

Wilmette Public Schools, District 39
Science Curriculum, Grade 2

Unit: Comparative Life Cycles

Essential Question: How do organisms cycle over time? How are life cycles alike and different?

Time Frame (in weeks): 6 (hour daily) or 12 weeks (30 mins. daily)

VOCABULARY: insect, complete/incomplete metamorphosis, life cycle, egg, nymph, adult, larvae, pupa, predict, organism, structure, function, claim, evidence

National Standards or Core Standards

- Organisms have structures and functions that facilitate their life processes, growth and reproduction.
- Organisms pass traits from one generation to the next.
- Organisms depend on their environment to meet their basic needs.

	Guiding Questions	Big Ideas of Science	Assessments of Knowledge and Skills	Teaching Resources & Technology
Core Ideas	<p>What are the basic stages of the life cycle?</p> <p>How do insects meet their basic needs? How is this alike and different from other organisms you have investigated?</p> <p>How can we distinguish one organism from another?</p> <p>How do structures help organisms function in their environment?</p> <p>Can organisms survive when they are removed from their environments? How are insect life cycles alike and different?</p> <p>How are complete and incomplete metamorphoses alike and different?</p>	<ul style="list-style-type: none"> ▪ Organisms have life cycles that include, being born, developing into adults, reproducing and dying. ▪ Living things have predictable characteristics at different stages of development. ▪ All animals have offspring. ▪ Animals and plants meet their needs for survival in different ways. ▪ Living things have characteristics that can be recognized and described (example: insects have six legs, three body parts and a set of antennae). ▪ Insects have unique structures that help them function. ▪ Organisms can survive only in environments where their needs are met. ▪ Insects' life cycles are not all the same (complete/incomplete metamorphosis). 	<p>Summative Assessment Research an insect, determine its life cycle, and support with evidence whether it is most like an insect that goes through complete or incomplete metamorphosis.</p> <p>Formative Assessments Identify stages of complete and incomplete metamorphosis Compare and contrast insect cycles Apply basic research skills</p> <p>Summative Assessment Given an anatomically incorrect insect, support with evidence why it does not fit the operational definition of an insect (six legs, three body parts, and antennae).</p> <p>Formative Assessment Identify insect body parts. Draw and label an insect. Compare and contrast anatomically correct and incorrect insects. Build an anatomically correct insect.</p>	<p>CORE MATERIALS:</p> <p>FOSS Insects - Complete Module Insects - Big Book Insects - Student Books</p> <p>National Geographic Life by a Bay Life in a Garden Life in a Forest Why Don't Crocodiles Make Good Pets? A Butterfly's Favorite Whose Babies Are These? Life Cycles of Animals Concept Book The Amazing Silkworm (NF) Tadpole Rescue (F)</p> <p>Ideas for using the garden http://www.kidsgardening.org/ Recommended Garden Lessons: Garden Lesson-Insects (2012-07) Garden Lesson-Ladybugs</p>

	Guiding Questions	Big Ideas of Science	CONNECTED/ 21st Century Learning
Scientific and Engineering Practices	How can I design and carry out a fair test to investigate insect metamorphosis?	<p>Scientists begin a fair test with a question.</p> <p>Scientists make predictions based upon their observations, experiences, and things they read.</p> <p>Scientists only change one thing in a fair test. They keep all the other things the same.</p> <p>Scientists develop a plan to follow.</p> <p>Scientists observe, record, measure, and analyze data to acquire evidence.</p> <p>Scientists use tables and graphs to identify patterns and relationships within data.</p> <p>Scientists develop claims based on their evidence.</p> <p>Scientists embrace unexpected results.</p>	<p>Evolving our Teaching Styles, Learning Processes and Learning Environment: field trips manipulatives with anatomically correct/incorrect insects fair tests/hands-on learning with insects</p> <p>Cultivating Collaboration: small group work with insects</p>