at the same time. Oh well, there's a lot more data to collect. I better get back to human watching.

After we collect our data we talk to each other to see if we collected the same information. We saw two tall blonde ones, two tall dark-haired ones, and four short ones wearing hats. The humans are still watching us as we are communicating. They seem excited by our noise.

I wish we could understand their language. After we have agreed on which types of humans we saw, we fly back to our homes to write our anthropology papers.



by Olivia, Grade 12, Homeschool Eau Clair, WI

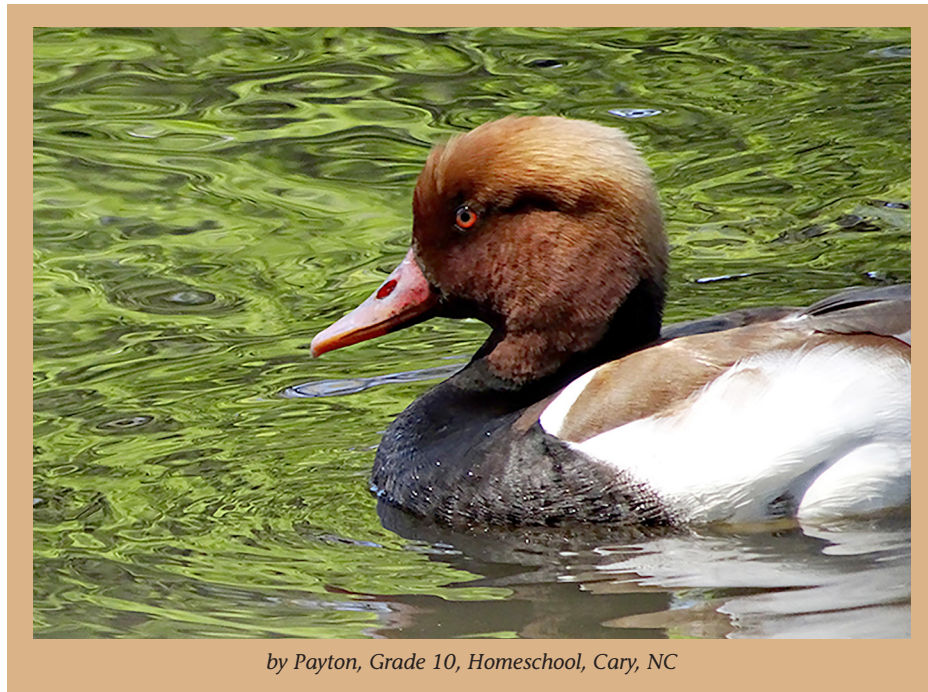
Duck Stories

*by Jaxon, Grade 2
Kettle Falls Elementary
Kettle Falls, WA
Mrs. Smith*

It is a cold and breezy spring afternoon at Owl Spot Pond outside of Chewelah. There are cattails with yellowish brown tops and green lily pads. Off to the side, tall grasses sway because a water snake is slithering along the shore. The water snake is almost three feet long with a black and green back and has fangs with a forked tongue too. Waves are splashing when Buffleheads and Hooded Mergansers are landing on the pond.

There is a small hidden patch of trees and bushes. There is a little nest with one yellowish tan colored egg splitting open. In two hours the egg hatches and a Cinnamon Teal chick sneaks out of the eggshell. The chick has a soft yellow tummy, a black stripe behind his eye, a dot under the eye and a black back with yellow spots.

In a couple minutes the rest of the eggs hatch. It is a beautiful sight to see that many eggs crack open. When they are ready only nine of the ten escape the nest by climbing



by Payton, Grade 10, Homeschool, Cary, NC

out. All of a sudden the water snake slithers by! The water snake sees the chicks but he is not hungry because he just ate a small fish. Finally, all of the other chicks make it safely to the water when that dangerous snake is not looking.

The hen comes by and does not see the tenth chick. The chick is struggling to get out of the nest but his tiny legs just can't do it. He is trying to climb on something to help him get out. There is a patch

of grass off to the side of the nest. The chick climbs on the grass and gets out of the nest. As soon as he gets on the ground he darts off to find his family. Right away he finds them and his mommy snuggles with her chick. When she is done snuggling, he starts dabbling for food with the rest of the Cinnamon Teal family on Owl Spot Pond outside of Chewelah.

Owl Spot Pond, the most peaceful pond around.



by Damon, Grade 5, St. Stanislaus, Winona, MN, Mrs. Nadeau



*by Hannah, Grade 7, Monadnock School
Swanzey, NH, Mrs. Calnan*

WRITING

Wind and Black-capped Chickadees *(excerpt)*

by Maya, Grade 7
Tualatin Valley Academy
Hillsboro, OR
Mr. Kahler

When I first got into birds I was a little girl living at my grandparent's house. One day I looked outside and saw birds of many shapes and colors and didn't know their names or anything about them and a little spark of wonder and curiosity ignited

in me. At that moment I pulled my grandma over to the window and asked her many questions about birds.

I got older and my curiosity of birds grew and grew. Eventually I got here. I am now in 7th grade and am studying birds in science and was assigned to write a report about them. I thought back to when I first became interested in birds, then sat down and decided on a question to ask. So thinking back to when that spark was lit, I finally thought of the question to ask. If there is wind speed, does that affect how many Black-capped Chickadees show up?

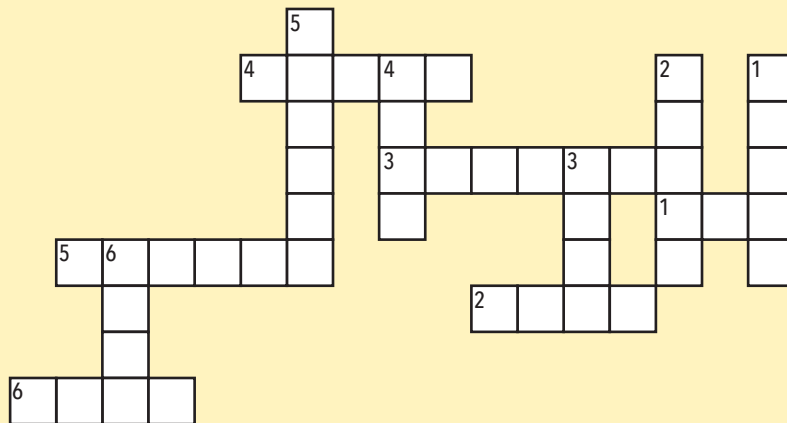


by Paige, Grade 6, Essex Middle School
Essex, VT, Mrs. Dunn

BirdSleuth asks: How would you design an investigation to explore Maya's question?

Bird Body Parts

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



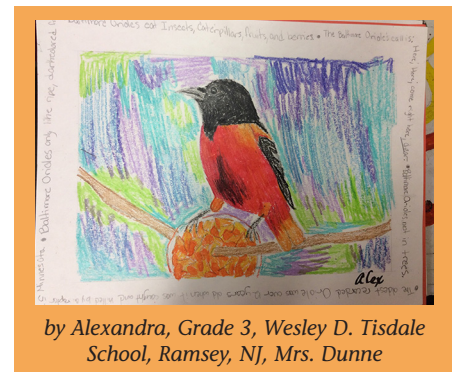
ACROSS

- Made up of the femur and the tibia bones
- Below a bird's head; rhymes with cape
- Another name for nares, used for breathing
- Ruby "____ed" Kinglet
- Garganta means _____ in English
- Located under the wing, rhymes with ride

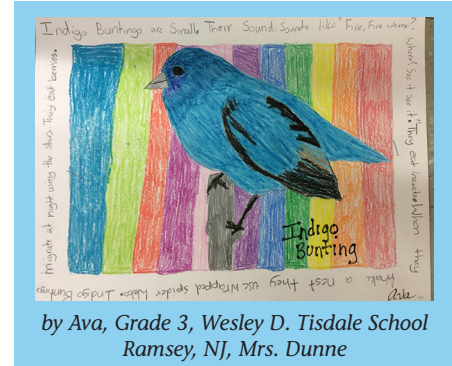
DOWN

- Leg attached to this, femur bone is inside
- Red on some woodpeckers
- Back of a bird, rhymes with Trump
- Made up of the humerus, ulna, and the radius bone
- Most common part of the chicken to eat
- Protected by a cranium and behind the crown

answer key on page 14



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



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



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

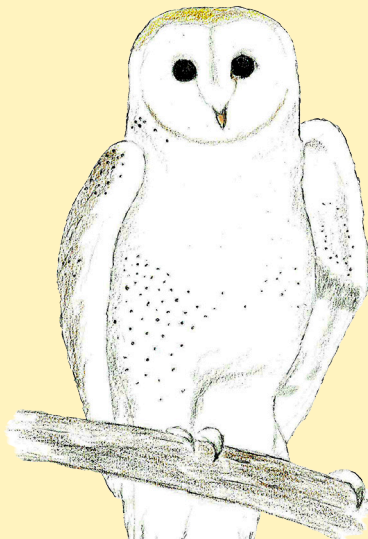
CREATIVE CORNER



by Jayme, Grade 7, Tualatin Valley Academy
Hillsboro, OR, Mr. Kahler



by Alyssa, Grade 7, FDR Middle School
Bristol, PA, Mrs. Steinberger



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

Bird Haiku

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

Brown, curved beak, blends in,
You're the sneakiest of all,
Creeper I see you.



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



by Olivia, Grade 7, FDR Middle School
Bristol, PA, Mrs. Steinberger



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

Ornithology

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

The beauty consumed me as I watched from a distance.
Its graceful movement influenced my own.
The distant creature looked up from where it perched.
When it looked me in the eye I realized how precious this world was.
I watched it take off into the night,
Deep in thought.
When it vanished from view I felt the urge to follow.
I wished I could've taken a picture,
Captured its beauty.
And now I have a thousand photographs,
To try to make up for that night.
But nothing could match the beauty,
Of when that creature took flight.
But if not for that wonderful evening,
I wouldn't be the man I am today.
Ornithology is the core of my existence.
Birds are the carrots to my hummus,
The wings to my flight.

CREATIVE CORNER

Looking Down Below

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

I soar,
Gliding through the baby blue sky
I look down below, at kids
They play football on the
playground
But stop, to stare back up at me
And shout to each other
"An eagle!"
Because to them,
I am amazing

I soar,
High above, in the wispy clouds
I look down below at a young girl
She plays alone in her backyard
She looks in wonder
Studies me closely
Excitement is in her eyes
Because to her,
I am amazing

I soar,
As the sun's rays illuminate me
I look down below
At boats on the
Mighty Mississippi
A river at the heart of a country,
A country that I represent
Because to them,
I am amazing



by Samuel, Grade 7, Brentwood School
Los Angeles, CA, Ms. Dame-Seidler



by Mason, Grade 6, Byron-Bergen Elementary
Bergen, NY, Mrs. Mance-Coniglio



Wise, fluffy and cute
They fly around at nighttime
Hunting for rodents

by Julie, Grade 3, Homeschool, Livonia, NY



by Vincent, Grade 7, FDR Middle School
Bristol, PA, Mrs. Steinberger



by Taylor, Grade 9, Maplewood High School
Nashville, TN, Mr. Mitchell

Chickadee

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

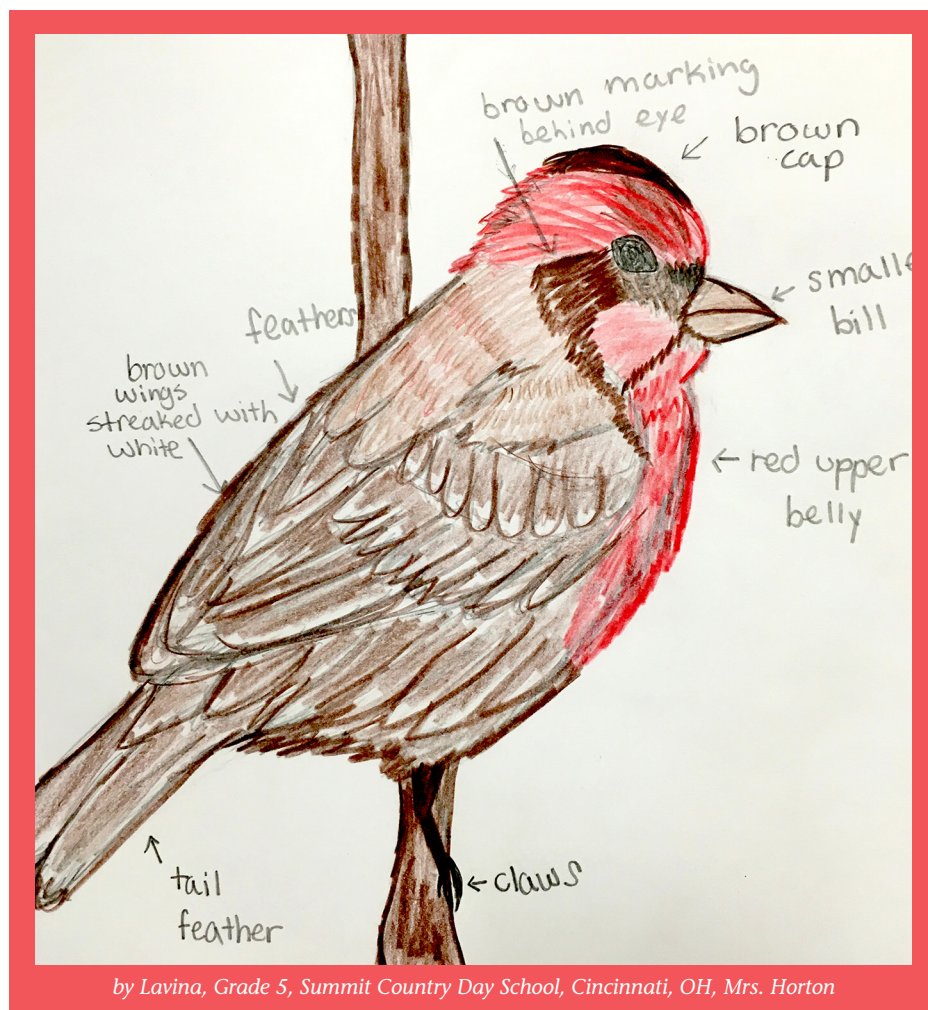
I am a chickadee-dee-dee
It seems people like to watch me-me-me
I want to soar up in the sky-sky-sky
Spread my tiny wings and fly-fly-fly
I am a chickadee-dee-dee
Bird Poetry



by Connor, Grade 7, FDR Middle School
Bristol, PA, Mrs. Steinberger

Crossword Puzzle Answer Key

ACROSS: 1. Leg 2. Nape 3. Nostril 4. Crown 5. Throat 6. Side **DOWN:** 1. Thigh 2. Belly 3. Rump 4. Wing 5. Breast 6. Head



by Lavina, Grade 5, Summit Country Day School, Cincinnati, OH, Mrs. Horton

The Cornell Lab of Ornithology
BirdSleuth K-12

BirdSleuth INVESTIGATOR

Volume 5, Fall 2016

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Dear Educator



Inspire investigations through
 outdoor observations and citizen science—Free Download!

Investigating Evidence, one of BirdSleuth's most successful free resources, was revitalized last year and is now in line with both Common Core and Next Generation Science Standards. From coming up with curious questions to drawing evidence-based conclusions, these lessons will help you to guide your students through exciting scientific investigations.

This free curriculum includes a Teacher's Guide, accompanying Resource and Journal pages, and rich online resources that will support you in using citizen-science projects and outdoor explorations that generate authentic scientific questions. You'll lead your students in making observations, crafting and testing hypotheses, collecting and graphing data, drawing meaningful conclusions, and sharing their work in publications like *BirdSleuth Investigator*!

This resource is available as a free download thanks to the generous support of 3-D® Pet Products and Wild Delight® Outdoor Pet Products.





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



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