

Insects Unit Design - Grade 2

The **Insects Module** provides experiences that heighten students' awareness of the diversity of animal forms. They come to know firsthand the life sequences of a number of insects. In each investigation an insect is introduced, and students observe structures and behaviors, discuss their findings, and ask questions. Students observe life cycles of insects and compare the stages of metamorphosis exhibited by each species.

RI Statements of Enduring Knowledge - (Established Goals):

LS 1 All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, and species).

LS 3 Groups of organisms show evidence of change over time (structures, behaviors, and biochemistry).

Related Rhode Island GSE's (Understandings)	RI Assessment Targets Assessment Evidence ***High Emphasis Targets
<p>LS1 (K-2) –1 Students demonstrate an understanding of classification of organisms by ...</p> <p>1a distinguishing between living and non-living things.</p> <p>1b identifying and sorting based on similar or different external features.</p> <p>1c observing and recording the external features that make up living things (e.g. roots, stems, leaves, flowers, legs, antennae, tail, shell).</p> <p>LS1 (K-2)-2 Students demonstrate understanding of structure and function-survival requirements by...</p> <p>2a observing that plants need water, air, food, and light to grow; observing that animals need water, air, food and shelter to grow.</p>	<p>***LS1 (K-4) - INQ+POC –1 <i>Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.</i> Investigation 3, Part 2, pp. 12-20 Science Stories, pp. 3-34</p> <p>Science Resources, pp. 3-55 Investigation 1, Part 2, pp. 16-25 Investigation 2, Part 2, pp. 14-19</p> <p>Investigation 1, Parts 1-2, pp. 8-21 Investigation 4, Parts 3-4, pp. 19-27</p> <p>LS1 (K-4) SAE -2 <i>Identify the basic needs of plants and animals in order to stay alive. (i.e., water, air, food, space).</i> Investigation 1, Part 1, pp.8-15 Investigation 2, Part 1, pp. 8-13 Investigation 5, Part1, pp. 10-15</p>

LS1 (K-2)–3

Students demonstrate an understanding of reproduction by ...

3a observing and scientifically drawing (e.g. recording shapes, prominent features, relative proportions, organizes and differentiates significant parts observed) and labeling the stages in the life cycle of a familiar plant and animal.

3b sequencing the life cycle of a plant or animal when given a set of pictures.

LS1 (K-2)–4

Students demonstrate understanding of structure and function-survival requirements by...

4a Identifying the specific functions of the physical structures of a plant or an animal (e.g. roots for water; webbed feet for swimming).

LS1 (K-4) POC –3

Predict, sequence or compare the life stages of organisms – plants and animals (e.g., put images of life stages of an organism in order, predict the next stage in sequence, compare two organisms).

Investigation 1, Parts 1-3, pp. 8-25

Investigation 2, Parts 1-3, pp. 8-24

Investigation 3, Parts 1-3, pp. 8-26

Investigation 4, Parts 1-5 pp. 10-31

Investigation 5, Parts1-3, pp. 10-24

Investigation 1, Part 3, pp. 22-25

Investigation 2, Part 3, pp. 20-24

Investigation 3, Part 3, pp. 21-26

LS1 (K-4) FAF –4

Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire)

Investigation 1, Parts 1-2, pp. 8-21

Investigation 2, Parts 1-2, pp. 8-19

Investigation 4, Parts 4-5, pp. 23-31

Science Stories, pp. 8-13

Words in **bold** are important for science vocabulary development, and should be used for word walls.

Investigation-Time (45 min.periods)	Investigation	Focus Questions (Essential Questions)	Big Ideas (Understandings)
1.1-(2)	Mealworms	<ul style="list-style-type: none"> • What do insects (mealworms) need? • What are the structures and behaviors of mealworms? 	<ul style="list-style-type: none"> • Insects need air, food water and space • Live organisms need to be treated with care and respect

1.2-(1)	Larva, Pupa, Adult	<ul style="list-style-type: none"> How do mealworms grow and change? What are the structures and behavior of mealworm larvae, pupae, adults? 	<ul style="list-style-type: none"> Insects have characteristic structures and behaviors The structures of some insects change as the insect grows As insects grow, they molt their hard, external covering Adult insects have a head, thorax and abdomen.
1.3-(1)	Life Cycle	How do new mealworms begin?	<ul style="list-style-type: none"> The life cycle of the beetle is egg, larva, pupa, and adult which produces eggs
2.1-(1)	Waxworms	<ul style="list-style-type: none"> What are waxworms? What do waxworms need? 	<ul style="list-style-type: none"> Insects need air, food water and space
2.2-(1)	Larva, Pupa, Adult	<ul style="list-style-type: none"> How do waxworms grow and change? What are the structures and behaviors of waxworms larvae, pupae, and adults? 	<ul style="list-style-type: none"> The structure and behaviors of waxworms change as they grow Larvae produce silk Waxworms and mealworms have similar structures and behaviors
2.3-(ongoing)	Life Cycle	<ul style="list-style-type: none"> What is the life cycle of the waxworm? 	<ul style="list-style-type: none"> The life cycle of the waxworm is egg, larva, pupa, and adult moth which produces eggs
3.1-(ongoing)	Eggs	<ul style="list-style-type: none"> How do insects (milkweed bugs) begin their life? What do insects eggs look like? 	<ul style="list-style-type: none"> Insects hatch from eggs Live organisms need to be treated with care and respect
3.2-(ongoing)	Habitats	<ul style="list-style-type: none"> What do milkweed bugs need? How do their need their needs compare to those of other insects? 	<ul style="list-style-type: none"> Needs of insects include air, food , water and space, and these are met in different ways for different insects
3.3-(ongoing)	Growing Milkweed Bugs	<ul style="list-style-type: none"> What is the life cycle of the milkweed bug? Do all insects go through larval and pupal stages? How are all adult insects the same and different? 	<ul style="list-style-type: none"> As insects grow, they molt their hard external covering Insects have three body parts: head, thorax and abdomen Insects and other animals have different structures that help them grow and survive The life cycle of some insects is egg, nymph stages, and adult, which produces eggs.
4.1-(1)	Eggs	<ul style="list-style-type: none"> Do insects begin as eggs? 	<ul style="list-style-type: none"> Live organisms need to be treated with care and respect
4.2-(ongoing)	Larvae	<ul style="list-style-type: none"> What do silkworms need to live? 	<ul style="list-style-type: none"> Insects hatch from eggs Insects need air, food water and space
4.3-(ongoing)	Close Observations	<ul style="list-style-type: none"> What are the structures and behaviors of silkworm larvae? How do they compare to other insect larvae? 	<ul style="list-style-type: none"> Silkworms larvae have unique behaviors and structures Larvae molt as they grow