Unit Overview

In this unit the students will be engaged from the beginning with a hook that catches their attention and an authentic connection that gives them a purpose for learning. Throughout the unit students will learn about different insects while doing meaningful and engaging lessons. Students work on the Final Team Project throughout the unit in which students work in groups to create Power Point presentations about insects. Their slides will include information about the characteristics, how insects protect themselves, life cycle and needs, habitats, and whether they are harmful or helpful. Students are also taught reading strategies throughout the unit as well as reviewing vocabulary on a regular basis. Technology is incorporated in the unit through the use of cyberhunts, hotlinks, and PowerPoint. This is an engaging unit that students can really immerse themselves into and make real life connections.

Click here for Template
Insects... harmful or helpful

1. Characteristics
   - body parts
   - defenses

2. Life Cycle
   - stages

3. Habitats
   - location
   - conditions
Integrated Curriculum and Instruction Design: Inquiry-Based Learning

Author: Pat Hart
Title: Insects
Grade Level: 2

**Goals/Standards: (#’S)**

**State Goal 12: Understand the fundamental concepts, principles, and interconnections of the life, physical, and earth/space sciences.**

- **Standard A:** Know and apply concepts that explain how living things function, adapt and change.
  - Identify and describe insects based on their characteristics
  - Explain the stages of the life cycle of insects and what they need at each stage
- **Standard B:** Know and apply concepts that describe how living things interact with each other and with their environment.
  - Analyze ways the habitat helps insects survive

**State Goal 1: Read with understanding and fluency.**

- **Standard A:** Apply word analysis and vocabulary skills to comprehend selections.
- **Standard B:** Apply reading strategies to improve understanding and fluency.
- **Standard C:** Comprehend a broad range of reading materials.

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**Engaging the Learner**

**Hook:** Students will work in groups and play “Cootie”. After playing, discuss what students think a “cootie” is. Is it a good bug or a bad bug? What kinds of bugs are good and what kinds are bad? Could a bug be both?

**Authentic Connection:** The school principal will “drop by” with a jar of various insects that he found in his yard. His wife would like to call an exterminator to spray and kill the insects because she is concerned that they are all harmful to their family and plants. The principal knows that our class will be learning about nature and needs our help.

**Essential Question:** What would the world be like without insects?

**Teaching and Learning Events**

**NOTE: Order Painted Lady caterpillars ahead of time for beginning of unit.**

**Final Team Performance**

Students will create a PowerPoint presentation about insects for the principal. The slides will cover characteristics, how insects protect themselves, life cycles and needs, habitats, and whether they are harmful or helpful. Evaluated with a teacher-student generated rubric.

**Individual Student Assessments**

- **Assessment 1** – Identify and classify insects based on their characteristics by drawing a picture of a variety of insects. Choose 3 insects and write a description including how they protect themselves, move, and what makes them an insect. Graded with a rubric.
- **Assessment 2** - Put life cycle pictures of a complete metamorphosis in correct order. Then write sentences describing what they need in each stage. Graded with a rubric.

*Numbers after Teaching and Learning Events refer to assessments*
### Integrated Curriculum and Instruction Design: Inquiry-Based Learning

**Authors:**

**Title:**

**Grade Level:**

<table>
<thead>
<tr>
<th>Goals/Standards: (#’S)</th>
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| **State Goal 6:** Demonstrate and apply a knowledge and sense of numbers, including numeration and operations, patterns, ratios, and proportions. **Standard A:** Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings. | - Schoolyard nature walk – look for insects. **Bug Hunt Finds, Magnifying glass** sheet. Students will fill in sheet noting insect characteristics and where they were found. (LP)  
- Introduce ABC insect words **Finding Important Information: Vocabulary.** Students work in groups and revisit vocabulary throughout the unit. (LP)  
- Students will do **Cyber Quest Activity 1** and sorting activity - **Insect Picture Sort.** (LP)  
- Teacher guides students through characteristics of insects using **Frayer model.** Next the teacher and students complete **Number Sense- Butterflies** activity sheet. Using this information the class will discuss how scientists group insects according to their characteristics by completing the **Cyber Quest Activity 2.** (LP)  
- **Assessment #1 (rubric)** Following assessment teams meet to share knowledge, return to essential question; answer some an ask more. The **FTP organizer** is used to guide their work on the FTP. (LP)  
- The students will work in pairs. Each group will be given various pictures of **insect life cycles.** The students will be asked to predict the chain of the life cycle and secure to a |
| **State Goal 3:** Write to communicate for a variety of purposes. **Standard A:** Use correct grammar, spelling, punctuation, capitalization and structure. **Standard B:** Compose well-organized and coherent writing for specific purposes and audiences **Standard C:** Communicate ideas in writing to accomplish a variety of purposes. |  
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<tr>
<td></td>
<td>Engaging the Learner</td>
<td>piece of paper. The students will go to the computer lab with their prediction papers and work in pairs at the computer visiting websites on computer hotlist sheet. (LP)</td>
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<td>• Butterfly life cycle- Students observe and record observations of Painted Lady Caterpillars daily. Class discussion of observations (LP)</td>
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<td>• Plant Audit- Students use website to complete Painted Lady Activity Sheet. Butterflies are released and class discusses types of plants needed in landscaping for butterflies to survive (LP)</td>
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<td>• Review QAR to help students understand the types of questions and responses. QAR sheet about cockroaches and Anticipation Guide for Mosquitos using Mosquito Facts sheet. (LP)</td>
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<td>• Assessment #2 (rubric). Following assessment teams meet to share knowledge, return to essential question; answer some an ask more. The FTP organizer is used to guide their work on the FTP. (LP)</td>
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<td>• Habitats - Cyber Quest Activity 3 and write about discovering a new insect using Extra, Extra.. sheet (LP)</td>
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<td>• Group discussion- are insects necessary for the environment? Students work in pairs at computers with Helpful or Harmful hotlink activity. Make class Venn diagram of helpful and/or harmful insects with students explaining their reasoning. (LP)</td>
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<td>• Assessment #3 (rubric). Following assessment teams meet to share knowledge, return to essential question; answer some an ask more. The FTP organizer is used to guide their work on the FTP. (LP)</td>
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√() = outcome is assessed
(Number refers to assessment)

*Numbers after Teaching and Learning Events refer to assessments

©Emily Alford, 1998
I need your help! I have a lot of insects in my yard that seem to be everywhere! My wife would like to call an exterminator to spray and kill the insects. She is concerned that they are all harmful to our family and plants. I know that you will be learning about nature this year and was wondering if you would be able to help me.

Could your class research a variety of insects? I need to know what kinds of insects there are and what they look like, what types are harmful or helpful, what insects need to survive, and how they protect themselves. I would like you to put your research into PowerPoint so that it is easy for me to view. Thank you for help and I look forward to your presentation!
Insect Unit Opening Activities

Hook

Have the students work in groups and play “Cootie”. After playing, discuss what students think a “cootie” is. Is it a good bug or a bad bug? What kinds of bugs are good and what kinds are bad? Could a bug be both?

Authentic Connection

The school principal will “drop by” with a jar of various insects that he found in his yard. His wife would like to call an exterminator to spray and kill the insects because she is concerned that they are all harmful to their family and plants. The principal knows that our class will be learning about nature and needs our help.

The principal asks the students to research information on a variety of insects. They need to find out what kinds of insects there are and what types are harmful or helpful, what insects need to survive, and how they protect themselves. He would like the students to make a PowerPoint presentation for him to learn more about insects. He will use this information to decide if he should call the exterminator.
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Standard A: Know and apply concepts that explain how living things function, adapt and change.
- Identify and classify insects based on their characteristics
- Explain the stages of the life cycle of insects

Standard B: Know and apply concepts that describe how living things interact with each other and with their environment.
- Analyze ways the habitat helps insects survive

Teaching and Learning Event: Hook, Authentic Connection, and Task Analysis

Description and Detailed Sequence of Activities:
- The teacher will introduce the Hook. The students will be playing the Cootie game in groups of 2-4. Teacher will ask students if it is a “good bug” or a “bad bug”. Teacher will record responses on chart paper.
- The principal will come to the classroom during the Hook activity and present his Script. The principal will leave a written memo for students to refer to during task analysis. After the principal leaves, the teacher guides the class through the Task Analysis, helping them define the task and recording responses on chart paper.
- The teacher will prompt students to think of questions they have about what they need for this task and record their questions on chart paper. Students will find answers to these and other questions asked throughout the unit. Teacher then introduces and posts the Essential and Coaching questions in the classroom.
- Begin discussion of the Final Team Product and involve students in the development of assessment for Final Team Product.

Time Line: 1 day (60 min)

Books:

Equipment Name:

Materials: Cootie games, authentic connection (jar of insects and visit from principal), chart paper and markers for hook activity and task analysis

Resources - Web Sites:

Resources – Software:

TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
Title of Unit: Insects  
Author(s): Pat Hart  
Lesson Plan 2

State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.  
Standard A: Know and apply concepts that explain how living things function, adapt and change.  
• Identify and classify insects based on their characteristics  
• Explain the stages of the life cycle of insects

State Goal 3: Write to communicate for a variety of purposes.  
Standard C. Communicate ideas in writing to accomplish a variety of purposes.

State Goal 1: Read with understanding and fluency  
Standard A: Apply word analysis and vocabulary skills to comprehend selections  
Standard B: Apply reading strategies to improve understanding and fluency  
Standard C: Comprehend a broad range of reading materials

Teaching and Learning Event: Insect Vocabulary

Description and Detailed Sequence of Activities:  
• Teacher will develop five multi-level groups for the students to work in. These teams will work together throughout this inquiry unit about insects. These groups are: wasps and bees, grasshoppers and crickets, beetles, butterflies, and ants  
• Teacher will introduce insect vocabulary words on List and Track Words sheet using overhead transparency. Students will be given some insect books and will work together in their groups to find the vocabulary words on the sheet. Students may each record the findings or have one student be the recorder. The page number needs to be recorded from where it was found, and also how the word was used in the text to help make a connection.  
• After approximately 30 minutes, have the students share which words they have already found, recording responses on the overhead transparency. The students’ sheets need to be kept in their insect folder and will be revisited until all of the words have been found.

Time Line: 30 minutes

Books: variety of trade books about insects for each group

Equipment Name: overhead projector

Materials: Overhead transparency of List and Track Words sheet and folders to keep insect sheets in throughout the unit

Resources - Web Sites:

Resources – Software:

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State Goal 1: Read with understanding and fluency

Standard A: Apply word analysis and vocabulary skills to comprehend selections
Standard B: Apply reading strategies to improve understanding and fluency
Standard C: Comprehend a broad range of reading materials

Teaching and Learning Event: Semantic Chart

Description and Detailed Sequence of Activities:
- Students will work together in their insect groups to locate information needed on the Insect Semantic Chart about their insect as a jigsaw activity.
- As students find information needed, they write it on a post-it note and attach it to the class chart in the appropriate blanks. Many areas will have more than one post-it note.
- As groups finish filling in their areas on the chart, each student will write at least two I Wonder questions that they have at this point and keep this sheet in their insect folder. These questions can be referred to throughout the unit and more questions can be written.
- After the class chart is filled in, then each group will share their information with the class

Time Line: 30 minutes

Books: variety of trade books about insects for each group

Equipment Name:

Materials: class Insect Semantic chart, package of small post-it notes per group

Resources - Web Sites:

Resources – Software:

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Title of Unit: Insects
Author(s): Pat Hart
Lesson Plan 4

State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
Standard A: Know and apply concepts that explain how living things function, adapt and change.
  • Identify and classify insects based on their characteristics

State Goal 3: Write to communicate for a variety of purposes.
Standard C: Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Event: Bug Hunt

Description and Detailed Sequence of Activities:
  • Each student will be given a magnifying glass, a piece of yarn that is 36” long with the ends tied together, a Bug Hunt Worksheet (see link below) and a Magnifying Glass sheet. The students will go outside, spread out, and take their loops of yarn to various spots in the schoolyard. They need to lay the yarn down on the ground to make large circular shapes. No yarn should be overlapping in someone else’s space. Encourage students to choose different parts of the schoolyard such as under rocks, by the flowers, etc.
  • The students are to look closely inside their open space and record any insects found on their sheet, along with where it was found and what it was doing.
  • Students choose one of the insects found and draw how it looks through a magnifying glass on the paper provided.
  • Class returns to the classroom and students share what kinds of bugs were found, where they were found, and what they were doing.
  • Students share pictures of insects they drew and then the pictures are displayed in the classroom.

Time Line: 10-15 minutes outside, 10-15 minutes in the classroom

Books:

Equipment Name:

Materials: yarn, pencils, bug hunt find sheet, clipboards or something hard to write on, magnifying glasses, magnifying glass sheet

(Bug Hunt worksheet)

http://www.urbanext.uiuc.edu/insects/funplace.html fun activities to do
http://www.urbanext.uiuc.edu/insects/index.html great slide show
http://www.urbanext.uiuc.edu/insects/guide/activities.html activities for your classroom

Resources – Software:

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State Goal 1: Read with understanding and fluency.
Standard A: Apply word analysis and vocabulary skills to comprehend selections.

State Goal 3: Write to communicate for a variety of purposes.
Standard C: Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Event: ABC Insect Vocabulary

Description and Detailed Sequence of Activities:
- The teacher will introduce “important insect words” found in books – such as vocabulary words, and then choose a word from a non-fiction book and ask the students if they think it is an important word. Discuss types of words that would not be important when you think about insects, such as “the”, “shoes”, “book”, etc.
- Select a nonfiction book about insects and choose a word from the text. Challenge the students to give a “thumbs up” if they think it is an important word about insects, and “thumbs down” if it’s not an important word about insects. Do several different words until the class understands the concept.
- Students work in their groups with a variety of insect books and copies of the Insect ABC Vocabulary sheet to find important words for each letter of the alphabet. Students may each record the words or have one student be the recorder. Some letters of the alphabet may have several words in the boxes, while other letters may not be filled in at all due to the difficulty of finding any.
- After about 20 minutes, ask students who found any important insect words that start with the letter “A” and record their different responses on the teacher-made ABC chart. If a student gives an unimportant word, ask the class to think about that word and decide if it can be written or not. Proceed through the rest of the alphabet the same way. Some of the letters may be left blank for now. This sheet needs to be kept in the students’ insect folders and will be revisited throughout the unit.

Time Line: 30 minutes

Books: variety of trade books about insects for each group

Equipment Name:

Materials: Insect ABC vocabulary sheet for each student, large chart of the ABC vocabulary grid, markers

Resources - Web Sites:

Resources – Software:

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Title of Unit: Insects
Author(s): Pat Hart
Lesson Plan 6

State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
Standard A: Know and apply concepts that explain how living things function, adapt and change.
• Identify and classify insects based on their characteristics

State Goal 3: Write to communicate for a variety of purposes.
Standard B: Compose well-organized and coherent writing for specific purposes and audiences
Standard C: Communicate ideas in writing to accomplish a variety of purposes.

State Goal 1: Read with understanding and fluency.
Standard A: Apply word analysis and vocabulary skills to comprehend selections.
Standard B: Apply reading strategies to improve understanding and fluency.

Teaching and Learning Events: Characteristics of Insects

Description and Detailed Sequence of Activities:
• Students will need access to computers to locate information for the first activity.
  Pass out the Cyber Quest 1 sheet to each student and go over the directions with the class. Check for understanding of the tasks to be completed.
• Students complete the first activity on the sheet using the web site given. Then they return to their seats to draw the insect they are researching in their group and label the body parts using the words from the word bank.
• Now that the students have worked with insect characteristics, pass out the Insect Picture Sort sheet and have the students cut the boxes apart. Students need to think of ways they can sort the pictures on their desks. Encourage students to see how many different ways they can group the pictures.
• Students can return to the computer lab to practice what they have learned using the web sites at the bottom of the Cyber Quest sheet as time is available.

Time Line: 30-40 minutes

Books:

Equipment Name: computers

Materials: Cyber Quest 1 sheet, Insect Sort sheet, scissors

Resources - Web Sites:
http://www.ivyhall.district96.k12.il.us/4th/kkhp/1insects/buginfo.html
http://www.urbanext.uiuc.edu/insects/funplace.html

Resources – Software:

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Standard B. Compose well-organized and coherent writing for specific purposes and audiences
Standard C. Communicate ideas in writing to accomplish a variety of purposes.

State Goal 1: Read with understanding and fluency.
Standard A: Apply word analysis and vocabulary skills to comprehend selections.
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Teaching and Learning Events: Insect Characteristics, Protection, and Math Sense

Description and Detailed Sequence of Activities:
• The teacher asks students to think of what they have learned about some of the characteristics of insects and records the responses on the Frayer Model overhead transparency in the “characteristics” section. Discuss any incorrect responses.
• Then ask students to think of some examples of insects and the teacher records the responses in the “examples” section on the same transparency. Discuss any incorrect responses.
• Now that students have stated characteristics and examples of insects, ask students to think of examples that aren’t insects and record the responses in the “non-example” section on the transparency. (some responses may be spiders, cows, centipedes, birds, etc.)
• Encourage students to think of a way to state a definition for an insect. Ask students to think about where you could look to find out what words mean that you don’t know or are unsure of. Show students where they could find some dictionaries to use. The teacher models how to look up the word “insect” and students work with a partner to find “insect” in their dictionaries. After students have found the definition (some groups may need help locating the word) call on a student to read the definition. The teacher records the definition in the “definition” section on the transparency.
• The teacher will use the Number Sense overhead transparency and show the students that the numbers in the article about butterflies have been taken out and moved to a word/number bank. The challenge is to try to figure out what numbers fit where. Encourage students to make guesses that would make sense and record a response in the blanks on the overhead.
• As the teacher continues to read the article to the class, the students may realize that they need to make changes with the guesses they made. Continue to ask “what do you think would make sense” and numbers can be changed along the way.

• When the article is finished and all of the numbers have been used, then read the article to the class inserting the correct answers (use teacher key for reference) and have students check to see how many guesses were correct. Discuss with class why they think they knew some of the answers and if there were any surprises with any of the answers.

• Students will need access to computers to locate information for the first activity about ways insects can protect themselves. Pass out the Buggy Cyber Quest sheet to each student and go over the directions with the class. Check for understanding of the tasks to be completed. The students will need to go to slide 20 for the information.

• Students complete the first activity on the sheet using the web site given. Then they return to their seats to write about the insect they are researching in their group, telling how it protects itself. Call on students to share what they wrote about how their insect protects itself.

Time Line: 60 minutes

Books:

Equipment Name: Overhead projector and computers

Materials: overhead transparencies of Frayer Model and Number Sense, and Cyber Quest 2 sheet for each student, dictionary, teacher copy of the Number Sense (highlight the numbers or number words in the article that are needed for the teacher key)

Resources - Web Sites:
http://www.kidsplanet.org/factsheets/butterflies.html

Resources – Software:

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- Identify and classify insects based on their characteristics

State Goal 3: Write to communicate for a variety of purposes.

Standard A. Use correct grammar, spelling, punctuation, capitalization and structure.
Standard B. Compose well-organized and coherent writing for specific purposes and audiences
Standard C. Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Events: Assessment and Final Team Project work begins

Description and Detailed Sequence of Activities:
- Teacher will discuss the directions on the assessment and check for understanding of what is expected. Explain the areas on the rubric that will be used to assess these papers and how the scores are decided. Assessment #1 sheet is then passed out, making sure all students have their name on their paper. Encourage students to take their time drawing their picture with a variety of insects in it and to show the necessary details. Also encourage them to do their best work when writing their facts. Rubric 1 is used to evaluate.
- Following the assessment the teams will meet to share knowledge and return to the essential question; answer some and ask more.
- The Final Team Product organizer is used to guide students as they work on the information needed to create their Power Point slides. The students will need to create a slide with a picture of their insect and a description of what it looks like. The next slide will describe how it protects itself from predators.

Time Line: 60-90 minutes

Books: variety of trade books about insects

Equipment Name: computers

Materials: Assessment 1 sheet and Rubric 1 for each student, Final Team Product sheets for each group, paper, pencils

Resources - Web Sites:

Resources – Software:

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Standard A: Know and apply concepts that explain how living things function, adapt and change.
- Identify and classify insects based on their characteristics
- Explain the stages of the life cycle of insects

Teaching and Learning Events: Insect Life Cycles

Description and Detailed Sequence of Activities:
- Each group will be given five different pictures of insect life cycles. Working with a partner (or 3 can work together if needed) students need to predict the chain of the life cycle of each of the insects, cut apart the pictures of each insect, and tape them in order on life cycle papers that they will be given.
- The students then will go to the computer lab and work in pairs at the computers visiting websites on the computer hotlist sheet to check for accuracy. Any corrections can be made on their papers. They also need to correctly label the stages of the life cycle of each insect on their papers, using the hotlinks to help.
- Class discussion will follow discussing how not all of the life cycles were the same. Call on students to tell which of the insects had the same type of life cycle and which one was different. The grasshopper does not go through the same life cycle changes. The ones that were the same go through what is called “complete metamorphosis” because of the drastic changes they go through, while the grasshopper hatches from an egg as a small grasshopper. This is called an “incomplete metamorphosis”. Since the students now know that a grasshopper has an incomplete metamorphosis, brainstorm if there are other insects that they think may have the same life cycle.

Time Line: 30 minutes

Books:

Equipment Name: computer

Materials: Insect Life Cycle picture sheets, Life Cycle recording papers, scissors, tape, pencils

Resources - Web Sites:
http://www.ant-pictures.com/ant_life_cycle.htm
http://library.thinkquest.org/5382/lifecycle.html
http://www.utahbugclub.org/lifecycle.html
http://www.enchantedlearning.com/subjects/insects/ladybug/Ladybug.shtml

Resources – Software:

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Standard A: Know and apply concepts that explain how living things function, adapt and change.

- Explain the stages of the life cycle of insects

Teaching and Learning Events: Butterfly Life Cycle

Description and Detailed Sequence of Activities:

- Students will begin observing and recording how the Painted Lady caterpillars look each day. There will be several caterpillars in the container, and the students will need to look at all of them. Pass out daily recording sheet for each student.
- Students will draw and label what they see each day, recording any changes they see in their appearances on their recording sheets. These sheets will be used every day.
- As the caterpillars are ready for the chrysalis stage, they will fasten themselves to the top of the container. Students continue to observe and record what they see.
- Carefully transfer the paper liner from the container after all of caterpillars have reached the chrysalis stage to the inside of the butterfly house (insect kit comes with directions to follow). Students continue to observe and record any changes they see in their appearances until all of the caterpillars have emerged.
- Discuss the stages that were observed and also discuss the fact that butterflies don’t have live babies but lay eggs upon leaves.
- Pop around the room and challenge students to use the word “metamorphosis” correctly in a sentence.

Time Line: 10 minutes each day until all of the caterpillars have changed into butterflies

Books:

Equipment Name:

Materials: Painted Lady caterpillars and butterfly house (can order from http://www.insectlore.com/store.html) daily recording sheets, pencils

Resources - Web Sites:

Resources – Software:

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- Explain the stages of the life cycle of insects

Standard B: Know and apply concepts that describe how living things interact with each other and with their environment.
- Analyze ways the habitat helps insects survive

State Goal 3: Write to communicate for a variety of purposes.

Standard C: Communicate ideas in writing to accomplish a variety of purposes.

State Goal 1: Read with understanding and fluency.

Standard A: Apply word analysis and vocabulary skills to comprehend selections.
Standard B: Apply reading strategies to improve understanding and fluency.

Teaching and Learning Events: Plant Audit

Description and Detailed Sequence of Activities:
- Students will need access to computers to locate information. Pass out the Painted Lady activity sheet to each student and go over the direction with the class. Check for understanding of the first task to be completed.
- Students complete the activity on the sheet using the web site given.
- Have students gather in their groups and compare what plants they wrote on their sheets for the Painted Lady’s needs. Then lead class discussion on their findings.
- Class goes outside and looks in schoolyard to see if we have what the Painted Lady butterfly needs when they are released later
- Discuss with class what types of plants might need to be added to the landscaping.

Time Line: 15-20 minutes in computer lab, 10 minutes outside

Books:

Equipment Name: computers

Materials: Painted Lady activity sheets, pencils

Resources - Web Sites:

Resources – Software:

TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
State Goal 1: Read with understanding and fluency.

- **Standard A**: Apply word analysis and vocabulary skills to comprehend selections.
- **Standard B**: Apply reading strategies to improve understanding and fluency.
- **Standard C**: Comprehend a broad range of reading materials.

**Teaching and Learning Events:** QAR (students are already familiar with Question/Answer Relationship) and Anticipation Guide

**Description and Detailed Sequence of Activities:**

- **Review types of QAR** to help students remember types of questions and responses. Today’s lesson will work with Right There and Think and Search. Ask students what kinds of answers are “right there” (very obvious) and what kinds are “think and search” (have to read more information to find the answer).

- **Give each child a copy** of the information about an American Cockroach. Allow a few minutes for the children to read quietly to themselves, and then read the information to the class or call on a student to read aloud. Complete the sheet.

- **Pass out the QAR sheet** to each student and allow time for the class to search for the answers and record them. Discuss the answers and ask which was easier to find and which required more reading or searching.

- **Introduce a new lesson about guessing** and then read to find out if your guess was right or not. Pass out Anticipation Guide for Mosquitoes sheet and use an overhead copy to help the students follow along when writing begins. Read the first statement and have students mark True (or “T”) or False (or “F”) on the first blank under “We Think”. Then read the second statement and have them mark their guess on the second line under “We Think”. Read the remaining statements in the same manner, with time allowed for the students to write their guesses.

- **Now pass out the Mosquito Facts sheet** to each child and allow time for the students to read quietly. Then read the information to the class or call on a student to read aloud. After the fact sheet is read, go back to the Anticipation Guide and read the first statement to the students again. The students need to think whether that statement was in the text and if it’s true or false. Discuss which is the correct answer and students then write “true” or “false” on the first line. Read the remaining statements in the same manner, with time allowed for the students to discuss the correct answer and write “true” or “false” in the blanks.

**Time Line:** 30 minutes

**Books:**

**Equipment Name:** overhead projector

**Materials:** Cockroach information, QAR, and Anticipation Guide sheets for each student, overhead copy of Anticipation Guide for teacher, Mosquito Fact sheet for each student

**Resources - Web Sites:**
http://www.ivyhall.district96.k12.il.us/4th/kkhp/1insects/roach.html

**Resources – Software:**
TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.

Standard A: Know and apply concepts that explain how living things function, adapt and change.
- Explain the stages of the life cycle of insects

State Goal 3: Write to communicate for a variety of purposes.

Standard A. Use correct grammar, spelling, punctuation, capitalization and structure.
Standard B. Compose well-organized and coherent writing for specific purposes and audiences
Standard C. Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Events: Assessment and Final Team Project work

Description and Detailed Sequence of Activities:
- Teacher will discuss the directions on the assessment and check for understanding of what is expected. Explain the areas on the rubric that will be used to assess these papers and how the scores are decided. Assessment #2 sheet is passed out, making sure all students have their name on their paper. Encourage students to take their time cutting and gluing their pictures. Also encourage them to do their best work when writing their sentences about each stage. Rubric 2 used for evaluation.
- Following the assessment the teams will meet to share knowledge and return to the essential question; answer some and ask more.
- The Final Team Product organizer is used to guide students as they work on the information needed to create their Power Point slides. The students will need to create a slide telling about the type of life cycle their insect has and also include a picture of the life cycle.

Time Line: 45 minutes

Books: variety of trade books about insects

Equipment Name: computers

Materials: Assessment 2 sheet and Rubric 2 for each student, Final Team Product sheets for each group, paper, pencils

Resources - Web Sites:

Resources – Software:

TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
Standard B: Know and apply concepts that describe how living things interact with each other and with their environment.
  • Analyze ways the habitat helps insects survive

State Goal 1: Read with understanding and fluency.
Standard A: Apply word analysis and vocabulary skills to comprehend selections.
Standard B: Apply reading strategies to improve understanding and fluency.
Standard C: Comprehend a broad range of reading materials.

State Goal 3: Write to communicate for a variety of purposes.
Standard B: Compose well-organized and coherent writing for specific purposes and audiences.
Standard C: Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Event: Habitats and discovering a new insect

Description and Detailed Sequence of Activities:
• Students will need access to computers to locate information for the first activity. Pass out Cyber Quest 3 sheet to each student and go over directions with the class. Check for understanding of the tasks to be completed.
• Students complete the first activity on the sheet using the web site given. Then they return to their seats to write about where they think their insect lives and how the habitat helps it survive. Call on students to share their answers with the class.
• Tell the students that they are to use their imagination and pretend that they just discovered a new insect and the reporters want to know all about it! Discuss with the class areas that they need to think about: where it lives, what it was eating when it was found, how it moves, how it defends itself, and an amazing fact about this insect. They will also need to draw this insect and make up a new name for it. Ask the students if they have any questions before they get started thinking.
• Pass out Extra! Extra! sheet for the students to work on. Allow class time for the students to share their incredible finds.

Time Line: 30-40 minutes

Books:

Equipment Name: computers

Materials: Cyber Quest 3 and Extra! Extra! sheet for each student, pencils and crayons or markers

Resources - Web Sites:
http://www.globio.org/glossopedia/insect/insectFACTS.html

Resources – Software:

TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
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Standard C: Comprehend a broad range of reading materials.

State Goal 3: Write to communicate for a variety of purposes.
Standard B: Compose well-organized and coherent writing for specific purposes and audiences.
Standard C: Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Event: Harmful or Helpful
Description and Detailed Sequence of Activities:
• Lead the class in group discussion – are insects necessary for the environment?
• Students will need access to computers to locate information for the first activity. Pass out Harmful or Helpful sheet to each student and go over directions with the class. Check for understanding of the tasks to be completed.
• Students pairs complete the first activity on the sheet using the web site given.
• Then they return to their seats to think about insects that are helpful or that are harmful. Students write insect names on the Venn diagram where they think they belong, encouraging students to be able to explain why they wrote them where they did. (students are familiar with Venn diagram)
• Create a large Venn diagram on chart paper and label it like the student papers. Call on students to share their answers with the class. The student must be able to explain his answer reasonably before it can be added to the class chart. Continue calling on students until a wide variety of insects are listed in all three areas of the Venn diagram.

Time Line: 30-40 minutes

Books:

Equipment Name: computers

Materials: Helpful or Harmful sheet for each student, pencils, chart paper, markers

Resources - Web Sites:
http://www.globio.org/glossopedia/insect/pollinators_pests.html

Resources – Software:
TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
State Goal 12: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.

Standard B: Know and apply concepts that describe how living things interact with each other and with their environment.
  • Analyze ways the habitat helps insects survive

State Goal 3: Write to communicate for a variety of purposes.

Standard A. Use correct grammar, spelling, punctuation, capitalization and structure.
Standard B. Compose well-organized and coherent writing for specific purposes and audiences
Standard C. Communicate ideas in writing to accomplish a variety of purposes.

Teaching and Learning Events: Assessment and Final Team Project work

Description and Detailed Sequence of Activities:

• Teacher will discuss the directions on the assessment and check for understanding of what is expected. Explain the areas on the rubric that will be used to assess these papers and how the scores are decided. Assessment #3 sheet is passed out, making sure all students have their name on their paper. Encourage students to draw their lines to match the pictures neatly, and to do their best work when writing their sentences about each insect. Rubric 3 will be used for evaluation.

• Following the assessment the teams will meet to share knowledge and return to the essential question; answer some and ask more.

• The Final Team Product organizer is used to guide students as they work on the information needed to create their Power Point slides. The groups will need to create a slide about the habitat of the insect that they are researching. This slide should include how the habitat helps that insect survive, and should also state if their insect is helpful or harmful (or both) and explain how.

• The team will need to create a title page slide for their insect and also include the names of the students in their group.

Time Line: 60 minutes

Books: variety of trade books about insects

Equipment Name: computers

Materials: Assessment 3 sheet and Rubric 3 for each student, Final Team Product sheets for each group, paper, pencils

Resources - Web Sites:

Resources – Software:

TRADEBOOKS ARE INTRODUCED AT THE BEGINNING OF THE UNIT. THESE BOOKS ARE AVAILABLE AND ACCESSIBLE TO STUDENTS THROUGHOUT THE UNIT.
Name ____________________

Assessment # 1  Characteristics of Insects

Draw a picture with a variety of insects in it. Choose 3 of those insects and write a description about each one including how they protect themselves, move, and what makes them an insect.

1. ______________________________________________________
   ______________________________________________________
   ______________________________________________________

2. ______________________________________________________
   ______________________________________________________
   ______________________________________________________

3. ______________________________________________________
   ______________________________________________________
   ______________________________________________________
Assessment #2  Life Cycle

Cut out and glue the life cycle pictures in the correct order. Then write a sentence about what is happening in each stage.

Stage 1 __________________________________________________________
________________________________________________________

Stage 2 __________________________________________________________
________________________________________________________

Stage 3 __________________________________________________________
________________________________________________________

Stage 4 __________________________________________________________
________________________________________________________
Assessment #3  Habitats

Draw a line to match each insect to its habitat

Write about each insect shown above and their habitat.

A _______________ is a good habitat for a ________________ because _______________________________________________.

A _______________ is a good habitat for a ________________ because _______________________________________________.

A _______________ is a good habitat for a ________________ because _______________________________________________.

A _______________ is a good habitat for a ________________ because _______________________________________________.

Name_________________
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## Anticipation Guide for Mosquitoes

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<th>We Think</th>
<th>Text Says</th>
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Bug Hunt Finds

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<tr>
<th>Insect Name</th>
<th>Where You Found It</th>
<th>What It Was Doing</th>
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Activity #1

Many bugs really bug us. But do you know what all insects must have to be considered an insect? Check out this website and find the characteristics that are needed to be considered an insect:
http://www.ivyhall.district96.k12.il.us/4th/kkhp/1insects/buginfo.html

1. __________________________
2. __________________________
3. __________________________
4. __________________________

Draw your insect and use the words in the word bank to label the body parts.

antennae abdomen head legs thorax

You can also go to http://www.urbanext.uiuc.edu/insects/funplace.html and click on "Am I an Insect?" for more practice.
Activity #2

Insects find different kinds of ways to protect themselves. List 6 ways that are shown on this website: http://www.uta.edu/biology/3341/Insect%20Survival%20Strategies.pdf

1. __________________________________________
2. __________________________________________
3. __________________________________________
4. __________________________________________
5. __________________________________________
6. __________________________________________

How does your insect protect itself?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Activity #3

Insects, insects, insects! They seem to be everywhere! What types of habitats do insects live in, and what type don’t they live in? [http://www.globio.org/glossopedia/insect/insectFACTS.html]

Do: __________, __________, __________, __________, __________

Don’t: ___________________

Think about your insect. Where do you think it lives?
_________________________________________________
_________________________________________________
_________________________________________________

How do you think its habitat helps it survive? _______________
_________________________________________________
_________________________________________________
Extra! Extra! Read all about it!

Student discovers new insect!

Its habitat is________________________________________________
_________________________________________________________.

It was eating _______________________________________________
and it moved by _____________________________________________.

It defends itself by _____________________________________________.

The most amazing thing about this insect is _________________________
_________________________________________________________.

Here’s a picture of the insect. It’s going to be named ___________________.
<table>
<thead>
<tr>
<th>Definition</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>Examples</td>
<td>Non-Examples</td>
</tr>
</tbody>
</table>
Helpful or Harmful

http://www.globio.org/glossopedia/insect/pollinators_pests.html

Read about pollinators and pests and explain why each statement is true. Then list some insects that you think are helpful and/or harmful and be able to explain why.

Without insects you’d be up to your neck in more insects. Why?
_________________________________________________________
_________________________________________________________
_________________________________________________________

Without insects, you may not have the fruits and vegetables you’re used to eating. Why?
_________________________________________________________
_________________________________________________________
_________________________________________________________

Insects keep soils healthy. How?
_________________________________________________________
_________________________________________________________
_________________________________________________________

[Helpful and Harmful Venn Diagram]
I wonder ...?
Butterfly life cycle

Grasshopper life cycle
Ant life cycle

Ladybug life cycle
Bee life cycle
Life Cycle Hotlist

http://www.enchantedlearning.com/subjects/butterfly/activities/printouts/paintedladylife
cycle.shtml  (butterfly)

http://www.utahbugclub.org/lifecycle.html  (grasshopper)

http://www.ant-pictures.com/ant_life_cycle.htm  (ant)

http://www.enchantedlearning.com/subjects/insects/ladybug/Ladybug.shtml  (ladybug)

http://library.thinkquest.org/5382/lifecycle.html  (bee)
<table>
<thead>
<tr>
<th>Word</th>
<th>Use in Text</th>
<th>Page #</th>
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<td>colonies</td>
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<td>antennae</td>
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</table>
Examine an insect with a magnifying glass. Draw it below.

Insect: __________________________
Mosquito Facts

• The average life span of the female mosquito is 3 to 100 days; the male's is 10 to 20 days.

• Mosquito adults feed on flower nectar and juices of fruits for flight energy.

• Depending on species, female mosquitoes may lay 100 to 300 eggs at a time and may average 1,000 to 3,000 during their lifespan.

• The mosquito matures from egg to adult in 4 to 7 days.

• Female Mosquitoes are attracted to carbon-dioxide and will pierce the skin of people and other warm-blooded animals to suck blood, causing a painful swelling.

• Most mosquitoes remain within 1 mile of their breeding site. A few species may range up to 20 miles or more.
STATUS:
The U.S. Fish and Wildlife Service lists _____ species of butterflies as endangered, _____ as threatened.

DESCRIPTION:
Butterflies are brightly colored flying insects with _____ pairs of large wings that vary in color and pattern from species to species. The wings are covered with overlapping rows of tiny scales, a characteristic butterflies share with their fellow lepidopterans, the moths. Like other insects, butterflies have a hard exoskeleton, three pairs of jointed legs, antennae, compound eyes and three main body parts: head, thorax and abdomen. On the head are the eyes, antennae and proboscis -- the long, flexible "tongue" used to sip nectar and other liquids. The thorax is the point of attachment for the two pairs of wings – forewings and hindwings. The abdomen contains the reproductive and other vital organs.

SIZE:
Butterflies come in a variety of sizes. The world’s smallest known species, the blue pygmy found in southern California, has a wingspan of just over a _____ inch. The largest species, New Guinea’s Queen Alexandra’s birdwing, can measure up to _____ inches wingtip to wingtip.

LIFESPAN:
The average lifespan for an adult butterfly is _____ to _____ days. Some species live no longer than _____ or _____ days; others may live up to _____ months.

RANGE:
Butterflies are found worldwide except on the continent of Antarctica. Many species migrate to avoid adverse conditions. Most migrate relatively short distances, but monarchs and several other species migrate _____ of miles.

HABITAT:
Butterflies are found in a variety of environments: hot, cold, dry, moist, below sea level, high in the mountains. Tropical areas, especially rainforests, boast the most species. Specific habitat types include deciduous, coniferous and oak forests; wetlands such as marshes, bogs, rivers, streams and swamps; and meadows, farmlands, gardens, roadsides, dunes and other open areas.

FOOD:
A caterpillar’s _____ meal is its own eggshell. It then spends most of its time eating the leaves of the plant on which it hatched. An adult butterfly uncoils its long, straw-like proboscis to sip nectar from flowers, juice from rotting fruit and water from puddles.
LIFE CYCLE:

From egg to adult, butterflies undergo a series of physical transformations known as metamorphosis. After mating, the female butterfly lays her eggs on a caterpillar food or “host” plant. The eggs can hatch within a _____ days, or within _____ or even _____, depending on whether or not conditions are right. After hatching, a caterpillar begins to eat the host plant. The caterpillar sheds its skin several times. It then seeks a sheltered spot, suspends itself by silken threads and sheds one last time to reveal skin that will harden to form the chrysalis or pupa. Days, months or even years later, depending on the species, a fully developed winged adult emerges from the chrysalis and the cycle begins anew.

THREATS:

The greatest threats to butterflies are habitat change and loss due to residential, commercial and agricultural development.

ESPECIES FACT SHEETS

http://www.kidsplanet.org/factsheets/butterflies.html
Painted Lady


Read about the Painted Lady’s adult food needed and list six different types of flowers that they need.

1. _____________________________________________________
2. _____________________________________________________
3. _____________________________________________________
4. _____________________________________________________
5. _____________________________________________________
6. _____________________________________________________
Question/Answer Relationship (QAR)

In the Book (Gathering Information)

Right There:

What colors are American Cockroaches?

Think and Search:

Where do American Cockroaches live?
After the students have completed the task analysis, the essential question and the coaching questions will be introduced and posted in the classroom. Students begin searching for information in trade books and on the internet.

**Essential Question:**
What would the world be like without insects?

**Coaching/telling questions:**
- What is an insect?
- Are all insects the same size?
- Do all insects fly?
- How do scientists group insects?
- What are some ways that insects protect themselves?
- What are the stages in the life cycle of insects?
- Do all insects go through the same life cycle stages?
- What do insects need in the different stages?
- Where do insects live?
- How does the habitat help them survive?
- Why are insects important?
Draw and write a brief description each day of what you see as the Painted Lady caterpillars change. Keep this recording sheet in your insect folder.

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</table>
Students Name: ________________________________________

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drawing</td>
<td>Drawing is expressive and detailed. Shapes, patterns, shading and/or texture are used to add interest to the picture.</td>
<td>Drawing is expressive and somewhat detailed. Little use has been made of pattern, shading, or texture.</td>
<td>Drawing has few details. It is primarily representational with very little use of pattern, shading or texture.</td>
<td>The drawing lacks almost all detail OR it is unclear what the drawing is intended to be.</td>
</tr>
<tr>
<td>Accuracy of Facts</td>
<td>All 3 supportive facts are reported accurately.</td>
<td>2 supportive facts are reported accurately.</td>
<td>1 fact is reported accurately.</td>
<td>NO facts are reported OR most are inaccurately reported.</td>
</tr>
<tr>
<td>Grammar and Spelling</td>
<td>Writer makes no errors in grammar or spelling that distracts the reader from the content.</td>
<td>Writer makes 1-2 errors in grammar or spelling that distract the reader from the content.</td>
<td>Writer makes 3-4 errors in grammar or spelling that distract the reader from the content.</td>
<td>Writer makes more than 4 errors in grammar or spelling that distracts the reader from the content.</td>
</tr>
</tbody>
</table>

Total Score


# Life Cycle Timeline

**Student Name:** __________________________________________________________________________

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sequencing</strong></td>
<td>All pictures of the life cycle are in the correct order.</td>
<td>2-3 pictures of the life cycle are in the correct order.</td>
<td>1 picture of the life cycle is in the correct order.</td>
<td>No pictures of the life cycle are in the correct order.</td>
</tr>
<tr>
<td><strong>Accuracy of Facts</strong></td>
<td>All 4 supported facts are reported accurately.</td>
<td>3 supported facts are reported accurately.</td>
<td>1-2 supported facts are reported accurately.</td>
<td>NO supported facts are reported accurately.</td>
</tr>
<tr>
<td><strong>Grammar and Spelling</strong></td>
<td>Writer makes no errors in grammar or spelling that distracts the reader from the content.</td>
<td>Writer makes 1-2 errors in grammar or spelling that distract the reader from the content.</td>
<td>Writer makes 3-4 errors in grammar or spelling that distract the reader from the content.</td>
<td>Writer makes more than 4 errors in grammar or spelling that distracts the reader from the content.</td>
</tr>
</tbody>
</table>

**Total Score** __________
## Insects and their Habitats

Student Name: ________________________________

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Matching</strong></td>
<td>All pictures are matched correctly.</td>
<td>1-2 pictures are matched correctly.</td>
<td>No pictures are matched correctly.</td>
</tr>
<tr>
<td><strong>Accuracy of Facts</strong></td>
<td>All 3 supported facts are reported accurately.</td>
<td>1-2 supported facts are reported accurately.</td>
<td>NO supported facts are reported accurately.</td>
</tr>
<tr>
<td><strong>Grammar and Spelling</strong></td>
<td>Writer makes no errors in grammar or spelling that distract the reader from the content.</td>
<td>Writer makes 1-2 errors in grammar or spelling that distract the reader from the content.</td>
<td>Writer makes 3 or more errors in grammar or spelling that distract the reader from the content.</td>
</tr>
</tbody>
</table>

**Total Score**
<table>
<thead>
<tr>
<th>Insect</th>
<th>Where it lives</th>
<th>How it moves</th>
<th>What it eats</th>
<th>Harmful/Helpful?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beetles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ants</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butterflies</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Honeybees</td>
<td></td>
<td></td>
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<tr>
<td>Grasshoppers</td>
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</tbody>
</table>
You know that insects have three main body parts and six legs. **BUT** ... insects are also different from each other. Cut the pictures apart and see how many different ways you can group these insects.
Define the task

What are we expected to do?

Create a presentation about insects for the school principal, using PowerPoint.

Research should include:
* what kinds there are
* what they look like
* if they are harmful or helpful
* what they need to survive
* how they protect themselves

Ask questions

What kinds of questions do we have? (record questions)
Essential Question: What would the world be like without insects?

Final Product: Power Point presentation    Audience: principal

<table>
<thead>
<tr>
<th>Team work 1: Insect characteristics</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Benchmark: <strong>Identify and describe basic characteristics of insects</strong></td>
<td></td>
</tr>
<tr>
<td>Questions to be answered:</td>
<td></td>
</tr>
<tr>
<td>▪ What is an insect?</td>
<td></td>
</tr>
<tr>
<td>▪ Are all insects the same size?</td>
<td></td>
</tr>
<tr>
<td>▪ Do all insects fly?</td>
<td></td>
</tr>
<tr>
<td>▪ How do scientists group insects?</td>
<td></td>
</tr>
<tr>
<td>▪ What are some ways that insects protect themselves?</td>
<td></td>
</tr>
<tr>
<td>What are students supposed to do?</td>
<td></td>
</tr>
<tr>
<td>□ Discuss important characteristics that need to be included on the slides including how they protect themselves, move, and what makes them an insect.</td>
<td></td>
</tr>
<tr>
<td>□ Map out what the slides will look like and have teacher check over content</td>
<td></td>
</tr>
<tr>
<td>□ Students go to the computer lab to create slides</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Team work 2: Life Cycle and Needs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark: <strong>Explain the stages of the life cycle of insects and what they need at each stage.</strong></td>
<td></td>
</tr>
<tr>
<td>Questions to be answered:</td>
<td></td>
</tr>
<tr>
<td>▪ What are the stages in the life cycle of insects?</td>
<td></td>
</tr>
<tr>
<td>▪ Do all insects go through the same life cycle stages?</td>
<td></td>
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<tr>
<td>▪ What do insects need in the different stages?</td>
<td></td>
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<tr>
<td>What are students supposed to do?</td>
<td></td>
</tr>
<tr>
<td>□ Discuss important information that needs to be included on the slide about the type of life cycle and needs in each stage</td>
<td></td>
</tr>
<tr>
<td>□ Map out information and have teacher check over content</td>
<td></td>
</tr>
<tr>
<td>□ Students go to the computer lab to create slide</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Team work 3: Habitats</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benchmark: <strong>Analyze ways the habitat helps insects survive</strong></td>
<td></td>
</tr>
<tr>
<td>Questions to be answered:</td>
<td></td>
</tr>
<tr>
<td>▪ Where do insects live?</td>
<td></td>
</tr>
<tr>
<td>▪ How does the habitat help them survive?</td>
<td></td>
</tr>
<tr>
<td>▪ Why are insects important?</td>
<td></td>
</tr>
<tr>
<td>What are students supposed to do?</td>
<td></td>
</tr>
<tr>
<td>□ Discuss important information that needs to be included on the slide including the habitat and how it helps the insect to survive, and also if it is a helpful or harmful insect</td>
<td></td>
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</tbody>
</table>
Final Team Task: **Students will create a PowerPoint presentation about insects**

Team Evaluation: Use rubric to judge the product and refine as needed

- Map out information and have teacher check over content
- Students go to the computer lab to create slide
## Final Project

**Insects - Power Point Presentation**

Student name: _________________________________

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
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</thead>
<tbody>
<tr>
<td><strong>Organization</strong></td>
<td>Information is very organized with well-constructed sentences.</td>
<td>Information is organized with well-constructed sentences.</td>
<td>Information is organized, but sentences are not well-constructed.</td>
<td>The information appears to be disorganized.</td>
</tr>
<tr>
<td><strong>Quality of Information</strong></td>
<td>Information clearly relates to the main topic. It includes several supporting details and/or examples.</td>
<td>Information clearly relates to the main topic. It provides 1-2 supporting details and/or examples.</td>
<td>Information clearly relates to the main topic. No details and/or examples are given.</td>
<td>Information has little or nothing to do with the main topic.</td>
</tr>
<tr>
<td><strong>Delegation of Responsibility</strong></td>
<td>Each student in the group can clearly explain what information is needed by the group, what information s/he is responsible for locating, and when the information is needed.</td>
<td>Each student in the group can clearly explain what information s/he is responsible for locating.</td>
<td>Each student in the group can, with minimal prompting from peers, clearly explain what information s/he is responsible for locating.</td>
<td>One or more students in the group cannot clearly explain what information they are responsible for locating.</td>
</tr>
</tbody>
</table>

Total Score

____
“Insects” Bibliography

Amazing Insects by Lynn M. Stone  1-55916-309-7
Ant (Life Story) by Michael Chinery  0-439-70206-2
Ants by Graham Meadows and Claire Vial  0-7685-2309-5
Backyard Insects by Millicent E. Selsam and Ronald Goor  0-590-42256-1
Beetles (Nature Close-Up Series) by Hidetomo Oda  0-8172-2530-7
Beetles by Graham Meadow and Claire Vial  0-7685-2312-5
Bug Dictionary An A to Z of Insects and Creepy Crawlies by Jill Bailey 0-4393-6859-6
Bugs! Bugs! Bugs! by Jennifer Dussling  0-7894-3438-5
Bugs by Nancy Winslow Parker and Joan Richards Wright  0-688-06624-0
Bugs-A Closer Look at the World's Tiny Creatures by Linny Johnson  1-5528-0270-1
Butterflies and Moths (A true book) by Larry Dane Brimmer  0-516-26756-6
Butterflies and Moths by Graham Meadows and Claire Vial  0-7685-2310-9
Butterflies Pollinators and Nectar-Sippers by Adele D. Richardson  0-7368-0824-8
Butterflies (Nature Close-Up Series) Hidetomo Oda  0-8172-2556-0
Extremely Weird Insects by Sarah Lovett  1-5626-1076-7
Eyewitness Books Insect by Laurence Mound  0-7566-0692-6
First Look at Insects, A. by Millicent E. Selsam and Joyce Hunt 0-8027-6181-X
Grasshoppers by Graham Coleman  0-8368-1915-2
Grasshopper, The (Nature Close-Up Series) by Yo Hasegawa 0-8172-2536-6
Grasshoppers and Crickets by Graham Meadows and Claire Vial  0-7685-2305-2
Honeybee, The (Nature Close-Up Series) by Takeshi Otani 0-8172-2537-4
Butterflies Flutter and Other Questions About Creepy Crawlies (I Wonder Why…) by Amanda O’Neill  1-315-1456-4
Insect Metamorphosis from Egg to Adult by Ron and Nancy Goor  0-689-31445-0
Insect Pests (A Golden Guide) by George S. Fichter  0-3072-4016-9
Insects and Their Homes (Nature Close-Up Series) by Hidetomo Oda 0-8172-2528-5
Insects of All Kinds by Lynn M Stone 1-55916-312-7
Instant Guide to Insects, An by Pamela Forey and Cecilia Fitzsimons 0-517-63547-X
Life and Times of the Ant, The by Charles Micucci 0-439-65719-9
Life Cycle of a Honeybee by Jason Cooper  1-58952-705-4
Life Cycle of a Monarch Butterfly by Jason Cooper  1-5892-349-0
Life of a Butterfly, The by Robin Bernard  0-439-16784-1
Life of the Ant (Nature Close-Up Series) by Jun Nanao 0-8172-2539-0
Monarch Butterfly (Life Cycle: a springboards into science series) by David M. Schwartz  0-8368-2979-4
Monarch Butterfly by Gail Gibbons  0-439-06195-4
Observing Bees and Wasps (Nature Close-Up Series) by Hidetomo Oda  0-8172-2540-4
Painted Lady Butterflies by Donna Schaffer  0-7368-0211-8
Ants (Secret World of) by Theresa Greenaway 0-7398-3511-4
Bees (Secret World of) by Malcolm Penny  0-7398-7019-X
Beetles, (Secret World of) by Malcolm Penny 0-7398-7020-3
Butterflies and Moths (Secret World of) by Ken Preston-Mafham 0-7398-4984-0
Swallowtail Butterfly, The (Nature Close-Up Series) by Hidetomo Oda 0-8172-2542-0
Wasps & Bees by Graham Meadows and Claire Vial 0-7685-2308-7
Insects (What’s the Difference Series) by Stephen Savage 0-7398-1477-X
Where’s That Insect? (Hide and Seek Science) by Barbara Brenner and Bernice Chardiet 0-5904-5210-X
World of Insects, The by Michael Chinery 0-517-05911-8
World’s Weirdest Bugs and Other Creepy Creatures by M.L Roberts 0-8167-3537-9
Zoobooks Insects Volume One by John Bonnett Wexo 0-937934-22-4
Zoobooks Insects Volume Two by John Bonnett Wexo 0-937934-23-2
Extras –
websites, videos, computer software

http://www.ivyhall.district96.k12.il.us/4th/kkhp/1insects/bugmenu.html
Great web site for research!

http://www.biokids.umich.edu/critters/information/Insecta.html
great research site

http://projects.edtech.sandi.net/grant/insects/t-process.htm
simple but very helpful info on ants, cockroach, bee and termites

http://www.globio.org/glossopedia/insect/pollinators_pests.html
explains insects as pollinators or pests

http://www.insectlore.com/store.html
**great** source for things to purchase for insect unit

http://store.yahoo.com/insectlore/liveinsects.html
live insects you can order

http://www.orkin.com/learningcenter/kidsandteachers.asp
“Insect Safari Guidebook” is super to download and run off for the students!!
http://www.orkin.com/learningcenter/kidsandteachers_games.asp
“Name that Bug” is fun to play on-line
http://www.orkin.com/learningcenter/kidsandteachers_lessonplans.asp
“Creative Modules” has some great ideas and worksheets

http://insected.arizona.edu/info.htm
great info sheets on insects discussing appearance, predators, positive and negative impacts, interesting behaviors, food, and habitat.

http://insects.org/entophiles/index.html
great photographs of a variety of insects

http://place.scholastic.com/magicschoolbus/tour/tour.htm?insects
“Insect Tour”

http://www.theeducationcenter.com/cgi-bin/tec/searchmailboxindex.jsp
lists the issues and page numbers in Mailbox magazine about insects

http://www.utahbugclub.org/
great information
http://yahooligans.yahoo.com/content/animals/insects/
lots of insects to choose from

http://www.reec.nsw.edu.au/k6/page/mb0.htm
on-line quiz about “mini-beasts”

**Videos:**
Bug City: Bees
Bug City: Ladybugs and Fireflies
Bug City: Butterflies and Moths
Magic School Bus –
  - In a Beehive
  - Butterflies!
  - Gets Ants in its Pants
Reading Rainbow -
  - Bugs
  - The Life Cycle of the Honeybee

**Computer Software:**
Kid Pix – Creepy Crawlies Activities
Scholastic’s The Magic School Bus Explores Bugs