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Name of Members in Partnership: No additional members

School/City: St. Ursula Villa School, Cincinnati

Workshop Location: Cincinnati Art Museum

Grade Level/Intended Audience: 1st Grade

Curriculum/Subject Area: Science

Ohio Academic Content Standards:

Life Sciences

1. Explore that organisms, including people, have basic needs which include air, water, food, living space and shelter.
2. Explain that food comes from sources other than grocery stores (e.g., farm crops, farm animals, oceans, lakes and forests).
3. Explore that humans and other animals have body parts that help to seek, find and take in food when they are hungry (e.g., sharp teeth, flat teeth, good nose and sharp vision).
4. Investigate that animals eat plants and/or other animals for food and may also use plants or other animals for shelter and nesting.
5. Recognize that seasonal changes can influence the health, survival or activities of organisms.

Benchmarks

- 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.
- C. Describe similarities and differences that exist among individuals of the same kind of plants and animals.

Specific Topic with Explanation: Students will develop their knowledge and understanding of the life cycle, characteristics, and habitats of butterflies by observing tiny live caterpillars as they transform into Monarch butterflies, by exploring many electronic and print resources obtained with the aid of the school librarian, and by visiting the Butterfly Show in Krohn Conservatory in Cincinnati. Students will also be able to make a comparison between butterflies and moths.

Subject Headings:

Insects
Butterflies/Moths
Life Cycles

Books:

- 595.7 INS Time Life Understanding Science & Nature Insects & Spiders
Describes the evolutionary path of butterflies as insects.
- 595.7 WHA Eyewitness Books : Butterfly & Moth
Photographs and text explore the behavior and life cycles of butterflies and moths, examining mating rituals, camouflage, habitat, growth from pupa to larva to adult, and other aspects.
- 595.7 SMA The International Butterfly Book
A complete guide to butterflies of the world with over 2,000 species illustrated in color in their natural habitats.
- 595.78 MOR Butterfly
Illustrated book showing the life cycle of a butterfly.
- 595.78 WHA The Butterfly in the Garden
Photographs and text show and describe the natural habitat and eating habits of butterflies from around the world.
- 595.78 GAR Butterflies Magical Metamorphosis
Illustrated book showing the life cycle and characteristics of butterflies.
- 595.78 SAI The World of Butterflies
Extends the world of butterflies to include the wider food chain, their interaction with humans, their enemies, and their means of protection.
- 595.78 CAS The Butterfly Alphabet Book
Contains illustrations of many different types of butterflies.
- 595.78 SCR Lifecycles : The Journey of a Butterfly
Describes the typical life of a Monarch butterfly.
- 595.78 EHL Waiting for Wings by Lois Ehlert
A rhyming story about the life cycle of a butterfly is followed by factual butterfly information.
- 571.8 LEG Lifecycles: From Caterpillar to Butterfly
Simply illustrations and text taking the reader from egg to adult butterfly.

Periodical:

- Zoobooks : Butterflies October, 2004
Provides general information about a variety of butterflies from around the world.

Videos:

- VC Eyewitness Butterfly & Moth narrated by Martin Sheen
Provides detailed information about both similar and differing characteristics of butterflies and moths.
- VC Nature Science Network Beginner's Video Guide to Eastern Butterflies
Shows the organization and the ecology of 40 of the most common eastern butterflies.

Museum Sites:

Smithsonian Education

<http://www.smithsonianeducation.org/educators/index.html>

Click on "Science", enter "animals", "Pre K – 3", and "life cycles", arrive at **Web of Life**. This site expands the lesson to show how plants and animals including butterflies get energy and how all living things depend on green plants for food. It also provides patterns which allow the students to use pictures and arrows to create their own food web.

Exploratorium, the Museum of Science, Art and Human Perception

<http://www.exploratproi/edu/>

I searched "Butterflies" and clicked on "Arthropods Information Sources" and "Butterflies of North America" which led to the following website:

<http://www.butterfliesandmoths.org>.

This site included Taxonomic Groups, a Map Search, a Species Search, and a terrific Image Gallery.

The Metropolitan Museum of Art

<https://www.metmuseum.org/>

Enter. Search "Butterflies". The result is 46 works of art featuring butterflies.

Natural History Museum

<http://www.nhm.ac.uk/>

Click on "Amazing Butterflies" followed by "Butterfly and Moth Gallery & Facts". The result is a slide show of 10 beautiful butterflies and moths with facts about each.

Zoo Site:

San Diego Zoo

<http://sandiegozoo.org/>

Search "butterflies". Results:

San Diego Zoo's Animal Bytes – provides clear differences between butterflies and moths.

San Diego Zoo's Crafts for Kids – provides instructions with pictures so students can make their own beautiful, symmetrical butterflies.

Additional Websites:

Infohio, Resources Grades K – 5, Ebsco Animals

<http://www.infohio.org/>

Click on "Ebsco host", click on "Ebsco animals", and search "Butterflies". Many results appear. Clicking on "Papilionid butterfly", however, is an example of a butterfly family that is found around the world. Information including characteristics, habitats, diets, reproduction, and length of life is provided.

Hamilton County Public Library

<http://www.cincinnatiilibrary.org/>

Click on "Teenspace", "Homework Help", "Research Database", "SIRS Discover", and "Encyclopedia Britannica Online School Edition". Search "Butterflies". Click on "Elementary Encyclopedia" with a Table of Contents that includes the following: Introduction, Where Butterflies and Moths Live, Physical Features, Behavior, Live Cycle, and Defenses.

Google Search: Butterflies and Moths

<http://www.butterflies-moths.com/index.html>

The left side of the page has a list of subjects to click on for pictures and information. Subjects include but are not limited to differences, temperature, hearing, feeding, communication, egg stage, larval stage, chrysalis stage, moth index, and butterfly index.

Library of Congress

<http://www.loc.gov/search/>

Search "butterflies". Click on "What is the difference between a butterfly and a moth?" The result takes you to a section entitled Everyday Mysteries where it answers the preceding question in detail and has other related websites for further study.

Realia:**Insect Lore**

<http://insectlore.stores.yahoo.net/livbutculrep.html>

A butterfly kit can be purchased which includes 3 to 5 caterpillars and food, full instructions and butterfly facts.

Krohn Conservatory

<http://www.butterflyshow.com/main.html>

Educators can register online and purchase tickets to the annual Krohn Conservatory Butterfly Show.