Ohio Science Standards Benchmark Connections:

Earth and Space Sciences:

K-2
D. Describe what resources are and recognize some are limited but can be extended through recycling or decreased use.

3-5
Describe Earth's resources including rocks, soil, water, air, animals and plants and the ways in which they can be conserved.

Life Sciences
K-2
A. Discover that there are living things, non-living things and pretend things, and describe the basic needs of living things. (organisms)
B, Explain how organisms function and interact with their physical environment.

3-5
C. Compare changes in an organism's ecosystem/habitat that affect its survival.

Ohio Social Studies Standards Benchmark Connections:
Geography

Lesson Summary:
In this lesson, students will learn which resources are used to make which products and the difference between renewable and non-renewable resources. They will learn that recycling conserves resources and that when we use recycled materials to provide habitat for animals we help the animals survive.

Estimated Duration:

This initial lesson can be done in a 45 minute to one-hour period. The bird house that is constructed can be used for on-going observations, writing prompts, and social studies connections.(see interdisciplinary connections for samples and ideas.)

Commentary: This is a good late winter/ early spring project. Since many birds build multiple nests but use only one, it would be a good idea to team with other grade levels, or classrooms and have several bird houses constructed and hung on school grounds. .

Pre-Assessment: Discuss included Helping with Habitats pres-assessment questions with kids at the beginning of this lesson.

(Data from pre-assessment helps educators select specific instructional strategies and determine appropriate complexity and pacing for the lesson).

Instructional Procedures: Start off the lesson by asking kids: am I a living, non-living or pretend thing? Once they answer living ask them how do they know? The most common answer is that you are moving. Ask if a kite or pinwheel or a plastic animal is alive; preferably having one there and moving it while you ask. When they answer no, ask them why not. They'll likely answer that they do not move on their own. If available show them a real sample of lichen (tree moss), or other very small plant and ask them if it is alive? Have kids brainstorm what things (traits-features-properties) all living things have in common.

Now ask them: where did the "stuff" used to make me, and you, and everything in this world come from? Discuss pre-assessment questions and responses.

Read the story a "A Poet's Bird Garden" by Laura Nyman Montenegro – pointing out the different things a living thing such as a bird needs to survive.

Assemble the birdhouse according to package instructions and go outside with kids to find a suitable place for hanging. Use the assembly process to point out the need for slow and careful reading,

3-5
c. Identify and explain ways people have affected the physical environment of North America and analyze the positive and negative consequences.

Citizenship Rights and Responsibilities

K-2
B. Demonstrate personal accountability, including making choices and taking responsibility for personal actions.

3-5
A. Explain how citizens take part in civic life in order to promote the common good.

and slow and steady work. Discuss with kids the special features of the Greenbird house (hole size, absence of perch, overhanging roof, and drainage holes) and why the house is built as it is. See information below.

Each species of birds have particular requirements for their homes. Wrens like this size house, but the male will build three to five nests in different places and then work to attract a female to come live with him. She will choose the one she likes best, move in and give it some finishing touches. The others will go unused. So it goes, like humans, birds are choosy about where they live.
Following is a list of the birds who will most likely choose your house. They will like that the hole open- ing is 1 1/4 inch wide – just big enough for them to easily get in and out. There is no perch, which is a good thing. They won't need one, but larger predatory birds would use it to stand on while they stick their heads into the birdhouse and hurt the eggs or chicks. The drainage holes in the bottom will help keep it dry and the overhanging roof and ventilation holes will help keep it cool. It will also help if you place it where it won't get too hot and is in a safe place from other predators such as raccoons and anything that the mother bird may think will disturb her little ones. The GreenBird
House is lighter than other birdhouses so you may want to take extra care to place it so it won't blow in the wind too much. Wrens will tolerate some movement but the other birds won't. How to secure the house is addressed in the instructions inside the kit.

Post-Assessment:

Give younger students animal maze and build a word sheet for homework; older students (grades 3-5) the checking for understanding quiz. Take for a grade and review in class when handed back. Data that results should help to plan subsequent instruction.

Extension

Give each child a common birds of Ohio guidebook and teach them how to find the number that matches the bird call you are about to

play. Be sure to play the songs of the house wren #27, Tufted titmouse #26, and white-breasted nuthatch #27 that are likely to use your Greenbird house. Have older students look at the scientific names listed for birds and see if they can see how the scientific names may give clues to features of the bird.

Homework Options and Home Connections

Have kids ask parents if they know the names of any birds around where they live. Ideally, parents and kids can spend 15 minutes to ½ hour watching for birds and making a list of what they see. If

you trust the kids to bring the guidebooks back, send them home with the kids for this assignment.

Interdisciplinary Connections
Go to the website abcteach.com for

http://abcteach.com/directory/basics/science/animals/birds/

This will tell how the lesson can be integrated with other content areas to strengthen student learning.

Materials and Resources:

For teachers

Optional: Classroom Set of Common Birds of Ohio Guidebook – available for free from the ODNR Division of Wildlife (Publication 414 (205)

Optional: Common Birds of Ohio Bird Songs CD also available free from the ODNR Divison of Wildlife

Samples of raw natural resources: tree branch, sand, oil, bauxite, iron ore.

Samples of products: paper, glass, plastic, aluminum, steel

If you are having trouble finding actual samples use images that you google and print out to show kids; or contact crystalclearscience@hughes.net

Recycling information is available from your local solid waste district. In Hamilton County contact hcdoes.org. Speakers and teacher resources are available from this site.

"A Poet's Bird Garden by Laura Nyman Montenegro ISBN-10: 0-374-36038-3 or ISBN-13: 978-0-374-36038-2

Building a Backyward Bird Habitat by Scott Shalaway ISBN 0-8117-2698-3

General questions about this lesson can be sent to its creator: crystalclearscience@hughes.net