**Lesson Title: Marvelous Monarchs**

By: Jillian Littlejohn

Instructional Coach: Chris Gibler

**Description:** The Student will learn about the life cycle of Monarch Butterflies. This lesson will extend throughout the year. We will begin the lesson in the Fall with the observation of the Monarch Life cycle. We will continue the lesson in the spring with the observations of Painted Lady Butterflies and the creation of a butterfly garden on the school grounds. This lesson/unit will incorporate GLE’s associated with the life cycles of animals, the season’s affect on animal migration and plants, and similarities and differences of parents and their offspring.

**Grade level:** Kindergarten

**Essential questions**: How do Monarch caterpillars become butterflies? What are the phases in the life cycle of a Monarch Butterfly? What types of plants do Monarch Butterflies need to lay eggs and feed? Do Monarch Butterflies migrate? Why?

**Student learner objective – connections to the GLE’s**

Science

3:1.D.a- Observe and compare the structures and behaviors of different kinds of plants and animals

3:3.D.a- Recognize that living things have offspring

3:3.D.b- Recognize a parent – offspring relationship based on the organisms’ physical similarities and differences

4:1.A.a- Describe how the seasons affect the behavior of plants and animals.

**Featured textbook: N/A**

**Featured picture books:**

* Living Things Melvin and Gilda Berger
* Tadpole to Frog Melvin and Gilda Berger
* Cocoons and Cases Kim Wilson
* The Tiny Dot Natalie Whitney
* I Am a Caterpillar Jean Marzollo
* Waiting For Wings
* Fly, Monarch, Fly
* The Very Hungry Caterpillar Eric Carle
* Insects Carolyn MacLulich
* Migration Big Book
* Incredible Insects Zoe Barnes
* What is an Insect? Susan Canizares
* Butterfly Susan Canizares
* Going to be a Butterfly Colin Walker

(Books not listed in the lesson plan will be in the listening and science workstations for students to explore)

**Time needed:** 4 weeks (Spread throughout school year)

**Academic Vocabulary Words:**

* Migration- To move from one country or region and settle in another. To change location periodically, especially by moving seasonally from one region to another.
* Larvae- The wormlike, early form of an animal that must go through metamorphosis to turn into its adult form.
* Milkweed- A plant that secretes a milky juice.
* Chrysalis- A pupa, especially of a moth or butterfly, enclosed in a firm case or cocoon. A protected stage of development.
* Metamorphosis- The series of changes in shape and function that certain animals go through as they develop from an egg to an adult.

**Depth of knowledge level:** 1 and 2- The students will be engaged in observation, exploration, and creating models of learning.

**Materials needed**

* Milkweed
* Caterpillars (Monarch, and Painted Lady)
* Butterfly house
* Seeds (various plants appropriate for a butterfly garden)
* Soil
* Cups
* Observation booklets
* Markers
* Picture Books Mentioned above
* OWL Chart
* Computer
* Magnifying glass
* Pasta (rice, shell, penne, bow tie)
* Construction paper
* GPS

**Lesson narrative** This lesson plan will cross multiple curricular areas. I will begin by allowing the kindergarten students to investigate and observe monarch caterpillars. We will then learn about the life cycles of butterflies and other animals. I will integrate math by counting and graphing the monarch butterflies seen around the school. I will integrate reading with the multiple books we will read as a class, and they will be able to read on their own or at a listening station. We will conclude lesson by creating a butterfly garden at our school. Assessment will take place in small groups by having the student recreate and explain the life cycle of the monarch butterfly.

**Engage** - Tell students we are going to have a visitor in our class tomorrow. Tell them it is not a person. Let them guess but don’t tell them. Read the book called Living Thingstelling them this will give them a hint to what will be coming. Continue doing this throughout the day give with Tadpole to Frog and Cocoons and Cases. If they guess correctly tell them if not let them find out the next day.

**Explore:** Give each student table a caterpillar in a glass jar. Give them about ten minutes to look at the caterpillar and observe the movement. Bring the students back to the carpet and create an OWL chart about the caterpillar. Do just the O and W part asking the students what they noticed and wonder about the caterpillar. Read the book Going to Be a Butterfly taking the students through the process of the Monarch Butterfly’s life cycle. Tell the student they are going to observe the caterpillar in its life cycle. Every time they observe the caterpillar they are going make a drawing of it in their caterpillar observation notebook. They will make their first observation as a class with teacher modeling the drawing and how to make observations. (The rest of the observations will be done in the science workstation. They will rotate to this station every other day and make an observation in their Butterfly Observation Journal)

Math Tie In-Throughout the observation cycle the students will also be on the lookout for butterflies when outside at recess or during any outdoor activities. Each time a student sees a butterfly the class chart how many butterflies they see each day and make a graph at the end of the unit. If the students find a butterfly the teacher will mark the point on the GPS. We will then go back to those points to see if butterflies flock to the same points around the school.

**Explain:** Discuss that all animals have a life cycle but the caterpillar is special because it goes through metamorphosis during its life cycle. Explain the concept of metamorphosis giving examples of other animals that do this as well. Many students come in with the misconception that butterflies spin cocoons. This point would be appropriate to explain that butterflies hatch from a chrysalis and the difference between the two.

**Explore:** The teacher will guide the students in creating and labeling a life cycle using pasta and construction paper. Give the students the four types of pasta and have them predict which pasta will represent the different parts of the life cycle. Guide them through creating and labeling the life cycle using the pasta.

**Elaborate/Extend: (Spring)** Read the story **Migration** Share with the students that birds are not the only animals that migrate. Lots of animals migrate. Monarch butterflies are one animal that migrates. On the website [www.monarchwatch.org](http://www.monarchwatch.org) Show the student the maps of the monarch migration. Point out familiar points on the map to help the students understand how far the monarchs travel. Discuss with the students how some of the monarch’s migration paths pass right by us. Ask the student what they think would determine the path a monarch takes. Reviews what animals need to live. (Food, shelter…) Ask the student what ideas they have to make to journey safer and easier for the butterflies. Make a list of ideas to help the butterflies. Tell the student they are going to create a butterfly garden way station. Show the student the pictures of way stations on monarch watch. Germinate the seeds in the classroom, each student getting a seed to take care of. Once they are ready pair with the fifth grade buddies to plant the plants in the butterfly garden at school.

**Evaluate:** Divide the students into groups of four. Give the students a picture of each part of the monarch life cycle. The student will each choose a part of the life cycle, color, and cut the paper. They will then need to decide the order of the life cycle and glue them in order on a piece of construction paper. The teacher will evaluate the order of the life cycle and their vocabulary for each phase as the group explains their work.

**Misconceptions:**

* They hatch from a cocoon.
	+ The students will create a diagram of the life cycle of a butterfly and read several books that will help them understand the butterflies hatch from a chrysalis.

**Safety-** The teacher needs to be aware of any allergies that students might have to plants, animals or latex.

**Reading comprehensive strategies:** Questioning, inferring, visualizing, schema

**Bibliography:**

Berger, Melvin and Gilda. *Living Things.* New York: Scholastic Inc. 2004. Print.

Berger, Melvin and Gilda. *Tadpole to Frog.* New York: Scholastic Inc. 2004. Print.

Walker, Colin. *Going to Be a Butterfly.* Bothell, WA: The Wright Group. 1989. Print

Whitney, Natalie. *The Tiny Dot.* Boston: Houghton Mifflin Company. 1996. Print

Wilson, Kim. *Cocoons and Cases.* Barrington IL: Rigby. 2000. Print.

Lovett, Jim. [www.monarchwatch.org](http://www.monarchwatch.org). Homepage. The Kansas Biological Survey, University of Kansas, n.d. Web. 14, July 2011.

Critchell, Linda. “Butterflies.” [http://www.kinderteacher.com/Butterflies.htm. N.p. n.d. Web. 18](http://www.kinderteacher.com/Butterflies.htm.%20N.p.%20%09n.d.%20Web.%2018), July, 2011.

**Cycle** [****](http://www.kinderteacher.com/images/butterflylifecycle.gif)

**This project reinforces the stages of the life cycle of a butterfly.  We used a 10 inch circle of construction paper for the yellow background and the blue paper was about 8 1/2 inches.  The children wrote the stages on the outside of the circle.  This idea was given to us by Paige Brown of Fairfield, California.**

**1. Egg in this section, each child drew a small branch with a leaf.  They glued rice on the leaf to represent the egg stage.**

**2.  Larva Stage--In this section, each child draws another small branch with a leaf.  We use a curly pasta piece to show this stage.  My curly pasta has broken off on the sample!  I apologize!**

**3.  Pupa Stage--Draw a small branch with a stem to glue on a shell pasta.**

**4.  Adult---Another branch is drawn in this section with a bow tie pasta to represent the adult butterfly.  We found colored pasta for this.**

<http://www.kinderteacher.com/Butterflies.htm>

![C:\Documents and Settings\ruevent1\Local Settings\Temporary Internet Files\Content.IE5\ANS1KOTN\MC900361490[1].wmf]()Monarch Observation Journal

Observer:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_







<http://www.google.com/imgres?imgurl=http://www.abcteach.com/free/b/butterflymonarchbnw.jpg&imgrefurl=http://www.abcteach.com/directory/basics/science/animals/bugs/&h=1200&w=1200&sz=149&tbnid=G0JXw20yg3ejxM:&tbnh=93&tbnw=93&prev=/search%3Fq%3Dbutterfly%2Bcoloring%2Bpage%26tbm%3Disch%26tbo%3Du&zoom=1&q=butterfly+coloring+page&docid=IYKBqIAyULJxqM&hl=en&sa=X&ei=tjs3TvXBHMKnsQLR_d0p&ved=0CC0Q9QEwAw>

