



# Bugs Abound

## 1<sup>st</sup> Grade

### Post Field Trip Activities

#### **Background Knowledge and Activity:**

Insects are found in almost all environments on earth. It is estimated that insects have been approximately 200 million years. Although many insects are best known for their bites and stings, they provide a vital role in ecosystems and it would be nearly impossible to live without them. Insects provide food for many organisms and are a gem of natural beauty in nature. (*Insects: A Guide to Familiar American Insects*, Zim and Cottam)

During the Bugs Abound Program, your group explored the following topics:

- Body parts of insects
- Movement of insects
- Insect mouth parts and the food they eat.
- Insect decomposers in the ground
- Insect metamorphosis

The activities below are meant to enhance your experience and deepen your groups' understanding of the content learned at the Arboretum.

#### **NGSS Standards:**

**K-LS1-1.** Use Observations to describe patterns of what plants and animals (including humans) need to survive.

**1-LS3-1.** Make observations to construct an evidence based account that young plants and animals are like, but not exactly like their parents.

**Time:** 20-30 minutes

#### **Materials:**

Baby Bug and Adult Bug Sort:

Book -*Are You a Dragonfly* by Judy Allen and Tudor Humphries (part of the backyard books series), Sets of Baby/Adult Bug Cards Cut apart. 1 set for each pair/group of 4, Copies of the "Bug Chart" 1 for each student, Red, Blue and Purple crayons

Pasta Metamorphosis:

(Orzo- 1 box, Rotini- 1 box, Bowtie Pasta – 1 box, Small Shell Pasta- 1 box, Markers, Glue, Paper Plates (1 per student), Labelled Pieces (Handout attached).

*\*Note: the boxes of pasta will supply enough materials for 4-5 classes of 25 students, but can be saved to be re-used each year.*

#### **Procedure/Teacher Notes:**

Baby Bug and Adult Bug Sort and Chart

- Begin by asking the students what they remember about the different bugs they saw at The Morton Arboretum.
- Next, ask students if they think that baby bugs look the same as adult bugs.
- As a class read, *Are You A Dragonfly?* By Judy Allen and Tudor Humphries
- Part 1: Give each student a set of bug cards and ask them to match the baby bug with the adult bug.
- Allow students time to work in pairs or small groups.
- After students have matched the cards, go over the answers to ensure they have them correctly matched. (C matches with D, E matches with F, G matches with H, K matches with L)



- Next, give each student a Bug Chart and crayons (they will need a red, blue and purple crayon).
- Each row of this chart represents a different pair of baby/adult insects. Each column is a feature that many bugs have. Students will color the features that only baby insects have blue, features that only adult insects have red, features that both baby and adult have purple. If neither baby nor adult insect have this feature, students should leave the place white.
- After students are done coloring in all the appropriate boxes, discuss with students
  - o Do Adults and Baby insects have more things in common? Or least in common?

### Pasta Metamorphosis (Butterfly Metamorphosis)

#### Guided Introduction

- Begin by asking student what they remember about the “Baby Bugs “and “Adult bugs” that they saw pictures of when they visited. What does a baby butterfly look like? What does a baby dragon fly look like?
- Read “I’m a Caterpillar” by Jean Marzollo or “The Very Hungry Caterpillar” by Eric Caryl. Identify the terms used in the butterfly’s metamorphosis and record them somewhere that students can see them. (Caterpillar/Pupa, Chrysalis, Butterfly). If the terms are not identified in the story you choose, discuss them a group before you begin the craft.

#### Exploration Activity

- In this Exploration Activity students will use various types of Pasta in order to re-create the stages of metamorphosis of a butterfly. Orzo pasta = egg, Rotini = Caterpillar, Shell = Chrysalis, Bowtie Pasta = Butterfly. (see image)
- Begin by having students color the various type of pasta in order to fit the stage of metamorphosis.
  - Egg- stay white (no color)
  - Caterpillar- green
  - Chrysalis- Brown
  - Butterfly (Red, Blue, and Purple Etc.)

### **Children’s Book/Resources**

“The Very Hungry Caterpillar” by Eric Caryl

- Web Resources:
- <http://urbanext.illinois.edu/insects/16.html>
- <http://urbanext.illinois.edu/insects/funplace.html>
- <http://justkidsgames.com/play.php?BuildABug>