Lesson Title: Birds: Teaching our Nature Buddies about Birds

Submitted by: Laura Speegle
Teacher’s Email: lauraspeegle@sbcglobal.net
Teacher’s School: Nolan Prep
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Target Grade/Subject: Fifth or sixth grade with first grade partner (for trip only).

Duration: One week/five- forty five minute class periods with a culminating one day field trip where we invite a first grade class.

Lesson Overview: Students will spend a week immersed in the world of birds. They will learn about bird adaptations, habitats, habits and identification. The students will create bird feeders and be involved in some scientific observation. The culminating activity will be to partner up with some younger students to pass on their knowledge and love of nature to them.

Sources Consulted:
Birds of Michigan book and CD by Stan Tekiela
Students use the internet to research sources on their bird selection.
Websites: http://www.michiganaudubon.org/education/identification_help.html
http://www.birdjam.com/learn.php

Student Learning Objectives:
Students will be able to
  o design and build bird feeders after researching what bird species eat.
  o observe and record birds at our feeders. Students will create bar graphs from their observations and make conclusions.
  o research and become an expert on one Michigan bird species.
  o identify birds of Michigan by sight and or sound.
  o teach first graders (our Nature Buddies) about the birds we see on a field trip to the West Bloomfield Nature Preserve.
  o write observations and record data in a nature journal.

Grade Level Content Expectations addressed:

S.IP.05.15 Construct charts and graphs from data and observations. (Of birds at the bird feeders)
S.IA.05.11 Analyze information from data tables and graphs to answer scientific questions.
S.IA.05.14 Draw conclusions from sets of data from multiple trials of a scientific investigation.
LEV.M.1 Species Adaptation and Survival- Species with certain traits are more likely than others to survive and have offspring in particular environments. When an environment changes, the advantage or disadvantage of the species’ characteristics can change. Extinction of a species occurs when the environment changes and the characteristics of a species are insufficient to allow survival.
L.EV.05.11 Explain how behavioral characteristics (adaptation, instinct, learning, habit) of animals help them to survive in their environment.
L.EV.05.12 Describe the physical characteristics (traits) of organisms that help them survive in their environment.
L.EC.M.4 Environmental Impact of Organisms- All organisms (including humans) cause change in the environment where they live. Some of the changes are harmful to the organism or other organisms, whereas others are helpful.
L.EC.06.41 Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.
L.EC.06.42 Predict possible consequences of overpopulation of organisms, including humans, (for example: species extinction, resource depletion, climate change, pollution).

Materials Needed:
Journals- You can use loose leaf paper in folders or spiral notebooks-One per student
Power Point with pictures of animals and plants on Scavenger Hunt sheet (Scavenger Hunt sheet attached)
Michigan Bird Book and CD (Stan Tekiela)
Students bring in 2 Liter bottles for bird feeders
Utility Knife  (Teacher use only!)
Bird seeds (variety: Sunflower, thistle and mixed)
Computer access

New Vocabulary:
Adaptation
Instinct
Species extinction
Resource depletion
Climate change
Names of various Michigan bird species
Talons

Focus Question(s):
1. What traits do different bird species have for survival?
2. Are species with certain traits more likely than others to survive than others?
3. How do birds behavioral characteristics (adaptation, instinct, learning, habit) help them to survive in their environment?
4. What are some of the changes humans make to the environment that are harmful or helpful to our bird species?
5. Describe some human activities that could lead to species extinction, resource depletion, climate change or pollution.
6. How can we identify Michigan’s bird species?
7. What types of characteristics do we look for in birds to help identify them?
**Classroom Activities**

**Day One:** Students research what birds eat different foods on the internet. Students then plan what their bird feeder will look like and using 2 liter bottles, string and telling the teacher where to cut with a utility knife they create a bird feeder and fill it. We then hang the feeders outside by a window.

**Day Two:**
Students get nature journals and observe and record birds at our feeders. Students will sketch birds and try to identify them. Students will make a class graph and analyze which birds come to the feeders.

**Day Three:**
Students will choose one Michigan bird species to research. After discussing how humans help or harm birds. The students will include this aspect in their reports.

**Day Four:**
Students will listen to bird sounds while viewing the pictures of the species to be able to identify bird species. Students will sketch several species in their journals. NOTE: The focus is not that students will correctly identify all bird species by sight or sound, but rather where to look for the information and that there are differences in the types of birds.

**Day Five:**
Students view the Power Point and discuss what species of birds, animals and plants they will see on the field trip. Students will take notes in their Nature Journals and receive a scavenger hunt sheet.

**Culminating Field Trip:**
Students pair up with one first grade student each and use the scavenger hunt sheet to check off animals and plants we see on the trip. The older students teach the first graders how to identify different birds and plants as they hike the nature trail. Students also take notes in their nature journals.

**Assessment:** Formal- Pre and Post test (attached), Informal-Observation and teacher will assess nature journals. Final bird feeder project.

**Special Comments or Tips:**
My students already had Nature Journals. If students do not have journals, spend one class period prior to this unit, discussing Nature Journals and what should be added to them. A lesson or discussion of John Muir might be a nice anticipatory set.
Any Natural area could be used for the field trip. The teacher should make a visit first and take photographs or note what animals and plants can be found there.
Pre/ Post Test: *Michigan Birds*

1) List as many different *kinds* of Michigan birds as you can (on the back).

2) What are the characteristics of birds?

3) Do humans effect the bird populations? Why or why not?

4) What adaptations do birds have to meet their needs?

5) What else do you know about birds?
Reflection of Birds: Teaching our Nature Buddies about Birds
One Week Unit with Trip
Submitted by: Laura Speegle

After teaching the unit to my fifth grade class, I feel they learned a great deal. The students were actively engaged throughout the entire unit. They are very excited about our trip with first graders and cannot wait to show off their knowledge. The most valuable lesson seemed to be the creation of the bird feeders and the students used their knowledge to plan some very useful feeders. The graphing and conclusions they drew from observing the bird feeders went very well.

Some of the changes I will implement the next time I teach this unit, will be to make it longer and extend the unit by a few days. I would like to include that the students could research and build a birdhouse as well. I would also spend an additional day teaching the children about all the things we will see on the trip, so that they would be able to better reciprocally teach the first graders.

This fit in with my curriculum beautifully and this time of year the students are focusing on the listed objectives. I find that all nature and outdoor-based lessons fit in my curriculum and address the State GLCES, however some more loosely than others. The students were able to accomplish many of the State GLCE’s through this unit.