The Monarch’s Journey
The Story of the Monarch Butterfly

General Notes About this Program
- This is an outdoor program. Participants should dress for the weather, and be aware that, at certain times of year, mosquitoes can be bothersome.
- We can serve a maximum of 60 students at a time with this program
- Please divide your students into groups of 10-12 prior to your arrival at NCBG. We can serve a maximum of 5 groups of this size at a time.

Curriculum Alignment
All of the North Carolina Botanical Garden’s educational programs are aligned with North Carolina and/or national education standards. The pre-visit, Garden visit, and extension activities that make up the The Monarch’s Journey educational program align with the following standards:

<table>
<thead>
<tr>
<th>Essential Standards: 2nd Grade Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.L.1.1 Summarize the life cycle of animals including:</td>
</tr>
<tr>
<td>• Birth.</td>
</tr>
<tr>
<td>• Developing into an adult</td>
</tr>
<tr>
<td>• Reproducing</td>
</tr>
<tr>
<td>• Aging and death</td>
</tr>
<tr>
<td>2.L.2.2 Compare life cycles of different animals such as, but not limited to, mealworms, ladybugs, crickets, guppies or frogs.</td>
</tr>
</tbody>
</table>
Pre-Visit Activity
In this activity, students will learn about the life cycles of different animals.

**Materials Needed (assumes a class of 24):**
8 copies of the “life cycle cards” (see below)
8 sandwich bags labeled “chicken”
8 sandwich bags labeled “frog”

**Procedure:**

**Preparation:**
1. Cut out the “life cycle cards” (see below).
2. In each bag labeled “chicken”, place a picture of an egg, a picture of a chick, a picture of an adult, and 3 arrows.
3. In each bag labeled “frog”, place a picture of frog eggs, a picture of a tadpole, a picture of an adult, and 3 arrows.

**Activity:**
1. Write the words “Life Cycle” on the board, and ask students if they know what those words mean. Write their answers on the board.
2. Do not give the students the definition. Instead, tell them that they are going to learn about life cycles first, then you will try to define it again.
3. Ask students what people are when they begin their life (babies). Ask students what the babies will eventually turn into (children), and what children eventually become (Adults).
4. Tell students the baby, child, and adult are called “life stages” and that a person has to change to go from one stage to the next. Ask students what changes a baby has to go through to become a child, and what changes children go through to become an adult.
5. Tell students that animals also have different life stages that are similar, but not the same, as humans. Tell students that you are going to learn about the life cycle of frogs and chickens.
6. Divide students into groups of 3, and pass out the sandwich bags labeled “chicken” to each group.
7. Tell students that inside the bag, there are pictures of each “life stage” of a chicken. Instruct them to put those life stages in order using the pictures and arrows. Allow students time to work in their groups.
8. Ask the students which is the first life stage of the chicken (egg). Write the word on the board, or draw a picture of the egg (or both).
9. Ask the students which life stage comes second (chick). Write the word on the board and connect it to the egg using an arrow (the arrow should point at the chick). Ask the students how an egg becomes a chick (it hatches).
10. Ask the students which life stage comes third (adult chicken). Write the word on the board and connect it to the chick using an arrow. Ask the students how a chick becomes an adult chicken (it grows and gets older).

11. Ask the students why there were three arrows in their bag, but you’ve only used 2. If they don’t say it, tell them that adult chickens “reproduce”, and lay eggs. Draw a third arrow connecting the adult to the egg.

12. Rewrite your words on the board and connect them with arrows in a way that forms a circle. Instruct students to do the same using their pictures and arrows.

13. Inform students that they have just created a picture of the “life cycle” of the chicken.

14. Ask the students what eventually happens to the adult chicken after it lays eggs (It ages and eventually dies).

15. Repeat steps 6-14 using the bag labeled “frog”. Be sure to take note this time if they recreate the life cycle in a circular manner, connecting the adult back to the egg. If not, be sure to reiterate the process of reproduction.

16. After completing the activity, ask students to help you redefine the term “life cycle” (A process where a plant or animal changes from a “baby” to an adult, including reproduction and death).
Life Cycle Cards

<table>
<thead>
<tr>
<th>Chicken Egg</th>
<th>Frog Eggs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chick</td>
<td>Tadpole</td>
</tr>
<tr>
<td>Adult Chicken</td>
<td>Adult Frog</td>
</tr>
</tbody>
</table>

The Monarch’s Journey
**Garden Visit: The Monarch’s Journey**

In this activity, Docents will lead an educational program at the North Carolina Botanical Garden. Students will learn about Monarch Butterflies including their life stages, their host plants, and their annual migration. The teacher can choose either the standard program which uses models of the life stages, or can choose to have the program feature live animals at all 4 Monarch life stages. The live animal program can only be offered May-September to allow for survival of the animals in the wild after the program. There is an additional fee for the live animal program.
Extension Activities: Bringing it Home

The North Carolina Botanical Garden encourages you to continue to teach students about animal life cycles by engaging them in hands-on, inquiry-based learning opportunities in the indoor and outdoor classrooms. The activities and books listed below are a good way to follow-up your garden visit.

Classroom Activities:

Have the students color in the worksheet they got when visiting the Botanical Garden. Students can use their imagination for the colors, or if they want to color them like the Monarch: Butterfly can be black and orange, the eggs white, the caterpillar can be white, yellow and black, the chrysalis can be green, the flowers could be pink, orange, or white.

Compare the life cycle of the Monarch Butterfly to the life cycle of frogs, dragonflies, ladybugs, mealworms, crickets, humans, or other animals.

Participate, as a class, in the Monarch Watch Program or make observations for the Journey North Program (see “Websites” section below for URL’s).

Plant milkweed on your school grounds and record when you see the first adult, caterpillar, chrysalis and eggs from year to year. Consult with the North Carolina Botanical Garden for assistance in choosing species of milkweed and finding a place to plant them.

Plant a pollinator garden with multiple colors of native wildflowers and document how many pollinators visit. Consult with the North Carolina Botanical Garden for assistance in choosing plants and finding a place to plant them.

Suggested Resources:

Activity Guides for Teachers:


See the following website for the Office of Environmental Education’s suggested books: http://www.eenorthcarolina.org/edresources/eebibbookselem.htm

Websites:

Websites (Continued):
Monarch Butterfly USA: http://www.monarchbutterflyusa.com/Cycle.htm

Monarch Picture Story: http://www.kidzone.ws/animals/monarch_butterfly.htm

Books for Students:

