Unit 08: Insects

Content Area: **English Language Arts**
Course(s):
Time Period: **Trimester 3**
Length: **4-6 Weeks**
Status: **Published**

Brief Summary of Unit

This unit, focused on insects, is designed to guide exploration through several key investigations and culminate in a celebration of learning. The curriculum is structured to help participants:

• Explore the Topic: Begin by identifying what is already known about insects and what is yet to be discovered

• Investigate Characteristics: Delve into the specific attributes that define insects

• Investigate Habitats and Lifestyle: Understand where insects live and how they live within their environments

• Investigate Change: Explore the life cycles of insects, including concepts like metamorphosis

• Investigate Professions: Discover individuals whose work involves insects, such as exterminators and gardeners

• Investigate Ecological Roles: Learn about how insects contribute to the Earth, including pollination and decomposition

• Celebrate Learning: Conclude the study by sharing acquired knowledge and experiences.

The unit incorporates a variety of learning experiences, including outdoor exploration, family partnerships, and diverse activities focusing on movement, discussion, and literacy

Essential Questions

• What do we know about insects? What do we want to find out?

• What is this? (Showing a picture of an insect)

• Which is bigger? (Comparing an animal and an insect)

• Did you see an insect today?

• Which of these is an insect? (Showing photos)

• What insect would you like to collect on our walk?

• How are these insects alike? (Showing two photos of insects)

- How far can you jump?
- What sounds can you make with your hands?
- What does this mean? (Showing a common gesture)
- How many people do you live with?
- What are the characteristics of insects?
- What do you wear on a cold day?
- Can you finish the flower pattern?
- What do you like to eat?
- How did you get to school today?
- Which tower is taller?
- Where do insects live? How do they live?
- What is this picture of? (Extreme close-up of insect body part)
- Where should we look for insects today?
- What is the weather like today?
- What colors do you see on this insect?
- Which weighs more? (Comparing two small items)
- What insects are in our community?
- How do insects change?
- How do we finish the pattern? (Life stages)
- Which of these is a baby insect? (Comparing insect photos)
- How many layers of clothes are you wearing?
- Which book should we read aloud today?
- What should we ask our visitor?
- Who works with insects?
- What would you like to ask on the site visit?
- Which of these is a photograph? (Comparing photo, drawing, sculpture)
- What do we see growing outside?

• How do insects help the earth?

• How many flowers do you see?

• Which of these lives in the ground? (Comparing insect photos)

• What did you eat for breakfast?

• What is this? (Honeycomb)

• What is your favorite insect?

• What will you show our visitors?

Enduring Understandings

Through this unit, students will develop understandings about:

• The basic characteristics that define insects, including their body parts (jointed legs, segments) and how they look similar or different

• How insects move (crawling, hopping, flying) and communicate (lights, colors, touch, dance, sounds like chirping)

• The ways insects protect themselves, including their exoskeletons

• What different insects eat and their feeding mechanisms (proboscises, mandibles)

• The concept of insect migration

• That insects build various structures like anthills, beehives, and wasp nests, and how they work together

• The different habitats where insects live and how their living environments support them

• The life cycle of insects, including the stages of metamorphosis (egg, larva, pupa, adult) and how their bodies change

• That various professions involve insects, such as those who work in nurseries, science, or pest control

• The beneficial roles insects play in the environment, such as pollination and decomposition, and their contribution to ecosystems (e.g., bees making honey)

• The importance of observing insects safely and respectfully in their natural environments

Students Will Know

• Vocabulary: "insect," "stinger," "defend," "research," "jointed legs," "segments," "language," "communicate," "gesture," "colony," "predator," "exterior," "habitat," "mandible," "proboscis," "migrate," "climates," "construct," "inspect," "indigenous," "range," "metamorphosis," "larva," "molt," "stage," "cautious," "pest," "photography," "benefit," "pollen," "environment," "decomposition," "healthy," and "honeycomb"

• Insect Characteristics: How insects look, move, and communicate

• Safety around insects: Which insects are safe to collect or touch and which should be observed from a distance, and how to collect insects safely

• Insect Habitats: Where insects live and how to identify areas where they might be found

• Insect Life Cycles: The stages of an insect's life and how they change

• Insect Diets: What different insects eat

• Insect Structures: Examples of structures built by insects like anthills, beehives, and wasp nests

• Human Interactions with Insects: People who work with insects (e.g., scientists, exterminators, gardeners) and their roles

• Ecological Contributions: How insects help the Earth through pollination and decomposition

Students Will Be Skilled At

• Observing and Identifying: Identifying areas where insects might be found, observing insects closely (using magnifying glasses), and identifying indigenous and non indigenous insects

• Collecting Safely: Using insect collecting equipment (observation bins, nets, tweezers, enclosures) to safely catch and release insects

• Drawing and Documentation: Making observational drawings of insects and their habitats, taking photos/videos of insects, and documenting observations in science journals

• Discussion and Shared Writing: Engaging in discussions about insect characteristics, movement, communication, care, migration, and roles, and participating in shared writing activities

• Comparing and Contrasting: Comparing insect sizes, features, and movements

• Caring for Insects: Understanding how to care for collected insects

• Reading and Research: Reading nonfiction books about insects, using insect field guides, and utilizing child-friendly websites for research

• Physical Movement: Moving like insects (crawling, hopping, flying) and engaging in various physical

activities

• Pattern Recognition: Identifying and completing patterns (e.g., flower patterns, action patterns, body patterns)

• Measurement and Quantity: Measuring distance, arranging objects by size, counting, and tallying

• Sorting and Categorizing: Sorting insects based on various criteria

• Asking Questions: Generating questions for site visits or classroom visitors

• Creative Expression: Making books, creating artwork (murals), and constructing models of insect structures

• Cooking: Preparing simple items like butterfly feeder solution or honey-based snacks

Evidence/Performance Tasks

• Observational Drawings: Students create drawings during insect hunts and observations

• Discussion and Shared Writing: Contributions to daily large group discussions and the content of shared writing activities reflect understanding

• Class Insect Book/Science Journals: Children's entries in their science journals and the collaborative class insect book serve as ongoing records of learning

• Question of the Day Responses: Daily responses to the "Question of the Day" prompts provide insight into comprehension and engagement

• Insect Collection and Release: The ability to safely collect, observe, and release insects

• Creating Butterfly Feeders/Observing Decomposition: Participation in hands-on projects like setting up a butterfly feeder or observing decomposition of organic material

• Photography Walks: Engaging in walks to capture insects in action with cameras

• Exhibits/Displays: The final "Celebrating Learning" event showcases children's investigations, science journals, and the class insect book

• Small Group Activities: Performance within various small group tasks like "Jumping Beans," "Lining It Up," "Balancing Act," "Memory Games," "Tallying," and "Graphing"

Learning Plan

The learning plan is structured into daily activities within each major section (Exploring the Topic, Investigations 1-6, and Celebrating Learning).

• Exploring the Topic: 5 days

• Investigation 1: 5 days

• Investigation 2: 5 days

• Investigation 3: 5 days

• Investigation 4: 5 days

• Investigation 5: 4 days

• Investigation 6: 4 days

• Celebrating Learning: 2 days

Each day typically includes:

Interest Areas: Designated learning centers (e.g., Toys and Games, Discovery, Library, Technology, Music and Movement, Art, Dramatic Play, Block, Cooking) with relevant materials and prompts

Outdoor Experiences: Hands-on activities like insect hunts, identifying insect areas, collecting insects, observing insects working together, placing food for insects, creating butterfly feeders, planting monarch-friendly plants, observing decomposition, and documenting findings outdoors

Physical Fun: Movement activities often linked to "Intentional Teaching Cards" (e.g., "Body Shapes & Sizes," "Ways to Travel," "The Tortoise & the Hare," "Nature Painting," "Stand Up & Dance," "Catching With a Scoop," "Up and Away," "Hopping") that encourage physical exploration and movement like insects

Family Partnerships: Engaging families through letters, inviting them to bring in insect-related items, assisting with supervision, talking about insects in the community, and visiting the classroom to share expertise

Wow! Experiences: Special events like walks to look for insects, classroom visits from experts (nursery workers, science teachers, exterminators, gardeners), site visits to museums, and the final celebration of learning

Question of the Day: A specific question to focus daily inquiry and discussion

Large Group:

Games: Engaging games like "My Name, Too!", "Rolling With It," "Persnickety Patterns," "I'm Thinking Of…," "I Spy With My Little Eye," and "Come Play With Me"

Songs/Poems: Singing songs such as "Oh, Dear! What Can the Matter Be?", "Hickory Dickory Dock," "Hi-Ho, the Derry-O," "Days of the Week," "Abby Had an Anteater," "Here Is the Beehive," "Take a Tuneful Turn," "Sleepy Bluebird," and "Clap a Friend's Name" or reciting poems like "A Chat With a Cat"

Movement: Structured movement activities like "Syllable Stroll," "Leaping Sounds," "Blast Off," "High in the Tree," "Animal Ride," "Hop the Circle," "Silly Dance," "Creeping Ladybug," "The Feelings Dance," "Echo

Clapping," "The Name Dance," "Metamorphosis," and "Body Patterns"

Discussion and Shared Writing: Focused discussions and collaborative writing on topics like "What Is an Insect?", "How to Observe and Catch Insects Safely," "Taking a Walk to Observe Insects," "How Do We Care for the Insects We Collect?", "How Do Insects Look the Same?", "How Do Insects Move?", "Insect Communication," "How Do Insects Communicate Without Sounds?", "How Do Insects Work Together?", "How Do Insects Protect Themselves?", "What Insects Like to Eat," "Insect Migration," "Insects That Build," "Identifying the Insects in Our Community," "Looking for Insects," "Do We See Different Insects at Different Times?", "Where Have We Seen Insects?", "Biggest and Smallest Insects," "Life Cycle of Insects," "Baby Insects," "How Do Insects' Bodies Change During Metamorphosis?", "Life Cycle Stages," "Pollination," "Decomposition," "Ladybugs and Aphids," "Bees and Honey," and preparing for/sharing learning at the celebration

Read-Aloud: Nonfiction and fiction books featuring insects, insect life cycles, or related topics are read daily, often with "Book Discussion Cards"

Small Group Options: Two differentiated small group options are provided daily, often linked to "Intentional Teaching Cards" (e.g., "Jumping Beans," "Walk a Letter," "Lining It Up," "Huff & Puff," "Balancing Act," "Missing Lids," "Number Line Hop," "Shake, Rattle, and Roll," "Stick Letters," "Making My Name Review," "Reading Nonfiction Books," "Will You Read to Me?", "Measure and Compare," "Pendulum Power," "Making a Birdfeeder," "Secret Numbers," "Marble Mat," "Action Patterns," "Pots and Pans Band," "Memory Games," "Did You Ever See…?", "Rhyming Tubs," "Dinnertime," "Garden Party," "Picture Walk and Talk," "Clothesline Storytelling," "Tallying," "Picture Patterns," "Patterns Under Cover," "Straw Shapes," "Buried Shapes," "Rhyming Chart," "Same Sound Sort," "Observing Insect Life," "Book Reviews," "Author & Illustrator," "Can You Find It?", "Treasure Hunt," "Exploring Pathways," "Ways to Travel," "Tap It, Clap It, Stomp It, Jump It," "Count and Trace," "Fruit Smoothies," "Silly Names," "Asking Questions," "Sticky Tables," "My Clothes Today," "Shaving Cream Letters," "Number Cards," "Ping-Pong Pick-Up," "Sink or Float?", "Dig It!", "How Many in the Scoop?", "More or Fewer Towers," "Shape Bingo," "I'm Thinking of a Shape," "Rhyming Riddles," "Book Cover Memory Game," "Lemonade," "Conference Conversations," "That's How You Do It!", "Graphing") covering literacy, math, and science skills

Materials

• Visuals: Photos of insects (realistic, close-up, specific types like monarchs, Goliath beetles), realistic toy insects, pictures from outdoor walks, videos of insects (climbing, moving, communicating, eating), illustrations of insect parts, monarch migratory maps, photos of anthills, beehives, wasp nests, insect eggs, cocoons, and different life stages

• Insect Collecting and Observation Supplies: Observation bins, nets, magnifying glasses, insect collecting equipment (tweezers, enclosures), hula hoops, scientific journals, cameras (toy and real), binoculars

• Writing and Art Supplies: Materials to make a journal, paper, markers, crayons, pencils, sticky notes, chalk, collage materials, bookmaking materials, butcher paper, paint

• Books and Resources: Nonfiction books with photos/illustrations of insects, poetry books, fiction books featuring insects, children's books lists, insect field guides, magazines, Internet articles, child-friendly websites, book discussion cards, book conversation cards, "Mighty Minutes" cards, "Intentional Teaching

Cards"

• Manipulatives and Games: Realistic toy insects, plastic insects, plush insects, bean-shaped letter cards, alphabet cards/chart, objects to arrange by size, small lightweight balls, standard/nonstandard measuring tools, baggies, fill materials, balance scale, containers with lids, numeral cards, blank-faced cubes, shape stickers, parquetry/pattern blocks, paper plates, masking tape, small classroom objects, counters, cardboard divider, geometric shapes, drinking straws, pipe cleaners, attribute blocks, small toys that rhyme, quantity cards, small items for counting, interlocking cubes, tangram shapes, ping-pong balls, tongs, net, ladle, various objects for sink/float, sand, sifters, sieves, rakes, slotted spoons, strainers, sports equipment, protective clothing, wooden blocks

• Food and Plant Items: Orange juice, orange segments, fresh fruit, sugar, water, kitchen sponges, milkweed, chives, salvia, birdseed, honey, plain yogurt, lemonade, corn syrup, maple syrup, flowers with pollen, ripe banana, rose branch with rosebud/mature rose, plants that attract insects

• Miscellaneous: Boom box, cushions/pillows, audio clips of crickets chirping, flashlights, colorful fabric scraps, paper towel rolls, shoe boxes, tape, glue, clipboard, string, ceramic/clay saucer, nontoxic potting soil, gardening tools, nontoxic houseplants, flower pots/paper cups, craft sticks, plastic covering, long scarf/ribbon, carpet squares/tape marks, blender, plastic knives, cutting board, juicer, measuring cup/spoons, art smocks, large mirror, index cards, chart paper, sentence strips, clear contact paper, folder for each child, photos of children engaging in activities, large graph paper

Standards

I. Social/Emotional Development

- Standard 0.1: Children demonstrate self-confidence.

0.1.1 Express individuality by making independent decisions.

0.1.2 Express ideas for activities and initiate discussions.

0.1.3 Actively engage in activities and interactions with teachers and peers.

- Standard 0.2: Children demonstrate self-direction.

0.2.1 Make independent choices and plans from a broad range of diverse interest centers.

0.2.2 Demonstrate self-help skills.

0.2.3 Move through classroom routines and activities with minimal teacher direction and transition easily from one activity to the next.

- Standard 0.3: Children identify and express feelings.

0.3.1 Recognize and describe a wide range of feelings, including sadness, anger, fear, and happiness.

- Standard 0.4: Children exhibit positive interactions with other children and adults.

0.4.1 Engage appropriately with peers and teachers in classroom activities.

0.4.2 Demonstrate socially acceptable behavior for teachers and peers.

0.4.6 Demonstrate verbal or nonverbal problem-solving skills without being aggressive.

II. Language Arts Literacy

- Standard 1.1: Children participate in conversations and discussions.

1.1.1 Engage in conversations about familiar topics.

1.1.2 Ask and answer questions related to the topic.

- Standard 1.2: Children comprehend and use new vocabulary.

1.2.1 Use new vocabulary related to the topic.

1.2.2 Understand and follow multi-step directions.

- Standard 1.3: Children express themselves through and develop an appreciation of dramatic play and storytelling.

1.3.1 Play roles observed through life experiences.

1.3.3 Participate with others in dramatic play, negotiating roles and setting up scenarios using costumes and props.

- Standard 1.4: Children demonstrate emergent reading skills.

1.4.1 Show interest in books and print materials.

- Standard 1.5: Children demonstrate emergent writing skills.

1.5.1 Use drawing and writing to express ideas.

III. Mathematics

- Standard 3.1: Children use numbers and counting.

3.1.1 Count with understanding and recognize how many are in a set.

- Standard 3.2: Children identify and describe shapes.

3.2.1 Identify and describe two- and three-dimensional shapes.

3.2.2 Understand and use positional words.

- Standard 3.3: Children compare and measure.

3.3.1 Compare and order objects by length, size, weight.

3.3.2 Use non-standard units to measure.

- Standard 3.4: Children sort and classify objects.

3.4.1 Sort and classify objects based on one or more attributes.

- Standard 3.5: Children recognize and create patterns.

3.5.1 Recognize and extend simple patterns.

IV. Science

- Standard 4.1: Children explore and investigate the natural and physical world.

4.1.1 Observe and describe objects and events.

4.1.2 Ask questions about observations.

4.1.3 Conduct simple investigations to answer questions.

4.1.4 Make predictions and test them.

- Standard 4.2: Children understand properties of objects and materials.

4.2.1 Identify and describe properties of objects.

4.2.2 Explore how objects can be changed.

- Standard 4.3: Children understand basic concepts of force and motion.

4.3.1 Explore different ways objects move.

4.3.2 Understand that forces cause changes in motion.

- Standard 4.4: Children understand concepts related to structures and engineering.

4.4.1 Explore how structures are built and designed.

4.4.2 Use tools and materials to design and build.

V. Health, Safety, and Physical Education

- Standard 2.2: Children demonstrate large motor skills.

2.2.1 Demonstrate locomotor skills.

2.2.2 Demonstrate non-locomotor skills.

2.2.3 Demonstrate manipulative skills.

- Standard 2.3: Children demonstrate small motor skills.

2.3.1 Develop eye-hand coordination.

2.3.2 Demonstrate fine motor skills.

VI. Visual and Performing Arts

- Standard 5.1: Children express themselves through and develop an appreciation of dramatic play and storytelling.

5.1.3 Participate with others in dramatic play, negotiating roles and setting up scenarios using costumes and props.

- Standard 5.2: Children express themselves through and develop an appreciation of the visual arts.

5.2.1 Create two- and three-dimensional works of art while exploring color, line, shape, form, texture, and space.

VII. Social Studies, Family, and Life Skills

- Standard 6.1: Children understand themselves and their families.

6.1.1 Share information about themselves and their families.

- Standard 6.3: Children understand their community.

6.3.1 Explore and identify places and people in their community.

6.3.2 Understand the roles of community helpers.

- Standard 6.4: Children demonstrate problem-solving skills.

6.4.1 Identify a problem and generate possible solutions.

6.4.2 Use materials and resources to solve problems.

VIII. Technology

- Standard 8.1: Children use technology tools for learning and communication.

8.1.1 Explore and use various technological tools.

Suggested Strategies for Modifications

SUGGESTED STRATEGIES FOR MODIFICATIONS FOR SPECIAL EDUCATION STUDENTS, ELL, AT RISK AND STUDENTS GIFTED STUDENTS.

Using a variety of hands-on activities, movement, small group options, visual activities, along with discussions to support diverse learners and learning styles. Students experience hands-on exploration of technology and materials that provide multiple entry points for learners.

This link includes content specific accommodations and modification for all populations:

https://docs.google.com/spreadsheets/d/1fmQ5llgX1HZdIPa7duX33pfmonGDoVFag9eE2DpbLfM/edit?usp=sharing