

**It's a Bug's Life Lesson Plans  
Grades 1/2**

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**Lesson Plan #1 Title:** It's A Bug's Life (To be used first in the sequence of 3 lesson plans)

**Grade:** First/Second Grade

**Concept:** Introducing first and second grade students to different insects, their body parts, and their lifecycles.

**Indiana Standards Addressed:**

**Science:**

- 1.3.1 Classify living organisms according to variations in specific physical features (e.g., body coverings, appendages) and describe how those features may provide an advantage for survival in different environments.
- 1.3.3 Observe and explain that plants and animals have basic needs for growth and survival: plants need to take in water and need light, and animals need to take in water and food and have a way to dispose of waste.
- 2.3.1 Observe closely over a period of time and then record in pictures and words the changes in plants and animals throughout their life cycles-including details of their body plan, structure and timing of growth, reproduction and death.
- 2.3.2 Compare and contrast details of body plans and structures within the life cycles of plants and animals.

**English/ Language Arts standards:**

- 1.6.1 Print legibly and space letters, words, and sentences appropriately.
- 1.6.2 Write in complete sentences.
- 1.7.9 Provide descriptions with careful attention to sensory detail.
- 2.5.5 Use descriptive words when writing.
- 2.5.6 Write for different purposes and to a specific audience or person.  
Example: Write a description of your favorite book to recommend the book to a friend.
- 2.6.1 Form letters correctly and space words and sentences properly so that writing can be read easily  
by another person.
- 2.6.2 Distinguish between complete (*When Tom hit the ball, he was proud.*) and incomplete sentences  
(*When Tom hit the ball*).

2.7.5 Organize presentations to maintain a clear focus.

2.7.6 Speak clearly and at an appropriate pace for the type of communication (such as an informal discussion or a report to class).

2.7.9 Report on a topic with supportive facts and details.

2.7.12 Use descriptive words when speaking about people, places, things, and events.

2.7.11 Report on a topic with facts and details, drawing from several sources of information.

**Objectives:**

- The student will be able to gain a basic understanding of insects.
- The students will become familiar with the stages of an insect's lifecycle.
- The student will become familiar with the different body parts of insects.
- The student will write down the information they gain from their research.
- The students will write down their prior knowledge of insects or any questions they may have.

**Required Materials:**

- Diary of a Spider book by Doreen Cronin
- Computers with internet capability to access the websites listed under resources
- Science notebook for each student
- Pencil for each student
- A printed copy of Bug worksheet for each student
- Crayons for each student
- One pair of scissors for each student
- A printed copy of Ant Lifecycle worksheet for each student

**Anticipatory Set (Lead-In):**

- Prior to class materials need to be set aside.
  - The materials that need to be set aside are the scissors (If students don't have their own), Diary of a Spider and the topic books that the students will use to research their insect.
- At the beginning of the lesson introduce today's topic, insects.
- You will explain to the class that you will read a book to them and that they will complete a project before their fieldtrip on Wednesday.

- You will read *Diary of a Spider* to the class. Before you start reading, ask students what they know about spiders and where they have seen them. Connect with them while you read and ask questions. When you are done reading the book, ask the students again what they know or what they would like to learn about spiders.
- After the discussion, you will inform the class that you will be splitting them up in groups and that you will be deciding who is in what group.
- Depending on how big your classroom is, you will have about 5 groups with about 4-5 students per group.
- Also, you will inform the class that you will be picking the insect for their group (butterfly, dragonfly, bee, ant, or spider.)

### **Step-By-Step Procedures:**

- Before you break students up in groups, you will go over classroom rules and make sure they know how to act and also to make sure they stay on task.
- You will break the students up into their groups
- Hand out science journals
- Assign each group an insect; you will let them know that there are a group of books sitting by the classroom library for them to look at. You will also give them the websites that you want them to use.
- Inform students that all information they find about their insect will be put in their journals.
- Remind students to look up and record information about their insect's life cycle
- Once the students have finished researching their insect, they can use the information they found to fill out the bug worksheet on their topic
- If a group finishes early, have the students color, cut, and put together the ant life cycle worksheet

### **Conclusion:**

- First review the life cycle and body parts of an insect by asking students to report on their insect to the class and discussing their findings.
- Then ask each group of students what interesting facts they learned though researching about their insect.
- Inform students that we will be learning about their insect's habitats tomorrow, so we can be prepared for the fieldtrip to Howell Wetlands on Wednesday.
- Collect bug worksheets and science journals to check students' progress and see if there are any issues that need to be clarified in tomorrow's class discussion.

**Adaptations (For Students with Disabilities):** If a student has difficulty writing, they can either work with a student partner or an aide to help record their findings.

**Extensions:** If a student finishes this activity early have him/her color, cut out, and put in order the ant life cycle worksheet.

**Resources:**

- **Books:**

- Allen, Judy, and Tudor Humphries. *Are You a Dragonfly?* New York: Kingfisher, 2001. Print.
- Crewe, Sabrina. *The Bee*. Raintree Steck-Vaughn, 1997. Print.
- Cronin, Doreen, and Harry Bliss. *Diary of a Spider*. New York: Joanna Cotler, 2005. Print.
- Demuth, Patricia, and S. D. Schindler. *Those Amazing Ants*. New York: Macmillan, 1994. Print.
- Kelly, Irene. *It's a Butterfly's Life*. New York: Holiday House, 2007. Print.

- **Websites:**

- Ant life cycle worksheet:
  - Ant Life Cycle." Web. 15 July 2011.  
<http://www.enchantedlearning.com/subjects/insects/ant/sequencing/seqcards.GIF>
- Bee Worksheet:
  - C:\Users\ED3148\Pictures\bee worksheet.gif
- Butterfly Worksheet:
  - *Worksheets*. Web. 15 July 2011.  
<http://worksheetplace.com/index.php?function=DisplaySheet>

- Ant Worksheet:
  - Enchantedlearning.com. "Label Ant External Diagram." *Label Ant External Diagram*. Web. 15 July 2011.  
<http://www.zoomschool.com/subjects/insects/label/ant/label.shtml>
  
- Spider Worksheet:
  - Spider Information. "Spider Information." *Spider Information*. Web. 15 July 2011.  
<http://www.iss.k12.nc.us/schools/webquests/lisamitchell/spiderinfosheet.html>
  
- Dragonfly Worksheet:
  - Dragonfly Life Cycle Worksheet." Web. 15 July 2011.  
<http://www.dragonfly-site.com/graphics/dragonfly-life-cycle-coloring-page-1.gif>
  
- Ants - Facts About Ants - Types of Ants - PestWorldforKids.org." *Pest Control Information for School Kids and Teachers - PestWorldforKids.org*. Web. 15 July 2011. <http://www.pestworldforkids.org/ants.html>
- Butterfly Life Cycle: Article with Lots of Pictures." *The Butterfly Site - The #1 Source of Butterfly Information on the Internet!* Web. 15 July 2011.  
<http://www.thebutterflysite.com/life-cycle.shtml>
- Honey Bee Life Cycle." *Amazing Benefits of Honey!* Web. 15 July 2011.  
<http://www.benefits-of-honey.com/honey-bee-life-cycle.html>
- Life Cycle of Spiders." *Types of Spiders*. Web. 15 July 2011. <http://www.types-of-spiders.org.uk/life-cycle-of-spiders.htm>

- Dragonfly Life Cycle - Australian Museum." *Australian Museum - Nature, Culture, Discover - Australian Museum*. Web. 15 July 2011.  
<http://australianmuseum.net.au/image/Dragonfly-life-cycle>

**Lesson Plan #2 Title:** It's A Bug's Life (To be used second in the sequence of 3 lesson plans/ prior to fieldtrip to Howell Wetlands)

**Grade:** First/Second Grade

**Concept:** Introducing first and second grade students to different insects, their senses and their habitats.

**Indiana Standards Addressed:**

**English/Language Arts:**

2.2.1 Use titles, tables of contents, and chapter headings to locate information in text.

2.2.4 Ask and respond to questions (*when, who, where, why, what if, how*) to aid comprehension about important elements of informational texts.

**Math:**

2.1.8 Recognize fractions as parts of a whole or parts of a group (up to 12 parts).

2.1.12 Represent, compare, and interpret data using tables, tally charts, and bar graphs.

**Science:**

1.3.1 Classify living organisms according to variations in specific physical features (e.g., body coverings, appendages) and describe how those features may provide an advantage for survival in different environments.

1.3.2 Observe organisms closely over a period of time in different habitats such as terrariums, aquariums, lawns and trees. Draw and write about observations.

1.3.3 Observe and explain that plants and animals have basic needs for growth and survival: plants need to take in water and need light, and animals need to take in water and food and have a way to dispose of waste.

1.3.4 Describe how animals' habitats, including plants, meet their needs for food, water, shelter and an environment in which they can live.

1.3.5 Observe and describe ways in which animals and plants depend on one another for survival.

2.3.1 Observe closely over a period of time and then record in pictures and words the changes in plants and animals throughout their life cycles-including details of their body plan, structure and timing of growth, reproduction and death.

2.3.2 Compare and contrast details of body plans and structures within the life cycles of plants and animals.

**Objectives:**

- The student will be able to gain a basic understanding of insects.
- The students will become familiar with how insects use their senses.
- The student will become familiar with the different habitats of their insects.
- The student will participate in the “colorblind game”
- The student will record their finding from the “colorblind game” in a chart in their science notebooks.

**Required Materials:**

- A science notebook for each student
- Pencil for each student
- Computers with internet access in the classroom
- Red, blue, green, yellow, pink, purple and brown construction paper (enough for one square of each color for all five groups of students) cut into 3” squares
- Tape
- One pair of scissors for each student
- One manila file folder or cardboard, cut in half with a 3”x5” rectangle cut through both layers of one half (see p.48 of Insectigations book for more detailed instructions)
- 5 – 4”X6” pieces of green cellophane

**Anticipatory Set (Lead-In):**

- Prior to this class, please construct five color-blind viewers and pre-cut construction paper squares to prepare for the introductory activity (see page 48 of the Insectigations book for step-by-step instructions on how to construct viewers).
- Begin the class by dividing students into their five groups.
- Hand out students’ science notebooks and their bug worksheets from the last class session. Go over the bug worksheets and reviewed science notebook entries.
- Next do a quick review of the insect lifecycle and insect body parts that you covered in class the day before. After you have finished the review, ask students if they have any questions about what they have learned so far.

- Tell students that insects do not see the same way that people do. They see fuzzy pictures and many are also colorblind. Ask the students if they know what colorblind is or if they know anyone who is colorblind. Then explain that being colorblind means that some colors look the same as each other. For example, in one form of colorblindness, violet, lavender, pink and blue all appear to be blue. How the color appears also depends on if the viewer is in bright sunlight or foggy conditions.
- Begin to pass out one colorblind viewer and 7 construction paper squares to each group. As you are passing these materials out, explain to students that they will get to see colors like some bugs see.
- Instruct students to open up their science notebooks and take out their pencils.
- Open up the Insectigations book to page 48 and have students set up a chart like the one that is shown on that page in their science notebooks to record their findings.
- Once they have done this, students can begin their experiment on colorblindness. Have the students take turns being the viewer and holding up the different colored construction paper squares behind the viewer. Be sure that each student gets the chance to view each of the seven colors behind the viewer and record their findings in the chart in their science notebook.

### **Step-By-Step Procedures:**

- Once all of the groups have completed this activity, come back together as a class to discuss everyone's findings. See if all of the students agree on all of the colors they saw.
- Explain to students that all insects are different. For example, butterflies can see red, but honey bees can't, and they can both see yellow, blue, and even ultraviolet, which humans can't. Since, many insects can't see color; they pay more attention to other clues like shapes and movements to navigate through their environments.
- Ask the students if they can think of any other important ways insects use their senses in their environment.
- After this discussion, introduce the term habitat. Explain that all insects and animals live in different habitats.
- Let students know that they will be visiting some different habitats the following day when the class visits Howell Wetlands.
- Show students the different books and websites you have designated on habitats and insects for them to look at (these are listed below under resources).
- If there is enough time, students can take a look at these resources, if not tell them they can look at these resources during their free or reading time.

**Conclusion:**

- Tell students to be on the look-out for the different types of habitats at Howell Wetlands; let them know there are several different habitats they will be seeing and learning about there.
- Tell students to watch for their group's designated insect on the fieldtrip.
- Have students take notes and draw pictures of anything they find interesting on the fieldtrip (especially anything having to do with their assigned insect). Let them know they will be given a science notebook and pencil to take notes on the fieldtrip.
- Tell students they will be using the information they gather on the fieldtrip on a final group project. Tell students they will find out all the details of the group project the day after they get back from their fieldtrip.
- Remind students to wear socks, tennis shoes and appropriate clothing for the fieldtrip. Also, if needed have them apply sunscreen and bug spray prior to the fieldtrip. If water and snack/meal is not provided, remind them to bring these items as well.

**Adaptations (For Students with Disabilities):** If a student has difficulty writing or playing the colorblind game, they can either work with a student partner or an aide to help record their findings.

**Extensions:** If a student finishes this activity early have him/her read the books or look at the designated websites on habitats and insects.

**Resources:**

- Actions, Thoughtless. "DEP: Wildlife." *CT.gov Portal*. Web. 14 July 2011.  
<http://www.ct.gov/dep/cwp/view.asp?a=2723>.

This link gives students a basic description and some information on different types of habitats.

- *Bugs*. McEvey, Shane F. Broomall, PA: Chelsea House, 2002. Print.

This is a very informative children's book on insects and spiders. The book contains many colorful pictures and touches on insect's body parts, habitats, life cycle, etc.

- "Habitats and Food Chains." *Woodlands Junior School, Tonbridge, Kent UK*. Web. 14 July 2011. <http://www.woodlands-junior.kent.sch.uk/Homework/habitats.html>.

This website gives some great introductory information about habitats and food chains.

The site is easy to navigate and kid-friendly.

- *Homes and Habits of Insects*. Stone, Lynn M. Vero Beach, FL: Rourke Book, 2001. Print.

This is an excellent book for younger elementary-aged students that shares some interesting information about insects and their habitats. The book also contains some color pictures as well as an informative glossary in the back of the book.

- *Insectigations 40 Hands-on Activities to Explore the Insect World*. Paw Prints, 2008. Print.

This book contains 40 different insect experiments and activities for elementary-aged children. These activities are great for both in the classroom and at home.

- "INSECTS — FactMonster.com." *Fact Monster: Online Almanac, Dictionary, Encyclopedia, and Homework Help — FactMonster.com*. Web. 14 July 2011. <http://www.factmonster.com/dk/encyclopedia/insects.html>.

This website includes all kinds of interesting facts about insects. The website has information on both insect's habitats and senses, which are discussed in this lesson.

**Lesson Plan #3 Title:** It's A Bug's Life (To be used third in the sequence of 3 lesson plans, after class trip to Howell Wetlands)

**Grade:** First/Second Grade

**Concept:** first and second grade students will become knowledgeable about different insects, their body parts, senses, habitats and their lifecycles.

**Indiana Standards Addressed:**

**Art:**

2.6.4 Demonstrate evidence of reflection and care in creating artwork.

2.6.5 Identify and apply criteria for self-assessment of studio work such as craftsmanship, control of media, and communication of ideas.

2.6.6 Demonstrate respect for personal work and the work of others.

**English/Language Arts:**

2.SL.4 Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

2.SL.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

**Science:**

1.3.1 Classify living organisms according to variations in specific physical features (e.g., body coverings, appendages) and describe how those features may provide an advantage for survival in different environments.

1.3.2 Observe organisms closely over a period of time in different habitats such as terrariums, aquariums, lawns and trees. Draw and write about observations.

1.3.3 Observe and explain that plants and animals have basic needs for growth and survival: plants need to take in water and need light, and animals need to take in water and food and have a way to dispose of waste.

1.3.4 Describe how animals' habitats, including plants, meet their needs for food, water, shelter and an environment in which they can live.

- 1.3.5 Observe and describe ways in which animals and plants depend on one another for survival.
- 2.3.1 Observe closely over a period of time and then record in pictures and words the changes in plants and animals throughout their life cycles-including details of their body plan, structure and timing of growth, reproduction and death.
- 2.3.2 Compare and contrast details of body plans and structures within the life cycles of plants and animals.

**Objectives:**

- The student will have a basic understanding of insects.
- The student will understand the stages of an insect's lifecycle.
- The student will understand the different body parts of insects.
- The student will understand insect habitats.
- The student will be able to identify some unique insect senses.
- The student will work with others to create a poster.

**Required Materials:**

- Computers with internet capability
- Various insect books (selection listed under references)
- Science notebook for each student
- Student's notebook from fieldtrip
- Pencil for each student
- Markers for each student
- Crayons for each student
- One pair of scissors for each student
- One large poster board for each group
- Several magazines for each group
- Glue for each student
- Tissue paper for each group
- Construction paper for each group
- Have a bug poster of your own made up to show the class as an example

**Anticipatory Set (Lead-In):**

**(Depending on your designated class time, this lesson will most likely need to be broken up into two class periods. This lesson is planned in two separate days)**

**Day 1:**

- Begin the class by reviewing the fieldtrip the students took to Howell Wetlands the day before.
- Ask students what they found interesting on the fieldtrip. Was there anything that surprised them? What was their favorite part of the fieldtrip?
- Follow the discussion up by asking students if they have any questions about the fieldtrip.
- Have students get out their class science notebooks, as well as any notes they took from the fieldtrip.
- Introduce the final class project to the class. Tell students that each group will be making a poster about their insect (spider). Once the groups have completed their posters they will then present the posters to the class.
- Tell students their posters should include a picture of the insect (spider) and their habitat. Also include some interesting facts about their insect at the side of the poster.

**Step-By-Step Procedures:**

- Begin by having students divide up into their designated groups.
- Tell students to “brainstorm” about how they want to set their poster up. Make sure they use their notes. Also show them the different websites and books they can look at for ideas. Allow students 10-15 minutes to come up with some ideas in their group.
- Pass out a poster board and art materials to each group.
- Show students your bug poster as an example to get them started.
- Let students begin to work on their posters.
- Tell them to be creative with their posters and the art materials you gave them. They can cut out pictures and use collage, color and draw if they choose.
- Be sure to walk around to each group answering any questions they might have or giving them assistance when needed.
- Allow students to continue to work on their posters to the end of the class. Have them clean up their mess and tell them they will finish working on posters and present them to the class the next day.

**Day 2:**

- Tell students to divide up in their groups, get their poster board and other art materials out and begin to work on their bug poster.

- Again go around from one group to another to make sure they are staying on task.
- Be sure each group is including the correct information on their poster boards, like a picture of their insect (spider) in its habitat and some interesting facts about their bug.
- Tell students to think about how they want to present their posters and what they want to tell the class.
- Tell class that each person in their group needs to speak during the presentation. So they need to say at least one thing about their insect or poster.
- Allow students to finish completing their bug posters. Give groups 25-30 minutes to finish their project.
- Have students to clean up their mess.
- Once they have done this tell students to get ready to present their posters to the class.

### **Conclusion:**

- Have each group bring their poster up in front of the class. Ask groups to present their poster to the class.
- Allow other students to ask the presenting group questions about their insect (spider).
- Continue this until all groups have presented their project to the class.
- Wrap the class up by asking students if they have any questions or comments about what we have learned about in class this week.
- If there are no further questions or discussion, let the class know they did a great job on working together in their groups and presenting their posters to the class.
- Let them know that later in the day you will be giving them information on their take-home activity about ants. Tell students they will be able to work on this fun project at home with their family.
- Tell students they will be able to share their results of the take-home ant activity with the class on Monday.
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**Adaptations (For Students with Disabilities):** If a student has difficulty writing or cutting, they can either work with a student partner or an aide to help them with this.

**Extensions:** If a student or group finishes this activity early they can add more pictures or detailed information to their poster board.

### **Resources:**

"Howell Wetlands." *Wesselman Nature Society*. Web. 15 July 2011.  
<http://wesselmannaturesociety.org/wetlands/index.php>.

This site contains information on Howell Wetlands, as well as Wessleman Nature Society. Students can take a look at this site to review their fieldtrip.

"Insects at Animal Corner." *Animals, Animal, Wildlife Animals, Rainforests, Pets, Farm Animals and Insects*. Web. 15 July 2011.

<http://www.animalcorner.co.uk/insects/insects.html>.

This website contains a lot of great information for elementary-aged students on different types of insects and spiders.

McEvey, Shane F. *Bugs*. Broomall, PA: Chelsea House, 2002. Print.

This is a very informative children's book on insects and spiders. The book contains many colorful pictures and touches on insect's body parts, habitats, life cycle, etc.

Oppenheim, Joanne, and Ron Broda. *Have You Seen Bugs?* New York: Scholastic, 1996. Print.

This book includes many different illustrations and interesting facts about "bugs"; this would be a good book for students to take a look at when putting together ideas for their insect poster.