



I Like Big Bugs
and I Can Not Lie...



Ardent_Artie



Capitwalet_Chuck's



Happiful_Herbert



Innocent_Igby



Positive_Pete



Squashy_Simon

On the ground or in the sky.

Insects change and pollinate,

But that's not all that makes them great!



An interdisciplinary thematic unit on insects, their metamorphosis, pollination and habitats for Kindergarten.

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Unit Title:

I Like Big Bugs and I Can Not Lie...On the ground or in the sky. Insects change and pollinate, But that's not all that makes them great!

OVERVIEW

I. CONTENT:

The study of insects is important because it gives students a better understanding of interdependence between insects, plant life and people. It will also give the students an opportunity to make important connections between the life cycle of insects and their own life cycle. In addition, the students will learn specific attributes of insects and their habitats.

II. PROCESS:

Students will gain an understanding of insects and their important connection to our daily lives through poetry, songs, role-play, literature, observations and hands-on experiences both individually and in group settings.

III. PRODUCT:

Students will be able to identify an insect by its many characteristics, compare different insects, be able to identify a pollinator and explain the importance of pollination to plant and human life. They will also understand the concept of metamorphosis.

**Unit Overview: Alignment with
National / State / District Pupil Performance Standards**

Overarching Benchmarks / Standards / Goals for **COMPLETE unit of study:**

Benchmark 1: MST Standard 1: Students will use scientific inquiry to pose questions, seek answers and develop solutions.

Standard A: Draw on prior experience to understand new data, facts and ideas.

Standard B: Use simple reasoning to develop conclusions and recognizing relationships present in the environment.

Benchmark 2: ELA Standard 1: Students will read, write, listen and speak for information and understanding.

Standard A: Use resources such as word wall or poster to find and write words.

Standard B: Identify similarities in information about people, places, and events.

Benchmark 3: ELA Standard 4: Students will read, write, listen and speak for social interaction.

Standard A: Participate in small group storytelling, singing, and finger play, in order to interact with classmates.

Standard B: Share writings and drawings with peers/ write or draw with a partner or cooperative group.

Benchmark 4: MST Standard 4: Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment.

Standard A: Describe patterns of change in the environment.

Standard B: Describe the characteristics of living things.

**I-SEARCH INDEPENDENT RESEARCH PROJECTS
FOR GIFTED AND TALENTED STUDENTS: PROJECT BASED LEARNING FOR MULTIPLE
INTELLIGENCES**

1. PARADOXES:

Some people think that a spider is part of the insect family.

Draw anatomically correct illustrations of both the spider and the insect and label their body parts to show their differences.

2. ATTRIBUTES:

Some people do not know the differences between a moth and a butterfly. Create side by side flip books that outline the different attributes that each insect has.

3. **ANALOGIES:**

The ant and the butterfly are both insects and have similar characteristics. Create a Venn Diagram to compare each insect's characteristics.

4. **DISCREPANCIES:**

You have studied insects in class but may still have some things that you do not know. Create a KWL chart with your family about what you knew, what you learned and what you still need to know about insects.

5. **PROVOCATIVE QUESTIONS:**

Many people wonder how the ants move around their colonies and what type of things they do. Bring home the class ant farm and record what you observe and any questions you may have.

6. **EXAMPLES OF CHANGE:**

We've been studying the life cycle of the butterfly in the classroom. Interview an older family member and create a timeline with pictures and/or illustrations of their life cycle.

7. **EXAMPLES OF HABIT:**

We have observed the habits of our classroom ants in their ant farm. Create a song about your daily habits.

8. **ORGANIZED RANDOM SEARCH:**

We know about the process of pollination. Create a diorama of how a plant gets pollinated.

9. **SKILLS OF SEARCH:**

Do an experiment at home to find what types of foods that ants prefer. Takes pictures or illustrate what is happening with the food.

10. **TOLERANCE FOR AMBIGUITY:**

Imagine you are an entomologist from Up Yonda farm. Present an advertisement to the class to promote your program about butterflies.

11. **INTUITIVE EXPRESSION:**

Imagine that you are a grasshopper. Create and present a dance that would portray how a grasshopper feels in nature.

12. **ADJUSTMENT TO DEVELOPMENT:**

Sometimes it's instinctive to step on or squash a bug that you find in your home or yard. Create a puppet show portraying what you could do to save the bug instead of hurt it.

13. **STUDY CREATIVE PEOPLE AND PROCESS:**

Watch the video *Bill Nye the Science Guy: Insects*. Design a collage showing the different tools that an entomologist needs to do his/her job.

14. **EVALUATE SITUATIONS:**

What if a team of ants carried your refrigerator away? Write a fictional story telling what you would do to get your refrigerator back.

15. **CREATIVE READING SKILL:**

Have an adult read a non-fiction book about bees with you. Create a joke book using the facts you have learned about bees.

16. **CREATIVE LISTENING SKILL:**

Listen to the sounds that insects make in nature. Using musical instruments re-create the sounds that you have heard.

17. **CREATIVE WRITING SKILL:**

Write a tall-tale about insects and their adventures.

18. **VISUALIZATION SKILL:**

Listen to a nature tape and/or CD. Illustrate a picture of what types of things you may hear.

**ACADEMIC / CRITICAL THINKING SKILLS
ANALYZING HUMAN ACTIVITIES! (AHA!)**

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STATE STANDARD # MST 1 STUDENTS WILL BE ABLE TO use scientific inquiry to pose questions, seek answers and develop solutions.

ESSENTIAL QUESTION: How do butterflies pollinate flowers?

1. PRODUCING, EXCHANGING, AND DISTRIBUTING [ECONOMICS]

Textbook or Database: Munch, Munch, Munch by Norma L. Gentner

KNOWLEDGE:

Anchoring Activity / Anticipatory Set:

Listen to *Butterfly* by Ron Brown

Have students sip Hawaiian Punch through a straw.

Students will: discuss how this is similar to how the butterflies sip nectar through their proboscis.

Formative Assessment: Have students clap out the syllables of proboscis and with the last clap have students put their hand to their forehead to “drink” from their proboscis.

COMPREHENSION:

Students will look at a picture of a butterfly sipping nectar from one flower and then another.

Short-term / Cumulative Assessment: Observation and ask the students what they are using their proboscis for.

APPLICATION:

Anchoring Activity / Anticipatory Set: The students will learn and sing the song from Munch, Munch, Munch.

Students will create a (class / team product): Students will demonstrate their knowledge of pollination by role playing the transfer of pollen from one flower to another.

Formative Assessment / Rubric for Product: Observation and ask the students what is happening when they are bringing the pollen from one flower to another.

Multicultural and/or ESL and/or Bilingual Link: All over the world pollination helps produce food, beverages, and medicines.

Mathematics/Science Link and/or Humanities Link: What do you think would happen if insects could not pollinate?

School-to-Career/Tech Prep Link: Visit Up Yonda in Bolton Landing, NY to talk with the insect specialist about the importance of pollination to our everyday life.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Read Backyard Insects by Millicent Selsam

Students will: Listen to story and brainstorm insects they may find outside.

Class/team/individual product: Students will observe and gather insects from outside.

Summative Assessment: Which of these insects collected can be considered pollinators?

INDIVIDUAL JOURNAL ASSIGNMENT:

Draw a picture of a pollinator and tell what plant or flower may be produced because of the pollination.

HOMELINK:

With your family, in your yard, find an insect. Decide if it is a pollinator or not and share the reasons.

STATE STANDARD # SS 3 STUDENTS WILL BE ABLE TO use a variety of intellectual skills to demonstrate their understanding of the geography of the interdependent world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth’s surface.

ESSENTIAL QUESTION: Why and how do insects migrate?

2. TRANSPORTATION

Textbook or Database: Millions of Monarchs by Connie Roop

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Show the students a map of North America and show the path that Monarchs would take from Hudson Falls, NY to Mexico using Wikki Sticks.

Students will: Discuss how they think a butterfly could travel to Mexico.

Formative Assessment: Discuss students’ answers and if they make sense.

COMPREHENSION:

Have the students “flap their wings” around the classroom (or outside) for 2 minutes while listening to *I’m a Little Insect* by Ron Brown and ask them if they think they could make it to Mexico like the butterflies.

APPLICATION:

Anchoring Activity / Anticipatory Set: Show a clip of the Fascinating World of Butterflies video (BOCES film 049946) showing the butterflies migrating to Mexico.

Students will create a (class / team product): Small groups of students will trace the path that the Monarchs would take from Hudson Falls to Mexico on a given map.

Multicultural and/or ESL and/or Bilingual Link: Discuss that some butterflies get “tagged” before leaving the United States. When they reach Mexico, we are notified by people from Mexico that our butterflies reached their destination.

Mathematics/Science Link and/or Humanities Link: Discuss the reasons why butterflies need to migrate and why they go to Mexico.

School-to-Career/Tech Prep Link: Visit the web site: www.learner.org/jnorth/monarch/

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Release the class butterflies from their netting.

Students will: Create a slide show or video with pictures of the butterflies being released.

Class/team/individual product: Students will state a fact that they have learned about butterflies and their migration to Mexico (for the video).

Summative Assessment: Were the students’ facts accurate?

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write about a day in the life of their released butterflies.

HOMELINK:

Students will share their experiences with their families.

STATE STANDARD # MST 4 STUDENTS WILL BE ABLE TO Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

ESSENTIAL QUESTION: How do insects protect themselves from harm?

3. COMMUNICATIONS

Textbook or Database: How to Hide a Butterfly by Ruth Heller

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Read How to Hide a Butterfly by Ruth Heller
Students will: brainstorm how they felt the butterflies in the book were hiding themselves.

COMPREHENSION:

Introduce the word “Camouflage” to the students and discuss why the different types of insects use this type of protection.

APPLICATION:

Anticipatory Set: Play a camouflage “hide and seek” game to display how they can also use camouflage to hide themselves.

Students will create a (class / team product): Picture of a camouflaged insect.

Multicultural and/or ESL and/or Bilingual Link: Show the students a poster of a variety of butterflies in disguise.

Mathematics/Science Link and/or Humanities Link: Sort the above butterflies by color.

School-to-Career/Tech Prep Link: Show a clip of *Bill Nye the Science Guy-Insects* movie (BOCES film 446351)

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: *Look I’m a Butterfly!* Sing-Along (to the tune of Pop Goes the Weasel).

Students will: Sing along and use hand motions to act out the song.

Class/team/individual product: Students will create a symmetrical butterfly using a variety of water colors.

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will dictate a sentence with at least 3 words to describe their painted butterfly.

HOMELINK:

The students will act out the sing-along for the families.

STATE STANDARD # MST 4 STUDENTS WILL BE ABLE TO understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

ESSENTIAL QUESTION: How do butterflies and other insects protect themselves and how can people help to protect insects in their environments?

4. PROTECTING AND CONSERVING

Textbook or Database: Butterfly Rap song by Stephanie Akins

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Learn and sing the Butterfly rap song by echo singing with the teacher.

Students will: Identify the stages of the life cycle and place the picture cards in correct order.

Formative Assessment: Check to see if the students can identify each stage and place them in the correct order.

COMPREHENSION:

Students will observe the chrysalides in the classroom and discuss with a partner what they think may be happening inside.

Short-term/Cumulative Assessment: Listen to the discussions taking place and the appropriateness of the students’ observations.

APPLICATION:

Anchoring Activity / Anticipatory Set: Students will role play a Butterfly forming a J with their body and going into its Chrysalis by using their rest blankets to wrap themselves up.

Students will create a (class / team product): a list of how they felt while inside their “Chrysalis”.

Multicultural and/or ESL and/or Bilingual Link: Discuss how people need to help conserve and protect the butterflies and bees. They are important pollinators and without them, we may have difficulties keeping plant life alive and prospering throughout the world.

Mathematics/Science Link and/or Humanities Link: Students will estimate how many butterflies they think will come out of each Chrysalis.

School-to-Career/Tech Prep Link: Read A Taste of Honey by Nancy Wallace and discuss how important it is to help conserve the bees so they are allowed to make honey. Beekeepers do this job everyday.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Show the students side-by-side pictures of Monarch and Viceroy butterflies and discuss how even though the butterflies look very similar, the Viceroy is mimicking the Monarch's look to protect itself.

Students will: Brainstorm why the Viceroy would want to look just like a Monarch.

Class/team/individual product: After discussing the poisonous nature of the Monarch, the students will be given the role of a bird or other hungry creature and told to eat either a Monarch or Viceroy. They will act out accordingly what would happen to their creature.

Summative Assessment: Did the students respond accordingly and appropriately depending on what type of butterfly they "ate".

INDIVIDUAL JOURNAL ASSIGNMENT:

The students will finish the sentence starter "If there were no more... (apples, bananas, etc.), I would..."

HOMELINK:

Students will ask a family member to help them plant a flower in their backyard to help conserve the insects.

STATE STANDARD # MST 4 STUDENTS WILL BE ABLE TO understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

ESSENTIAL QUESTION: What are the stages of the Monarch butterflies life cycle?

5. PROVIDING EDUCATION

Textbook or Database: This is a Butterfly by The Education Center, Inc.

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Listen to *Metamorphosis* by Ron Brown. Discuss the Life Cycle of a Butterfly poster.

Students will: repeat the name of each stage as the teacher points at the poster.

COMPREHENSION:

Students will explain what is occurring at each stage of the life cycle.

APPLICATION:

Anchoring Activity / Anticipatory Set: Butterfly Cycle poem by Suzie Gazlay (sang to the tune of Row, Row, Row Your Boat)

Students will create a (class / team product): Students will create a Play Doh formed Life Cycle

Multicultural and/or ESL and/or Bilingual Link: Ask the students where else in the world they think butterflies reproduce.

Mathematics/Science Link and/or Humanities Link: Students will create simple patterns (ABAB, ABB) using colored butterflies.

School-to-Career/Tech Prep Link: Up Yonda field trip

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Create a class chart of a human life cycle.

Students will: Compare the stages of their lives to the stages of the Monarch butterflies life (using that life cycle chart).

Class/team/individual product: Break the class into groups and assign parts of both the human and butterfly life cycle to students. As each students plays out their part (in order), the other students in class have to guess which creature they are and what part of the life cycle they are portraying.

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write about something that they can do now that they couldn't do when they were a baby.

HOMELINK:

Students will interview their family members to find out what life stages the people are in.

STATE STANDARD # MST 1 STUDENTS WILL BE ABLE TO use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

ESSENTIAL QUESTION: What are the tools that insects use and what tools do people use to study insects?

6. MAKING AND USING TOOLS AND/OR TECHNOLOGY

Textbook or Database: *Insect Body Parts* song (sang to the tune of Head, Shoulders, Knees and Toes).

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Learn and Sing the *Insect Body Parts* song with body movements.

Students will: Gesture and point at the appropriate butterfly body parts as they sing along with the song.

COMPREHENSION:

Students will look at a chart of the Insect body parts and match up the parts with the names on the chart.

APPLICATION:

Anchoring Activity / Anticipatory Set: Body Part Riddle Guessing Game

Students will create a (class / team product): Students will create (draw) their own insect using the 3 main body parts and the antennae, legs and wings.

Multicultural and/or ESL and/or Bilingual Link: Ask the students what insects they think they may find in the Rain Forest.

Mathematics/Science Link and/or Humanities Link: Students will tell what each of the butterflies body parts are used for.

School-to-Career/Tech Prep Link: <http://kids.mongabay.com/elementary>

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Bring out the different tools that an entomologist would use and ask the students what they think these tools would be used for. (Magnifying glass, tweezers, bug jar, net, light, microscope)

Discuss what an entomologist is and what they use these tools for.

Students will: identify the different types of tools and tell what they think they may be used for.

Class/team/individual product: Students will go into the Drama Center to act out being an entomologist.

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write about what bugs they would like to study.

HOMELINK:

Students will collect insects from their backyard and bring them to school to share.

STATE STANDARD # MST 7 STUDENTS WILL BE ABLE TO: apply the knowledge and thinking skills of mathematics, science, and technology to address real-life problems and make informed decisions.

ESSENTIAL QUESTION: How can we learn more about butterflies in a real-world setting?

7. PROVIDING RECREATION

Textbook or Database: Up Yonda Field Trip, Bolton Landing, NY

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Students will sit down at the carpet and help create a predictable chart stating the things that they think they may see (or experience) at Up Yonda farm.

(For example...At Up Yonda, I will see...a real life chrysalis. (Johnny) or At Up Yonda, I will...touch a butterfly. (Mary)

Students will: Go back to their seats and draw a picture to match the sentence that they dictated on the chart while listening to *Caterpillar Rap* by Ron Brown.

COMPREHENSION:

Describe the program schedule of what should be expected when we visit Up Yonda and ask if the students have any questions.

APPLICATION:

Anchoring Activity / Anticipatory Set: Introduce the students to the “real-life” entomologist and tell them that he/she will be our tour guide for the day.

Students will create a (class / team product): Role-play of the Monarch’s life cycle from egg to butterfly ready to fly to Mexico.

Multicultural and/or ESL and/or Bilingual Link: The students will watch a video clip of the Monarch’s flight to Mexico.

Mathematics/Science Link and/or Humanities Link: Students will learn how to tell the difference between a male and female Monarch based on if it has dots on its back or not.

School-to-Career/Tech Prep Link: The entomologist will discuss his/her job duties at Up Yonda farm and how they decided to become an entomologist.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Listen to Fly Like An Eagle by The Steve Miller Band as they close their eyes imagining they are a butterfly flying to Mexico.

Students will: Students will learn (hands-on) how to tag a Monarch and release it into nature.

Class/team/individual product: Give the tagged butterflies (depending on the gender) names and record their information on the chart so Up Yonda can keep track of the butterflies’ flight.

INDIVIDUAL JOURNAL ASSIGNMENT:

When the students get back to class, they will write about their favorite part of their field trip to Up Yonda.

HOMELINK:

Students will discuss their field trip experience with their families.

STATE STANDARD # MST 1 STUDENTS WILL BE ABLE TO will use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

ESSENTIAL QUESTION: What makes one insect different or similar to another?

8. ORGANIZING AND GOVERNING

Textbook or Database: Bugs, Bugs, Bugs by Melvin Berger

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Act out and sing: “Sing a Song of Grasshoppers” to the tune of Battle Hymn of the Republic

Students will: listen to the story Bugs, Bugs, Bugs by Melvin Berger.

COMPREHENSION:

Write the names of the different types of insects that we heard about and saw in the book on index cards.

APPLICATION:

Anchoring Activity / Anticipatory Set: Listen to **B-B-B Bugs** by Ron Brown. Verbalize and demonstrate how to categorize the insects that we saw in the book Bugs, Bugs, Bugs by insects that fly or walk, pollinators or non pollinators, etc.

Students will create a (class / team product): fill in a graph after categorizing a bag full of toy insects.

Multicultural and/or ESL and/or Bilingual Link: Compare the insects of a rainforest to our insects.

Mathematics/Science Link and/or Humanities Link: Discuss with the students what may happen if we didn't have one category of insects. What may or may not occur in nature?

School-to-Career/Tech Prep Link: Discuss with the entomologist the reasons why they categorize insects and what the specific categories are.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Recite the nursery rhyme "Ladybug, Ladybug"

Students will: find another student who has an insect that is in category as theirs and then find another student who has an insect that is in a different category as theirs.

Class/team/individual product: Students will create a Venn diagram of the insects they compared theirs to.

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write a class thank you note to the entomologist at Up Yonda.

HOMELINK:

Have students share their graph of categorized insects with their families.

STATE STANDARD # MST 1 STUDENTS WILL BE ABLE TO use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

ESSENTIAL QUESTION: What are our moral and ethical responsibilities in regard to the insect's natural habitats?

9. MORAL, ETHICAL AND SPIRITUAL BEHAVIOR

Textbook or Database:

Baby Bumblebee by The Wright Group

www.pbs.org/wgbh/nova/bees/danceswagg.html

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Listen to *Rocky Mountain High* by John Denver

Students will: imagine what it is like in the Rocky Mountains and describe what they picture the insects' habitats to be like there.

COMPREHENSION:

Show the students a picture of the Rocky Mountains and explain how the insects have a lot of undisturbed room to grow and prosper safely and without fear of harm.

APPLICATION:

Anchoring Activity / Anticipatory Set: Go outside and find insects in their natural habitat and discuss why we should leave nature alone.

Students will create a (class / team product): Butterfly garden by planting different types of flowers in the schoolyard.

Multicultural and/or ESL and/or Bilingual Link: Ask the students what they think the saying "Busy as a bee" means and discuss how bees have a very busy life creating hives and making honey.

Mathematics/Science Link and/or Humanities Link: Learn the finger play *Little Bee*.

School-to-Career/Tech Prep Link: View the *Bee Dance on-line* and have a Beekeeper visit the classroom to answer any questions students have about why it is so important to protect the bees.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Show a clip of *Honey, I Shrunk the Kids* video and discuss how the people must have felt being so small (similar to how insects may feel in our world).

Students will: imagine themselves as an insect (being the smaller creature) and discuss how they would feel looking up at humans as they walk, run, etc. through their natural habitat.

Class/team/individual product: Students will draw a picture portraying bugs and humans trading places in the world.

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will identify an insect that they think would be the safest in its habitat and write why they think they would be.

HOMELINK:

The students will bring an insect book of their choice home and read it with their families.

STATE STANDARD # ELA 1 STUDENTS WILL BE ABLE TO read, write, listen, and speak for information and understanding.

ESSENTIAL QUESTION: What makes us appreciate the beauty and uniqueness insects?

10. AESTHETIC NEEDS

Textbook or Database: The Quiet Cricket by Eric Carle

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Do a picture walk through The Quiet Cricket. Discuss the illustrations and Eric Carle's use of color and design. Be careful not to show the last page, share during read aloud.

Students will: Listen to the story, look at pictures, and hear the cricket at the end.

COMPREHENSION:

Discuss how Eric Carle uses color and texture in his books to create a mood for his readers.

APPLICATION:

Anchoring Activity / Anticipatory Set: Show the students a variety of art work created by using different art forms while listening to classical music.

Students will create a (class / team product): a class mural using different mediums to create various insects and their natural surroundings. Examples: layering paper, paint with sand in it, water colors, pipe cleaners.

Multicultural and/or ESL and/or Bilingual Link: View art work created by different artists from all over the world.

Mathematics/Science Link and/or Humanities Link: Have the art teacher discuss mixing of colors and materials to make different looks like shading, contrast, etc.

School-to-Career/Tech Prep Link: Have the art teacher discuss different artists and the tools they usually use.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: View a clip from the video *Incredible Insects*.

Students will: discuss what colors they saw the insects to be. Continue to discuss the how vibrant the colors were and how that made them feel.

Class/team/individual product: create an insect using a material of their choice: chalk, paint, clay, collage, beads, etc.

INDIVIDUAL JOURNAL ASSIGNMENT:

Draw a picture of what insect you would choose to be. Dictate to the teacher what insect you would be and why.

HOMELINK:

Share their newly designed insect with their family members.

STATE STANDARD #ELA 1__STUDENTS WILL BE ABLE TO read, write, listen, and speak for information and understanding.

ESSENTIAL QUESTION: How can listening to poetry help us learn more about insects?

11. Poetry

Textbook or Database: *The Beetle* by Judy W.

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Read the poem *The Beetle* by Judy W.

Students will: Learn and discuss the poem and why the beetle is identified in the poem as a tough insect.

Formative Assessment: Listen to and critique the appropriateness of the students' answers (hard shell, etc.)

COMPREHENSION:

Discuss how poems are easier to remember based on their rhyming nature.

Short-term / Cumulative Assessment: Have the students come up with Wikki sticks and circle the rhyming words as I read each sonnet.

APPLICATION:

Anchoring Activity / Anticipatory Set: Listen to *Spider or an Insect?* By Ron Brown

Students will create a (class / team product): Venn Diagram using the facts they have learned from the song/poem to compare Spiders and Insects.

Formative Assessment / Rubric for Product: Did the students **give the appropriate facts from the poem and identify the differences/similarities?**

Multicultural and/or ESL and/or Bilingual Link: Read *Martina the Beautiful Cockroach: A Cuban Folktale* retold by Carmen Deedy

Mathematics/Science Link and/or Humanities Link: Students will tell how many words are in the title of the book, how many letters are in each word and which word is the longest/shortest.

School-to-Career/Tech Prep Link: Ask a local poet/author to visit the classroom to talk about how they make/create their poems/stories.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Listen to *Water Bugs* by Ron Brown. Introduce the students to a list of insect related words and tell them that we are going to write our own poem using these words.

Students will: Pick the first set of words that rhyme to start the first sonnet of the poem and follow throughout the poem in the same fashion.

Class/team/individual product: The class will choral read their finished poem together as the teacher finger points at the words.

Summative Assessment: Did the poem teach us something about insects? Did it rhyme?

INDIVIDUAL JOURNAL ASSIGNMENT:

The students will illustrate a picture to match the poem created.

HOMELINK:

The student will bring home a copy of the class created poem to share with their family.

STATE STANDARD #MST 4 STUDENTS WILL BE ABLE TO understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

ESSENTIAL QUESTION: Where do ants live?

12. Science

Textbook or Database: *Amazing World of Ants* by Francene Sabin

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Show a clip of *The Magic School Bus Gets Ants in its Pants*

Students will: discuss where Ms. Frizzle and her students visited the ants in the movie.

Formative Assessment: Ask the students where ants live.

COMPREHENSION:

Read the Amazing World of Ants book by Francene Sabin. The class will then go out to the school yard to find ants and their ant hills in the ground.

Short-term / Cumulative Assessment: Did the students find an ant in its natural habitat?

APPLICATION:

Anchoring Activity / Anticipatory Set: Listen to *Ants, Ants, Ants* by Ron Brown. Present an Ant Farm to the class.

Students will create a (class / team product): Chalk out an ant maze on the blacktop

Multicultural and/or ESL and/or Bilingual Link: Discuss with the students that people in different parts of the country have to walk to get places and have to know which turns to take to get where they are going.

Mathematics/Science Link and/or Humanities Link: The students will measure the length of the maze by using rope and identify when they turn left or right.

School-to-Career/Tech Prep Link: Ask the students to state some jobs that may require a lot of walking.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Give the students a copy of the “Anthill Maze” page and ask them to follow the ants from the top of the anthill to their home underground.

Students will: brainstorm why they think ants live underground instead of on land.

Class/team/individual product: The class will list their reasons on a class chart.

Summative Assessment: Did the students give reasonable responses?

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write in their journal finishing the sentence “If I were an ant, I would live...”

HOMELINK:

The students will share their journal entries with their families and their families can also finish the sentence to create their own journal entry to share with the class.

STATE STANDARD # MST 1 STUDENTS WILL BE ABLE TO use mathematical analysis, scientific inquiry, and engineering design, as appropriate, to pose questions, seek answers, and develop solutions.

ESSENTIAL QUESTION: Ants are known as hard workers. What do they do for work?

13. Math

Textbook or Database: Ant Cities by Arthur Dorros

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Students will listen to the book Ant Cities by Arthur Dorros.

Students will: Discuss as a class the three types of ants: queen, males, and workers and their roles.

Formative Assessment: Did the students give appropriate responses?

COMPREHENSION:

Students will answer the questions: Who is the queen in your family? Who is the worker in your family? Who is the male in your family? Students are making connections to their own families.

Short-term / Cumulative Assessment: Did the students make the connection between ant roles to the roles of their family members?

APPLICATION:

Anchoring Activity / Anticipatory Set: Students will listen, sing, and march like worker ants to the song:

Ants, Ants, Ants by Ron Brown.

Students will create a (class / team product): tug-a-war game. This is cooperative activity where there are 3 students verses 7 students to demonstrate ants' team work. Students will role play ants having a struggle over a tasty treat.

Formative Assessment / Rubric for Product: Are the students able to tell why one team won?

Multicultural and/or ESL and/or Bilingual Link: Teach the students the sign language sign for each of the insects studied.

Mathematics/Science Link and/or Humanities Link: Discuss with the students why which group won the tug-a-war game.

School-to-Career/Tech Prep Link: Ask a U.P.S. delivery person to come in and discuss how he/she carries the many heavy packages each day.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Discuss and demonstrate with sacks of potatoes how the ants are able to carry food 5 times their weight or drag food 25 times their weight.

Students will: Have students try to lift 1 sack of 5 lb potatoes and then have them lift 2-5 lb bags. Is this easier or harder for you?

Class/team/individual product: Students will work in groups with a balance and counting cubes to get an idea of ants' weight and the amount they are able to lift and drag.

Summative Assessment: Ask the students if they notice the weight difference? Note responses.

INDIVIDUAL JOURNAL ASSIGNMENT:

Draw a picture of your ant and what it is able to carry.

HOMELINK:

Students will share with their families about their tug-a-war game and how it relates to ants.

STATE STANDARD # Health 1 STUDENTS WILL BE ABLE TO: have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity, and maintain personal health.

ESSENTIAL QUESTION: How can we learn more about insects through studying about healthy habits?

14. Physical Education

Textbook or Database: The Very Hungry Caterpillar by Eric Carle

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Choral read The Very Hungry Caterpillar by Eric Carle.

Students will: sequence the story using sentence strips.

Formative Assessment: Are the students able to place the story events in the correct order?

COMPREHENSION:

Discuss with the students that the best food for the caterpillar is the milkweed leaf, not the fruit and other foods.

Short-term / Cumulative Assessment: Ask the students to list foods that are healthy for us. Note appropriate answers.

APPLICATION:

Anchoring Activity / Anticipatory Set: Listen to *I'm a Caterpillar* by Ron Brown. Brainstorm a list of insects and what foods the students think they may eat.

Students will create a (class / team product): Healthy snack shaped like a caterpillar

Formative Assessment / Rubric for Product: *Did the students create their snack using the appropriate anatomy.*

Multicultural and/or ESL and/or Bilingual Link: Tell the students that some insects are actually considered a delicacy in other cultures. (Provide examples)

Mathematics/Science Link and/or Humanities Link: The students will identify the shapes of the foods in their caterpillar snack before eating them.

School-to-Career/Tech Prep Link: Have a chef from a local exotic restaurant visit and show some examples of these types of foods.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Listen to the song *There was an Old Lady Who Swallowed a Fly* by Allen Mills and discuss what kinds of things the lady ate that were good for her and what may or not be realistic for her to eat.

Students will: Each student will receive a picture card for one of the characters in the story and give a thumbs up or down if that character would be something that they could eat.

Class/team/individual product: Students will listen to the song again and pop up when they hear their character and place that character card in the Old Lady's mouth being held by the teacher (bag with opening and old lady's face).

Summative Assessment: Were the students participating and popping up when their character was announced.

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will finish the sentence "There was a child who swallowed a..." and illustrate.

HOMELINK:

Students will bring home their own Old Lady bag puppet and picture cards and sing the song and act it out with their families.

STATE STANDARD # ELA_2 STUDENTS WILL BE ABLE TO read, write, listen, and speak for literary response and expression.

ESSENTIAL QUESTION: How do we learn more about insects by reading non-fiction books?

15. Non-Fiction

Textbook or Database: Butterflies by Karen Shapiro

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Read the book Butterflies by Karen Shapiro

Students will: Listen to the book and discuss if they have learned anything about butterflies that they didn't already know.

Formative Assessment: Did the students find any new facts about butterflies?

COMPREHENSION:

Discuss how non-fiction books give us facts (things that can be proven) about people, animals, places and things.

Short-term / Cumulative Assessment: Ask the students to look at a variety of books and tell me if they are fiction or non-fiction (based on the title, front cover, etc.).

APPLICATION:

Anchoring Activity / Anticipatory Set: Teach the song *Fact or Opinion* by Stephanie Akins. Tell the students that we will play an Insect Charade game. Pick out of a bag the first insect picture card, tell a fact OR opinion about the insect and act it out. Students will need to tell if I am stating/acting out a fact or an opinion.

Students will create a (class / team product): their own charade/statement about their chosen insect and act it out for the class.

Formative Assessment / Rubric for Product: The class will decide whether the statement/act is portraying a fact or an opinion. Note responses and their appropriateness.

Multicultural and/or ESL and/or Bilingual Link: Sign Language is another way to communicate without words as charades is.

Mathematics/Science Link and/or Humanities Link: Teach the students a few signs to communicate with in the classroom. (For example, bathroom, thirsty, help, please, thank you, etc.)

School-to-Career/Tech Prep Link: Invite an exterminator in to prove or disprove the many myths that people have about insects.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: On the class chart tablet, have a group of sentences written about insects (some facts and some based on opinion). Read the sentences one at a time aloud to the students.

Students will: give the sign (Sign Language) of the letter Ff for fact and/or the letter Oo for opinion.

Class/team/individual product: Students will write a thank you letter to the exterminator that visited and brainstorm at least 3 facts that the exterminator proved to be factual and not a myth.

Summative Assessment: Could the students come up with the 3 facts to add to our thank you letter?

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write a fact that they learned and illustrate.

HOMELINK:

Share their day's experience with their families.

STATE STANDARD # ELA 2 STUDENTS WILL BE ABLE TO read, write, listen, and speak for literary response and expression.

ESSENTIAL QUESTION: How do we learn more about insects or ourselves by reading fiction books?

16. Fiction

Textbook or Database: The Grouchy Ladybug by Eric Carle

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Read The Grouchy Ladybug by Eric Carle

Students will: Listen to the story and answer the 5 W's to identify the story elements.

Formative Assessment: Did the students identify the: who, what, where, when and why's of the story?

COMPREHENSION:

The students will state why they felt that the ladybug was grouchy in the story.

Short-term / Cumulative Assessment: Note student responses.

APPLICATION:

Anchoring Activity / Anticipatory Set: Show a clip of *Alexander and the Terrible, Horrible, No Good, Very Bad Day* by Judith Viorst. Brainstorm with the students what makes them grouchy and record their responses on the chart.

Students will create a (class / team product): The Grouchy Kindergarteners book by each child creating a page for the book by writing about what makes them grouchy and illustrating the page.

Formative Assessment / Rubric for Product: Are the students able to read back their sentence to the teacher?

Multicultural and/or ESL and/or Bilingual Link: Talk to the students about how body language can show how someone is feeling without them using words.

Mathematics/Science Link and/or Humanities Link: Have the students pair up and identify what their partners feelings are by reading their body language.

School-to-Career/Tech Prep Link: Have the school psychologist visit the classroom to explain how he/she helps students work through their feelings.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Read The Feelings Book by Todd Parr

Students will: discuss the other types of feelings (happy, sad, surprised, angry) and have the students take turns telling the class when they feel this way.

Class/team/individual product: Each student will "pick" a feelings scenario and go back to their seats to illustrate what it may look like to feel that way.

Summative Assessment: Did the students portray the feelings appropriately in their illustrations.

INDIVIDUAL JOURNAL ASSIGNMENT:

Student will write in their journals: “I feel happiest when...”

HOMELINK:

Students will go home and ask their families how their day was and how they felt.

STATE STANDARD # Arts 1 STUDENTS WILL BE ABLE TO creating, performing, and participating in the Arts.

ESSENTIAL QUESTION: Will the students be able to use their knowledge of The Very Hungry Caterpillar to act out the story for their peers?

17. Visual Arts

Textbook or Database: **The Very Hungry Caterpillar** by Eric Carle.

KNOWLEDGE:

Anchoring Activity / Anticipatory Set: Re-read the book having students echo read the words.

Students will: be assigned parts from the story.

Formative Assessment: Can the students tell what role their part plays in the story?

COMPREHENSION:

Students will help to sequence the story and identify which part they will be playing and in what order they will appear.

APPLICATION:

Anchoring Activity / Anticipatory Set: Give the students a template for each one of their parts and directions on how to create their face puppet.

Students will create a (class / team product): Face puppet for their part (Caterpillar – character, strawberry, etc.)

Formative Assessment / Rubric for Product: Finished puppet.

Multicultural and/or ESL and/or Bilingual Link: Put classical music on the CD and dance like butterflies using scarves to flutter.

Mathematics/Science Link and/or Humanities Link: Have the students find their colored scarf partner and dance with them, and then switch to other color partners on cue.

School-to-Career/Tech Prep Link: Have the Drama Club visit the classroom to talk about their experiences performing.

HIGHER ORDER THINKING SKILLS (H.O.T.S.):

Anchoring Activity / Anticipatory Set: Go to the school cafeteria to rehearse the skit on stage.

Students will: Practice making eye contact with the audience, using their “loud and proud” voices while performing their part.

Class/team/individual product: The Class will perform at an All School Meeting in front of their peers.

Summative Assessment: Did the student’s participate?

INDIVIDUAL JOURNAL ASSIGNMENT:

Students will write about their favorite part of the skit.

HOMELINK:

Students can share their performance with their family members on a special parent night at the school.

**MORAL / ETHICAL / SPIRITUAL
REASONING AND DILEMMAS
FOR CHARACTER EDUCATION**

TEN ETHICAL DILEMMAS

(Must be set in context of unit, but must also relate to the lives of today's students)

ESSENTIAL QUESTION: How does the content of this unit reflect **character education** through Moral and Ethical dilemmas?

1. **Producing, Exchanging, and Distributing** [Economics]

ESSENTIAL QUESTION: How does the **Human Activity** of **Producing, Exchanging and Distributing** create moral/ethical dilemmas?

DILEMMA: You and a friend found a butterfly on the playground. He or she chased down the butterfly as it was trying to fly away, caught it and told you that they were going to hurt it. Do you tell the teacher?

2. **Transportation**

ESSENTIAL QUESTION: How does the **Human Activity** of **Transportation** create moral/ethical dilemmas?

DILEMMA: After releasing the class butterflies, your friend catches one of them in a jar and says that he/she is going to keep it for him/herself. You know that if this butterfly is not free to fly to Mexico, it will not survive the winter. Would you persuade your friend to release the butterfly and how would you go about it?

3. **Communications**

ESSENTIAL QUESTION: How does the **Human Activity** of **Communications** create moral/ethical dilemmas?

DILEMMA: After playing the hide and seek game, your teacher calls the class to go back to the classroom. Your friend says that he/she is going to stay hidden behind the bush so he/she doesn't have to go inside. After the teacher has blown her whistle 2 times and has all but your friend in line (but is unaware of who he/she is missing), do you tell your teacher that your friend is hiding behind the bush?

4. **Protecting and Conserving**

ESSENTIAL QUESTION: How does the **Human Activity** of **Protecting and Conserving** create moral/ethical dilemmas?

DILEMMA: While acting out the caterpillar in the chrysalis with your rest blankets, you see that one of your friends is snapping his/her blanket at another student, but the teacher is not aware of it. Do you either try to talk to your friend about participating appropriately (making the right choice with his blanket) or do you ignore his/her behavior because they are your best friend?

5. **Providing Education**

ESSENTIAL QUESTION: How does the **Human Activity** of **Providing Education** create moral/ethical dilemmas?

DILEMMA: You are at Up Yonda farm listening to the presentation given by the entomologist. Your teacher has given the class very explicit directions NOT to interrupt under any circumstances while the entomologist is speaking. You, in the middle of the presentation, have to go to the bathroom very badly. You consider this an emergency, but know that your teacher does not want you to interrupt. What do you do? Do you raise your hand or suffer until the entomologist is done speaking, knowing that you could end up having an accident?

6. **Making and Using Tools and/or Technology**

ESSENTIAL QUESTION: How does the **Human Activity** of **Making and Using Tools and/or Technology** create moral/ethical dilemmas?

DILEMMA: While in the Drama Center playing with the "Entomology tools", you use the tweezers to pull some hair out of your friend's head because you want to see what hair looks like under the microscope. Your friend starts to cry loudly and the teacher comes to find out why they are crying. Do you tell the teacher what you did?

7. **Providing Recreation**

ESSENTIAL QUESTION: How does the **Human Activity** of **Providing Recreation** create moral/ethical dilemmas?

DILEMMA: While tagging and releasing the butterflies at Up Yonda, most of your class is heavily engaged in the activity. You notice one friend who is trying to unzip the netting where the other butterflies are being kept. Do you tell on him/her or do you quietly walk over and try to get them to zip the netting back up?

8. **Organizing and Governing**

ESSENTIAL QUESTION: How does the **Human Activity** of **Organizing and Governing** create moral/ethical dilemmas?

DILEMMA: While going around the room trying to find your insect match, you see a friend who is having a lot of difficulty finding their partner. They seem very frustrated. You normally do not get along with this child. Do you stop what you're doing and help them in their time of need or do you continue to find your own partner and ignore them?

9. Moral, Ethical and Spiritual Behavior

ESSENTIAL QUESTION: How does the **Human Activity** of **Moral, Ethical and Spiritual Behavior** create moral/ethical dilemmas?

DILEMMA: As you are watching a clip from the movie *Honey, I Shrank the Kids*, your friends point out one the students in your class that is bigger than normal, do you join in; do you do nothing and keep watching the film or do you stick up for your classmate and tell the other kids to leave him alone?

10. Aesthetic Needs

ESSENTIAL QUESTION: How does the **Human Activity** of **Aesthetic Needs** create moral/ethical dilemmas?

DILEMMA: During an extension activity, the teacher asks each of the children in class to go around the circle and say something positive about the friend to their right. A couple of your friends start saying negative or silly things about their friends. The class starts laughing but you notice the teacher is not happy. It is now your turn to say something about the friend that just gave a negative comment. What will you say?

**PRODUCTIVE THINKING SKILLS
DIVERGENT / CREATIVE THINKING**

1. BRAINSTORM MODEL

A. BRAINSTORM ALL OF THE _____.

- AHA #1: Ways that people can drink.
- AHA #2: Places that an insect may go when it migrates.
- AHA #3: Creatures that camouflage.
- AHA #4: Things that start out as an egg.
- AHA #5: Insects that go through the same stages of the life cycle.
- AHA #6: Parts of a human body.
- AHA #7: Places you can find insects.

B. BRAINSTORM AS MANY _____ AS YOU CAN THINK OF.

- AHA #8: Brainstorm as many names of bugs as you can think of.
- AHA #9: Brainstorm as many things as you can think of that would be in the insect's habitat of the Rocky Mountain.
- AHA #10: Brainstorm as many insects as you can think of that you know that make sounds.
- AHA #11: Brainstorm as many hard things as you can think of.
- AHA #12: Brainstorm as many insects as you can think of that live underground.
- AHA #13: Brainstorm as many queens as you can think of.
- AHA #14: Brainstorm as many healthy foods as you can think of.

C. HOW MANY WAYS CAN YOU COME UP WITH TO _____?

- AHA #15: How many ways can you come up with to learn more about insects?
- AHA #16: How many ways can you come up with to find the setting of the story?
- AHA #17: How many ways can you come up with to act like a strawberry?
- Random Brainstorm: How many ways can you come up with to collect insects?
- Random Brainstorm: How many ways can you come up with to protect insects?
- Random Brainstorm: How many ways can you come up with to sort insects?
- Random Brainstorm: How many ways can you come up with to teach others what you know?

2. VIEWPOINT MODEL (Human or Animate) USE CULTURAL LITERACY TERMS

A. HOW WOULD _____ LOOK TO A(N) _____?

- AHA #1: How would a flower feel when an insect is sipping nectar from it?
 AHA #2: How would Mexico look to a butterfly?
 AHA #3: How would a Walking Stick look to a tree branch?
 AHA #4: How would a milkweed plant look to an egg?
 AHA #5: How would a chrysalis look to a crocodile?
 AHA #6: How would a human abdomen look on a butterfly?
 AHA #7: How would a butterfly house look to a butterfly?
 AHA #8: How would a cricket look to a bear?

B. WHAT WOULD A _____ MEAN FROM THE VIEWPOINT OF A(N) _____?

- AHA #9: What would hop mean from the viewpoint of an ant?
 AHA #10: What would a habitat mean from the viewpoint of a head of lettuce?
 AHA #11: What would a hard shell mean from the viewpoint of a beetle?
 AHA #12: What would a field trip mean from the viewpoint of an ant?
 AHA #13: What would a queen mean from the viewpoint of a lion?
 AHA #14: What would a day of the week mean from the viewpoint of a caterpillar?
 AHA #15: What would a fact mean from the viewpoint of a butterfly?
 AHA #16: What would a problem mean from the viewpoint of a grouchy ladybug?
 AHA #17: What would a milkweed leaf mean from the viewpoint of a giraffe?

C. HOW WOULD Eric Carle VIEW THIS?

(Use one person from history here)

- 1: A caterpillar?
- 2: An ant farm?
- 3: A chrysalis?
- 4: A butterfly's wing?
- 5: An entomologist's job?
- 6: The ANTZ movie?

3. **INVOLVEMENT MODEL (Personification / Inanimate object brought to life)**

A. HOW WOULD YOU FEEL IF YOU WERE _____?

- AHA #1: The pollen on an insect's legs?
 AHA #2: How would you feel if you had to flap your "wings" all the way to Mexico?
 AHA #3: How would you feel if you were a white butterfly in the snow?
 AHA #4: How would you feel if you were the caterpillar inside the chrysalis?
 AHA #5: How would you feel if you were stuck in the chrysalis and couldn't get out?
 AHA #6: How would you feel if you were a cockroach?
 AHA #7: How would you feel if you were the entomologist at Up Yonda?

B. IF YOU WERE A _____, WHAT WOULD YOU (SEE, TASTE, SMELL, FEEL, etc.)?

- AHA #8: If you were a cricket, what would you feel?
 AHA #9: If you were a bug living in the Rocky Mountains, what would you smell?
 AHA #10: If you were one of Eric Carle's characters, what would you feel like?
 AHA #11: If you were a beetle, how would you taste?
 AHA #12: If you were an ant, what would you taste?
 AHA #13: If you were a queen for the day, what would you do?
 AHA #14: If you were a caterpillar, what would you want to taste?

C. YOU ARE A _____. DESCRIBE HOW IT FEELS.

- AHA #15: You are a butterfly. Describe how it feels.
 AHA #16: You are a grouchy ladybug. Describe how it feels.
 AHA #17: You are a milkweed leaf. Describe how it feels.
 Random Involvement / Personification: You are a worker ant. Describe how it feels.
 Random Involvement / Personification: You are a queen bee. Describe how it feels.
 Random Involvement / Personification: You are a stinging bee. Describe how it feels.
 Random Involvement / Personification: You are a lightning bug trapped in a jar. Describe how it feels.

4. CONSCIOUS SELF-DECEIT MODEL

A. SUPPOSE _____ . WHAT _____ .

- AHA #1: Suppose you were a bee. What flower would you like to pollinate?
- AHA #2: Suppose you were a 30 lb. butterfly. Do you think you could make it all the way to Mexico?
- AHA #3: Suppose you were a walking stick. What would you do if a bird landed on you?
- AHA #4: Suppose the chrysalis rips and the butterfly comes out before it's ready. What will happen to the butterfly?
- AHA #5: Suppose you didn't grow any taller than you are now. What would your life be like?
- AHA #6: Suppose you had antennae. What could you sense?
- AHA #7: Suppose you had to schedule the butterfly program. What would you teach the kids?
- AHA #8: Suppose you were a bee without wings. What would you do to help you fly?
- AHA #9: Suppose the Rocky Mountains where you live became very industrialized. What would you do?

B. YOU CAN _____ . WHAT _____ ?

- AHA #10: You can live with a cricket for a day. What would your mother say?
- AHA #11: You can protect yourself with a hard shell. What animals may still be able to eat you?
- AHA #12: You can live in an ant hill. What would you do?
- AHA #13: You can choose what ant job you want. What would it be?
- AHA #14: You can eat anything you want. What would you eat?
- AHA #15: You can teach. What would you teach?
- AHA #16: You can make a sound like a cricket. What music will you make?
- AHA #17: You can be any part in the play that you want. What would it be?
- Random: You can hop like a grasshopper. What would the length of your longest hop be?
- Random: You can crawl through an ant farm. What would you see?
- Random: You can share a chrysalis with a caterpillar. What will happen when the chrysalis opens?
- Random: You can look inside a bee hive. What will the honey taste like?

5. FORCED ASSOCIATION MODEL USE CULTURAL LITERACY TERMS HERE

A. HOW IS _____ LIKE _____ ?

- AHA #1: How is a flower like a train station?
- AHA #2: How is a butterfly like an airplane?
- AHA #3: How is a camouflaged insect like an invisible man?
- AHA #4: How is the blanket you used like a chrysalis?
- AHA #5: How is Play Doh like an insect?
- AHA #6: How is a thorax like a car?
- AHA #7: How is an entomologist like a clown?

B. GET IDEAS FROM _____ TO IMPROVE _____ .

- AHA #8: Get ideas from a grasshopper to improve your musical abilities.
- AHA #9: Get ideas from a butterfly to improve nature.
- AHA #10: Get ideas from Eric Carle to improve your art work.
- AHA #11: Get ideas from the song to improve your knowledge about insects.
- AHA #12: Get ideas from ants to improve how we live.
- AHA #13: Get ideas from ants to improve your ability to cooperate.
- AHA #14: Get ideas from the book to improve your healthy eating habits.

C. I ONLY KNOW ABOUT _____. EXPLAIN _____ TO ME.

- AHA #15: I only know about facts. Explain opinions to me.
- AHA #16: I only know about bad moods. Explain good moods to me.
- AHA #17: I only know about marching. Explain dancing to me.
- Random: I only know about bugs that crawl. Explain bugs that fly to me.
- Random: I only know about what jobs that insects do. Explain what they eat to me.
- Random: I only know that ants can carry 5 times their weight. Explain to me how they do that?
- Random: I only know about the life cycle of a butterfly. Explain the life cycle of an ant to me.

6. REORGANIZATION / SYNECTICS MODEL

A. WHAT WOULD HAPPEN IF _____?

AHA #1: We didn't have pollinators?

AHA #2: What would happen if a butterfly loses a wing half way to Mexico?

AHA #3: What would happen if butterflies didn't have color?

AHA #4: What would happen if the Viceroy didn't look like the Monarch?

AHA #5: What would happen if the last stage of human's lives was to become a butterfly?

AHA #6: What would happen if an insect studied an entomologist?

AHA #7: What would happen if we get a call saying that our butterfly made it to Mexico?

B. SUPPOSE _____ (HAPPENED) WHAT WOULD BE THE CONSEQUENCES?

AHA #8: Suppose you couldn't find a match for your insect card. What would be the consequences?

AHA #9: Suppose you shrunk down to the size of an ant. What would be the consequences?

AHA #10: Suppose Eric Carle illustrated in black and white only. What would be the consequences?

AHA #11: Suppose the poem didn't rhyme. What would be the consequences?

AHA #12: Suppose the ant hill caved in while you were in it. What would be the consequences?

AHA #13: Suppose you had to carry something heavier than yourself. What would be the consequences?

AHA #14: Suppose you swallowed a horse. What would be the consequences?

C. WHAT WOULD HAPPEN IF THERE WERE NO _____ ?

AHA #15: What would happen if there were no exterminators?

AHA #16: What would happen if there were no nice people?

AHA #17: What would happen if there were no stage to perform on?

Random: What would happen if there were no flowers?

Random: What would happen if there were no pollinators?

Random: What would happen if there were no queen bees?

Random: What would happen if there were no wings on butterflies?

CULTURAL LITERACY

1. Words:

Insect	Butterfly	Caterpillar
Chrysalis	Head	Thorax
Abdomen	Antennae	Bees
Proboscis	Moths	Ants
Ladybugs	Nectar	Camouflage
Habitat	Milkweed leaf	Male Monarch
Female Monarch	Magnifying Glass	Microscope
Tweezers	Net	Ant farm
Queen ant	Male ant	Worker ant

2. Proper Names:

Eric Carle	North America
Monarch Butterfly	Hudson Falls, N.Y.
Viceroy Butterfly	Rain Forest
Norma L. Gentner	Rocky Mountains
Mexico	

3. Ideas:

- Metamorphosis
- Pollination
- Symmetry
- Life Cycle

Migration

4. **Phrases:** Busy as a Bee

RESOURCES

I. **BIBLIOGRAPHY**

Big Books:

The Baby Bumblebee by The Wright Group
Munch, Munch, Munch by Norma L. Gentner
The Differentiated Classroom by Carol Ann Tomlinson
Teaching Children to Care by Ruth Sidney Charney
Literacy: Helping Children Construct Meaning by J. David Cooper

II. **BIBLIOGRAPHY**

In the Tall, Tall Grass by Denise Fleming
Monarch Butterfly by Gail Gibbons
The Butterfly Alphabet Book by Jerry Palotta
Millions of Monarchs by Connie Roop
Butterflies by Karen Shapiro
I'm a Caterpillar by Jean Marzollo
How to Hide a Butterfly by Ruth Heller
Charlie the Caterpillar by Dom Deluise
See How it Grows by DK Publishing
Butterflies and Moths by Elaine Pascoe
The Ants Go Marching by Mary Gruetzke
Backyard Insects by Millicent Selsam
A Taste of Honey by Nancy Wallace
Bugs, Bugs, Bugs by Bob Barner
The Very Hungry Caterpillar by Eric Carle
The Quiet Cricket by Eric Carle
Baby Bumblebee by the Wright Group
Munch, Munch, Munch by Norma L. Gentner
Magic School Bus and the Science Fair Expedition by Joanna Cole
I'm a Caterpillar by Jean Marzollo
Lifecycles of the Butterflies by Judy Burris
Waiting for Wings by Lois Ehlert
Magic School Bus: Butterfly and the Bog Beast by Nancy Krulik
The Icky Bug Alphabet Book by Jerry Pallotta
For Caterpillar to Butterfly by Deborah Heiligman
Ant Cities by Arthur Dorros
The Grouchy Ladybug by Eric Carle
The Feelings Book by Todd Parr
This is a Butterfly by The Education Center, Inc.
Martina the Beautiful Cockroach: A Cuban Folktale by Carmen Deedy
Amazing World of Ants by Francene Sabin

III. **Educational Films / Videos**

Bill Nye the Science Guy – Insects (BOCES 446351)
The Magic School Bus: Butterflies
Adaptation of Insects
Incredible Insects
See How They Grow: Insects
Real World Science: Habitats
Fascinating World of Butterflies (BOCES 049946)
The Magic School Bus Gets Ants in its Pants

IV. **Commercial Films / Videos**

A Bugs Life, Disney Pixar 1998
ANTZ, Dream Works Pictures 1998
Honey I Shrunk the Kids, Walt Disney Pictures 1989
The Very Hungry Caterpillar, Walt Disney Pictures
Alexander and the Terrible, Horrible, No Good, Very Bad Day by Judith Viorst

V. **Literature / Language Arts** (on reserve in Media Center for interest reading)

Fiction

In the Tall, Tall Grass by Denise Fleming
The Very Hungry Caterpillar by Eric Carle
The Quiet Cricket by Eric Carle
I'm a Caterpillar by Jean Marzollo
Charlie the Caterpillar by Dom Deluise
The Ants Go Marching by Mary Gruetzke
The Grouchy Ladybug by Eric Carle
The Baby Bumblebee by The Wright Group
Munch, Munch, Munch by Norma L. Gentner
Magic School Bus and the Science Expedition by Joanna Cole
Martina the Beautiful Cockroach: A Cuban Folktale by Carmen Deedy
The Feelings Book by Todd Parr

Non-Fiction

Millions of Monarchs by Connie Roop
Butterflies by Karen Shapiro
How to Hide a Butterfly by Ruth Heller
The Butterfly Alphabet Book by Jerry Palotta
See How it Grows by DK Publishing
Butterflies and Moths by Elaine Pascoe
Backyard Insects by Millicent Selsam
A Taste of Honey by Nancy Wallace
Bugs, Bugs, Bugs by Bob Barner
This is a Butterfly by The Education Center, Inc.
Amazing World of Insects by Francene Sabin
Ant Cities by Arthur Dorros

VI. **Poetry**

The Caterpillar
Caterpillars
Ladybug, Ladybug, Fly Away Home!
Five Busy Honeybees
Ladybug, Ladybug
Butterfly Cycle
Body Part Riddles
The Beetle
Insect Poem (class created)

VII. **Drama** (Stage Productions)

Role Play of Life Cycle
Role Play of Pollination
Role Play Flight to Mexico
Drama Center Entomologist
Class performance of "The Very Hungry Caterpillar"
Role Play of the J Form and Spinning of the Chrysalis

Role Play of Monarch/Viceroy Eaten by Bird
There Was an Old Lady Who Swallowed a Fly Role Play
Insect Charades

VIII. Art Works

Little Bee finger play
Look! I'm a Butterfly! Sing-Along (and finger play)
Water Color Symmetrical Butterfly
Play Doh Life Cycle
Insects Class Mural
Paper Plate Butterfly
Texture created insect

IX. Music

Look! I'm a Butterfly! Sing-Along
The Insect Body Parts song (Head, Thorax, Abdomen)
Sing a Song of Grasshoppers
Fly Like An Eagle by the Steve Miller Band
Butterfly Rap song by Stephanie Akins
Fact or Opinion song by Stephanie Akins
Rocky Mountain High by John Denver
Spider or An Insect? by Ron Brown
Ants, Ants, Ants by Ron Brown
Classical Music (various)
There Was an Old Lady Who Swallowed a Fly by Allen Mills
B-B-B Bugs by Ron Brown
I'm a Little Insect by Ron Brown
Busy Honeybee by Ron Brown
Water Bugs by Ron Brown
Spider Rap by Ron Brown
Mr. Spider by Ron Brown
Metamorphosis by Ron Brown
Caterpillar Rap by Ron Brown
I'm a Caterpillar by Ron Brown
Butterfly by Ron Brown

X. Resource People / Mentors

Entomologist
Beekeeper
Exterminator
School Psychologist
Author/Poet
Art Teacher
Chef from Exotic Restaurant
Drama Club members
Delivery person (U.P.S., Fed. Ex.)

XI. Field Trips

Up Yonda farm, Bolton Landing, N.Y.
Butterfly Garden in schoolyard
Nature Walk on school grounds

XII. Other Material (CD-ROM, Laser Disc, Internet sites, etc.)

www.learner.org/jnorth/monarch/
www.insectlore.com
BOCES video library www.wswheboces.org

www.dirttime.ws/Butterfly/Behavior.htm
www.pbs.org/wgbh/nova/bees/danceswagg.html
www.angelfire.com/mn/kellyshouse/preschool/themes/caterpillar.html
<http://www.legendssprings.dvusd.org./butterflyunit.html>
<http://www.Monarch>
<http://www.eric-carle.com>
<http://kids.mongabay.com/elementary>

Audio Tapes:

Munch, Munch, Munch by Norma L. Gentner
Baby Bumblebee by the Wright Group

Posters/Charts:

Butterfly Life Cycle
What is an Insect?
Human Life Cycle (class created)
Insect Body Parts

Worksheets/Reproducibles:

Insect Body Parts Model/Chart
Anthill Maze

Lyrics to Butterfly Rap song by Stephanie Akins

I start as an egg
But that is not all
I come out as a caterpillar
First very small
Once I eat all the leaves away
I get ready to form my "J"
Protected in my chrysalis
I change and grow
I'll come out and spread my wings
Then I'm ready to go!

Lyrics to Fact or Opinion song by Stephanie Akins (sing to the tune of "Are You Sleeping")

Fact or Opinion
Fact or Opinion
How do you know?
How do you know?
Facts can be proven
Opinion state how you feel
Now you know
Now you know!