Objective

The objective of this unit is to inform students about the different types of insects that live on this earth. The students will thoroughly explore four major categories of insects, which are butterflies and moths, stinging insects, creepy crawlers, and flying insects. The students will expand their knowledge in these categories by reading books and participating in various activities that promote a diversity of insects. Students will successfully learn about insects and their lifecycles, characteristics, and habitat. The students will complete several activities that pertain to certain insects, and will be able to effectively demonstrate their knowledge to a variety of spectators. This unit plan will allow students to attain valuable and useful knowledge that can be used inside and outside of the classroom.

Culminating Activity

After completing this unit on insects, the students will present their knowledge and information of insects on “Insect Night.” Peers, parents or guardians, relatives, and friends will be invited to attend “Insect Night” as the students’ honorary guests. They will visit the classroom where they will see all of the students’ work displayed throughout the classroom. The guests will be able to explore the classroom, and will be see how their child has attained a great amount of knowledge about insects. After the guests have seen the students’ work, they will be asked to watch the students perform and present different insect activities. During this time the students will perform the body movements of the lifecycle of a butterfly, perform the ant chant with its actions, present their five interesting facts and drawings about mosquitoes, and present their Styrofoam cockroaches by explaining its characteristics. Students will be able to show their knowledge they gained throughout this unit by having their work displayed throughout the room and by presenting these activities to their guests. Following, the students and their guests will be asked to go outside. The students will set their fireflies free from their jars, and will watch as the fireflies light up the night. Finally, students and their guests will be provided with drinks and snacks to end the night. “Insect Night” will be a great opportunity for the guests to see how their child is learning and achieving knowledge all the time in the classroom.
Butterflies and Moths

Books:


**Movies:**

The Magic School Bus and The Butterfly Bog. PBS Video, 1995

**Activities:**

**Physical Education:** After reading *The Very Hungry Caterpillar* by Eric Carle, students will learn body movements that correspond to the life cycle of the butterfly. The movements include:

- **Egg:** Have the students hold their ankles, bend down, and round their body like the shape of an egg.
- **Larva:** Have students squirm like a worm.
- **Pupa:** Students will crawl into a sleeping bag or large pillowcases with colorful streamers inside.
- **Butterfly:** Children pop out of the bag swaying their colorful streamers behind them.

**Assessment:** Students will be assessed based on their participation in the body movements.

**IL Learning Standards:**

IL.19 GOAL: Acquire movement skills and understand concepts needed to engage in health-enhancing physical activity.
IL.19.A STANDARD: Demonstrate physical competency in individual and team sports, creative movement and leisure, and work-related activities.
IL.19.A.1: Demonstrate control when performing fundamental locomotor, non-locomotor and manipulative skills.

**Science:** After reading *Monarch Butterfly* by Gail Gibbons, students will watch the PBS video, *The Magic School Bus Gets Ants in its Pants.* Next, give students a worksheet that has a butterfly with four circles, numbered 1 to 4, on its wings. Give students another worksheet that has four circle pictures of the four stages of a butterfly’s life cycle. Students will cut these circle pictures out and glue them on the correct places on the large butterfly. Students will match each picture with the correct number of phase in the life cycle. Students will try to put the sequence of the lifecycle of a butterfly in order according to the numbers on the wings. This worksheet can be found at [http://www.proteacher.com/110012.shtml](http://www.proteacher.com/110012.shtml).

**Assessment:** Students will be assessed on their ability to correctly put the butterfly’s life cycle pictures in the correct order sequential order.

**IL Learning Standards:**

IL.12 GOAL: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
IL.12.A STANDARD: Know and apply concepts that explain how living things function, adapt and change.
IL.12.A.1a: Identify and describe the component parts of living things and their major functions.

**Language Arts:** After reading *Butterflies and Moths* by James P. Rowan, students will complete a Venn diagram comparing and contrasting moths and butterflies. Students will write and draw the characteristics of the moths and butterflies in the appropriate spaces. Students will create a written and a graphic representation showing the similarities and differences among these two insects.
**Assessment:** Students will be evaluated on the organization of and the information in their Venn diagrams. Students will also be assessed based on their ability to use correct grammar, punctuation, and spelling.

**IL Learning Standards:**
IL.3 GOAL: Write to communicate for a variety of purposes.
IL.3.A STANDARD: Use correct grammar, spelling, punctuation, capitalization and structure.
IL.3.A.1: Construct complete sentences which demonstrate subject/verb agreement; appropriate capitalization and punctuation; correct spelling of appropriate, high-frequency words; and appropriate use of the eight parts of speech.
IL.3.C STANDARD: Communicate ideas in writing to accomplish a variety of purposes.
IL.3.C.1a: Write for a variety of purposes including description, information, explanation, persuasion and narration.
IL.12 GOAL: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
IL.12.B STANDARD: Know and apply concepts that describe how living things interact with each other and with their environment.
IL.12.B.1a: Describe and compare characteristics of living things in relationship to their environments.

**Technology:** Students will go to the website of http://www.museum.state.il.us/flashapps/clink/protectiveColoration.swf to learn about how butterflies and moths are protected from predators by their colors. At this website, students will be able to create their own coloration on butterfly and moth graphics. After they have colored their butterfly or moth, students will then be able to move their butterfly or moth to a background to see if they are camouflaged, or if they would be seen by predators. Students will print their coloration of their monarch butterfly or moth.

**Assessment:** Students will be assessed based on the completion of a coloration of a butterfly or moth.

**IL Learning Standards:**
IL.12 GOAL: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
IL.12.B STANDARD: Know and apply concepts that describe how living things interact with each other and with their environment.
IL.12.B.1a: Describe and compare characteristics of living things in relationship to their environments.
IL.11 GOAL: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.
IL.11.B STANDARD: Know and apply the concepts, principles and processes of technological design.
IL.11.B.1a: Given a simple design problem, formulate possible solutions.
Stinging Insects

Books:


**Movies:**

Loco Loco Mosquito. Syndicate Productions / Mediaagency.

**Activities:**

**Math:** Teachers will go to the following website of [http://www.rubyleethebumblebee.com/RLTBB/critter_game.pdf](http://www.rubyleethebumblebee.com/RLTBB/critter_game.pdf) and print *Ruby Lee's Critter Count Game*. This guide has various math questions to ask the students as the teacher reads *Ruby Lee The Bumble Bee: A Bee's Bit Of Wisdom*. For example, the guide asks: Can you find three blue eggs?; How many bees can you find?; and Can you find a dragonfly? Also, students will be asked several times to compare how many insects appear on one page to how many insects appear on another page. The guide has different questions for each page of the book. The teacher will copy pages of the book and give the students questions from this guide. Students will answer these questions based on the page of the book given to them.

**Assessment:** Students will be assessed based on their participation during the reading of the book, and by correctly answering the questions for certain pages in the book.

**IL Learning Standards:**

IL.6 GOAL: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations, patterns, ratios and proportions.

IL.6.A STANDARD: Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.

IL.6.A.1a: Identify whole numbers and compare them using the symbols <, >, or = and the words...

**Art:** Students will make their own beehive. Materials include: one small plastic cup, brown or deep gold tissue paper strips, glue, paint brush, and black construction paper. Students will place their cups upside down on the table and hold it down by putting their fingers on top. Have the students twist strips of tissue paper into ropes. Next, have the students place glue all over the outside of the cup using a paint brush. They will then wrap the ropes all around the cup to completely cover the sides. Students will cut a small half circle out of black construction paper. They will glue this at the bottom of their cup. Finally, students will have made their own bee hive. Students may also draw a bee and glue it onto their bee hive.

**Assessment:** Students will be assessed based on their participation, neatness, and creativity.

**IL Learning Standards:**

IL.26 GOAL: Through creating and performing, understand how works of art are produced.

IL.26.B STANDARD: Apply skills and knowledge necessary to create and perform in one or more of the arts.

IL.26.B.1d: Visual Arts: Demonstrate knowledge and skills to create visual works of art using manipulation, eye-hand coordination, building and imagination.

IL.4 GOAL: Listen and speak effectively in a variety of situations.

IL.4.A STANDARD: Listen effectively in formal and informal situations.

IL.4.A.1c: Follow oral instructions accurately.

**Oral Language:** After reading *The Life Cycle of a Mosquito* by Bobbie Kalman, students will watch the video Loco Loco Mosquito. This video can be downloaded from the website [http://www.loco-loco.net](http://www.loco-loco.net).
After watching this video and reading the book, students will write down five interesting facts they learned from the book and from the video. Students will then illustrate these five facts on paper. Students will present to the class their five interesting facts by giving an oral presentation. They will explain their facts and present their drawings. Students will describe how their drawings correspond with their facts.

**Assessment:** Students will be assessed based on their ability to explain and illustrate five interesting facts to the entire classroom.

**IL Learning Standards:**
IL.4 GOAL: Listen and speak effectively in a variety of situations.
IL.4.B STANDARD: Speak effectively using language appropriate to the situation and audience.
IL.4.B.1a: Present brief oral reports, using language and vocabulary appropriate to the message and audience.
IL.5 GOAL: Use the language arts to acquire, assess and communicate information.
IL.5.A STANDARD: Locate, organize, and use information from various sources to answer questions, solve problems and communicate ideas.
IL.5.A.1b: Locate information using a variety of resources.

**Social Studies/Technology:** After reading The Wasp and the Canary by Artie Knapp, students will go to the website of [http://www.ento.vt.edu/~esharov/3d/wasp.html](http://www.ento.vt.edu/~esharov/3d/wasp.html) to learn about wasps. Here students will see a virtual image of wasp. Next, students will click on the link called All About Wasps. Students will read about the different types of wasps and which countries they are found in. After reading the information about wasps, have the students locate the countries in which the wasps’ habitats are in on a large blank map. Show students the different countries of the world so they will be familiar with these regions. Students will place a picture of a wasp on this country. The students will label the wasp picture by writing the type of wasp on it. For example, students will write “Yellow Jacket” on two wasps, and will then place them in North America and South America. The teacher should display this map in the classroom. After the students have created a wasp map as a whole class, they will create this same map individually. Give students a small map and small wasp cut outs. The students will label the wasps and will them in their correct country.

**Assessment:** Students will be assessed based on their ability to correctly identify the type of wasp and the country the wasp in located in on a world map.

**IL Learning Standards:**
IL.17 GOAL: Understand world geography and the effects of geography on society, with an emphasis on the United States.
IL.17.A STANDARD: Locate, describe and explain places, regions and features on the Earth.
IL.17.A.1b: Identify the characteristics and purposes of geographic representations including maps, globes, graphs, photographs, software, digital images and be able to locate specific places using each.
Creepy Crawlers

Books:


**Movies:**


**Activities:**

**Music/Performing Arts:** After reading *Ant Cities* by Arthur Dorros, students will watch the PBS video, *The Magic School Bus Gets Ants in its Pants*. Next, students will learn the “Ant Chant,” and will learn various movements to go along with this chant. First, point out that ants have three body parts and six legs. Then, divide students into groups of three to form ants: the first person is the head, the second person is the middle (thorax), and the third person is the stomach (abdomen). Have the second and third student place their hands on the shoulders of the child in front of them. Students practice walking together in rhythm, slowly chanting "left, right, left, right" until their steps are together. Next, the students will try marching to the “Ant Chant.” Students will take turns being the leader.

**Ant Chant**

Ant Chant
Left and right, left and right,
Ants work hard all day and night.
Left and right, left and right,
Don't get left, step just right.
(Repeat over and over)

**Assessment:** Students will be assessed based on their participation in the movements and singing the chant.

**IL Learning Standards:**

IL.26 GOAL: Through creating and performing, understand how works of art are produced.

IL.26.A STANDARD: Understand processes, traditional tools and modern technologies used in the arts.

IL.26.A.1b: Drama: Understand the tools of body, mind, voice and simple visual/aural media and the processes of planning, practicing and collaborating used to create or perform drama/theatre.

IL.26.A.1c: Music: Identify a variety of sounds and sound sources (e.g., instruments, voices and environmental sounds).

IL.26.B STANDARD: Apply skills and knowledge necessary to create and perform in one or more of the arts.

IL.26.B.1a: Dance: Perform basic locomotor, non-locomotor movements and traditional dance forms and create simple dance sequences.

IL.26.B.1b: Drama: Demonstrate individual skills (e.g., vocalizing, listening, moving, observing, concentrating) and group skills (e.g., decision making, planning, practicing, spacing) necessary to create or perform story elements and characterizations.
**Science:** After reading *Spiders* by Gail Gibbons and *Are You A Spider?* by Judy Allen, discuss to the class how spiders catch their food. Name the four types of webs that spiders spin: Orb, Triangle, Sheet, and Tangle. Have the children make a circle on the floor. Instruct them to use a ball of yarn to weave a web by wrapping it around them once, and then throwing it across the floor to someone else in the circle. Students will repeat this process until everyone has wrapped the yarn around+ themselves. Once the web has taken shape ask the children which of the webs that they think it most resembles. Ask the children to step out of their loops leaving the web on the floor and to return to their seat. The teacher will tie the loops together to hold up the shape of the web. Finally, the teacher will hang the web in the classroom to be displayed.

**Assessment:** Students will be assessed based on their participation in making the web.

**IL Learning Standards:**
IL.12 GOAL: Understand the fundamental concepts, principles and interconnections of the life, physical and earth/space sciences.
IL.12.A STANDARD: Know and apply concepts that explain how living things function, adapt and change.
L.12.A.1a: Identify and describe the component parts of living things and their major functions.

**Math:** After reading *Ten Little Lady Bugs* by Melanie Gerth, students will play the “Ladybug Spot Game.” Materials include: ladybug shapes and dot stickers. Pass out ladybug shapes on paper. Have students add dot stickers or color black dots on the ladybug pattern. (The number of dots will be determined by the math facts you are teaching.) Organize teams and pass out a ladybug to each player. Then, call out a number to the class. The teams will race to group players whose ladybug dots equal the number called. The teacher will score points for correct answers.

**Assessment:** Students will be assessed based on their participation in the game and their ability to find the correct numbers.

**IL Learning Standards:**
IL.6 GOAL: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations, patterns, ratios and proportions.
IL.6.A STANDARD: Demonstrate knowledge and use of numbers and their representations in a broad range of theoretical and practical settings.
IL.6.B STANDARD: Investigate, represent and solve problems using number facts, operations and their properties, algorithms and relationships.
IL.6.B.1: Solve one- and two-step problems with whole numbers using addition, subtraction, multiplication and division.

**Language Arts:** Place several meal worms in a jar that has many small air holes. After a few months the meal worms will turn into beetles. Once a month, pour a cup of corn meal flour into the jar for the meal worms to eat. Also, place the jar in indoor lighting. Indoor temperatures are fine too. Once or twice a week have the students observe the meal worms. Have the students keep a journal to record their data. Students will record data, such as the population of the jar and the size of the worms/beetles. When the beetles start appearing have the students write entries in their journal that describes how they have witnessed the life cycle of a beetle over this course of time.

**Assessment:** The students’ journals will be assessed based on their ability write descriptive journal entries that use proper spelling, grammar, and punctuation. Their participation in the observation will also be assessed.
**Art/Oral Language:** After reading *Leo Cockroach: Toy Tester* by Kevin O’Malley, students will make cockroaches from small and medium sized Styrofoam balls to represent each body segment. The small Styrofoam ball will be the head and the medium sized ball will be the body. Students will connect the two Styrofoam balls by gluing them together. Students will then take six long pipe cleaners and will stick three on each side of the Styrofoam balls. Students can bend the pipe cleaners to make the cockroach stand up. Then, they will insert two short pipe cleaners at the head of the cockroach to make the antennas. After students have made their cockroaches, explain to them the different types of cockroaches that exist. Show them pictures of the different types of cockroaches. Finally, students will decorate their cockroach by gluing on eyes and coloring the Styrofoam balls. Have them identify which kind of cockroach they have made by presenting their cockroach to the class. Have the students explain their cockroach’s characteristics to the class.

**Assessment:** Students will be assessed based on the completion of their cockroach. Also, they will be assessed based on their ability to correctly identify the cockroach they have made.

**II. Learning Standards:**

IL.3 GOAL: Write to communicate for a variety of purposes.
IL.3.A STANDARD: Use correct grammar, spelling, punctuation, capitalization and structure.
IL.3.A.1: Construct complete sentences which demonstrate subject/verb agreement; appropriate capitalization and punctuation; correct spelling of appropriate, high-frequency words; and appropriate use of the eight parts of speech.
IL.3.C STANDARD: Communicate ideas in writing to accomplish a variety of purposes.
IL.3.C.1a: Write for a variety of purposes including description, information, explanation, persuasion and narration.
IL.11 GOAL: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.
IL.11.A STANDARD: Know and apply the concepts, principles and processes of scientific inquiry.
IL.11.A.1a: Describe an observed event.
IL.11.A.1c: Collect data for investigations using measuring instruments and technologies.

**IL. Learning Standards:**

IL.26 GOAL: Through creating and performing, understand how works of art are produced.
IL.26.B STANDARD: Apply skills and knowledge necessary to create and perform in one or more of the arts.
IL.26.B.1d: Visual Arts: Demonstrate knowledge and skills to create visual works of art using manipulation, eye-hand coordination, building and imagination.
IL.4 GOAL: Listen and speak effectively in a variety of situations.
IL.4.B STANDARD: Speak effectively using language appropriate to the situation and audience.
IL.4.B.1a: Present brief oral reports, using language and vocabulary appropriate to the message and audience.
Flying Insects

Books:


**Activities:**

**Read Aloud/Feelings:** Explain to students that ladybugs not only crawl, but that they fly also. Materials for this activity include: ladybug cards, crayons, markers, or colored pencils. Read aloud *The Grouchy Ladybug* by Eric Carle. Point out the facial expressions at the beginning and at the end of the story. Talk about how faces show feelings. To reinforce this concept, the students will play a game. Make cards with ladybugs showing different expressions such as grouchy, happy, sleepy, scared, bored, and sad. For each student, reproduce the cards on sturdy paper. Have students color and cut out each card. Working in pairs or teams, the students will place the cards face down. The first player draws a card and makes a face that shows the feeling of the ladybug on the card. The other player(s) try to guess which feeling is on the card. Students take turn making faces.

**Assessment:** Students will be assessed based on their participation in the game and their ability to communicate different feelings through their facial expressions.

**IL Learning Standards:**
IL.31 GOAL: Develop an awareness of personal identity and positive self-concept.
IL.31.A STANDARD: Develop a positive self-concept.
IL.31.A.ECe: Use appropriate communication skills when expressing needs, wants and feelings.
IL.32 GOAL: Demonstrate a respect and a responsibility for self and others.
IL.32.B STANDARD: Perform effectively as a member of a group.
IL.32.B.ECa: Engage in cooperative group play.
IL.32.B.ECb > Begin to share materials and experiences and take turns.

**Science:** Students will catch their own fireflies and make their own firefly bug jars. Have each child catch fireflies at home at night. Students will put a bright flashlight inside a white pillowcase and place it outside in the dark. When a firefly lands, place the mouth of a jar over it. Slide an index card underneath the opening and turn the jar right side up. Replace the card with a clear plastic cover and use a pencil to punch small holes in the top for air. Have students bring the fireflies in their jars to the class. Students will take care of their fireflies for a week. They will observe their fireflies each day and will record their observations. Students will describe the characteristics of the fireflies. Finally, on “Insect Night” students will be able to set their fireflies free.

**Assessment:** Students will be assessed based on their ability to catch fireflies, to make a quality jar for the fireflies to live in, and to record descriptive observations.

**IL Learning Standards:**
IL.11 GOAL: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments and solve problems.
IL.11.A STANDARD: Know and apply the concepts, principles and processes of scientific inquiry.
IL.11.A.ECb: Collect, describe and record information.
IL.11.A.1a: Describe an observed event.
**Math:** After reading *Fireflies* by Julie Brinckloe, students will participate in an activity called “Firefly Counting.” Collect several flashlights with easy on/off switches. Using masking tape, place a number on the end of the flashlight. Next, darken the room and call out a number to the class. The student who has this number will flash his/her flashlight. The teacher can also place a certain amount of dots on the flashlight. Then, the teacher will say number and the student who has this number of dots on their flashlight will shine his/her flashlight. This activity can be changed based on the grade level of math. For example, if students are learning addition, a teacher could say, “two plus five equals,” and the student with the number seven would shine his/her flashlight.

**Assessment:** Students will be assessed based on their ability to correctly identify the number on their flashlight and their participation in the activity.

**IL Learning Standards:**
IL.6 GOAL: Demonstrate and apply a knowledge and sense of numbers, including numeration and operations, patterns, ratios and proportions.
IL.6.B STANDARD: Investigate, represent and solve problems using number facts, operations and their properties, algorithms and relationships.
IL.6.B.1: Solve one- and two-step problems with whole numbers using addition, subtraction, multiplication and division.

**Art:** After reading *Flying Insects* by Jonathon Sutherland, students will make their own flying insect. Materials include: tissue paper, crayons or markers, and twisty ties. Students will cut out wings out of tissue paper. Then, let the students decorate them however they want. Next, put the twisty tie around the wings to make the thorax and antennas. Next put all the flying insects in a large bowl. Let the students wave books, poster board, or paper next to the bowl. This will cause the students’ flying insects to soar in the air. Students will be able to watch their insects fly.

**Assessment:** Students will be assessed based on their completion and creativity in their flying insect. Also, they will be assessed based on their participation in making the insects fly.

**IL Learning Standards:**
IL.26 GOAL: Through creating and performing, understand how works of art are produced.
IL.26.B STANDARD: Apply skills and knowledge necessary to create and perform in one or more of the arts.
IL.26.B.1d: Visual Arts: Demonstrate knowledge and skills to create visual works of art using manipulation, eye-hand coordination, building and imagination.

**Bibliography of Children’s Books**


**Bibliography of Teacher Resources**

**Books:**


**Website Unit Plans:**


**Other Websites:**
Pro Teacher: http://www.proteacher.com/110012.shtml
Enchanted Learning: http://www.enchantedlearning.com/subjects/butterfly/
Education World: http://www.education-world.com/a_lesson/01-1/lp237_05.shtml

**Bibliography of Media (Videos)**
Loco Loco Mosquito Syndicate Productions / Mediaagency.
The Magic School Bus Gets Ants in its Pants. PBS Video, 1994
The Magic School Bus and The Butterfly Bog. PBS Video, 1995
Backyard Bugs. National Geographic Video

**Bibliography of Related Websites**
http://www.museum.state.il.us/flashapps/clink/protectionColoration.swf
http://www.loco-loco.net.
http://www.ento.vt.edu/%7Esharov/3d/wasp.html
http://insects.org/index.html
http://www.urbanext.uiuc.edu/insects/01.html