

**Alignment of Connecticut Integrated Pest Management Curricula
For Grade 2 and Grade 3**

<p><i>Unit / Lesson</i></p> <p>** = Core Lessons</p>	<p><i>New England Common Assessment Program Grade Level Expectations</i></p>	<p><i>National Science Education Content Standards</i></p>	<p><i>Grade-Level Expectations Students should be able to:</i></p>	<p><i>Assessment Standards</i></p>
<p>Unit 1: Biodiversidty</p> <p>Lesson 1: Safety in Numbers</p> <ul style="list-style-type: none"> • To determine the relative populations of various plant and animal groups • To understand the causes and effects of the current extinction pattern (SCI, LA, MA) 	<p>Numbers and Operations</p> <p>M(N&O)–3–2 Demonstrate understanding of the relative magnitude of numbers from 0 to 999 by ordering whole number; by comparing whole numbers to benchmark whole numbers (100, 250, 500, or 750); or by comparing whole number to each other.</p>	<p>Unifying Concepts and Processes</p> <ul style="list-style-type: none"> • Standard A: As a result of activities in grades K-12, all students should develop understanding and abilities aligned with the following concepts and processes: <ul style="list-style-type: none"> ○ Systems, order, and organization ○ Evidence, models, and explanation ○ Constancy, change, and measurement ○ Evolution and equilibrium ○ Form and function 	<p>1. Count, order and sort/classify objects by their observable properties.</p>	<p>1. Count objects in a group and use mathematical terms to describe quantitative relationships such as: same as, more than, less than, equal, etc.</p>

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<p>Unit 1: Biodiversity</p> <p>Lesson 2: Time is Running Out</p> <ul style="list-style-type: none"> • To identify plants and animals that are in danger due to illegal trading of wildlife • To describe ways to stop the harmful practice of illegal wildlife trading (SCI, LA, MA) 	<p>Data, Statistics, and Probability</p> <p>M(DSP)–2–1 Interprets a given representation (pictographs with one-to-one correspondence, line plots, tally charts, or tables) to answer questions related to the data, or to analyze the data to formulate conclusions.</p> <p>M(DSP)–3–2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining or using most frequent (mode), least frequent, largest, or smallest.</p> <p>Initial Understanding of Informational Texts</p> <p>R–3–7.3 Organizing information to show understanding (e.g., representing main/central ideas or details within text through charting or mapping)</p>	<p>Unifying Concepts and Processes</p> <ul style="list-style-type: none"> • Standard: As a result of activities in grades K-12, all students should develop understanding and abilities aligned with the following concepts and processes: <ul style="list-style-type: none"> ○ Systems, order, and organization ○ Evidence, models, and explanation ○ Constancy, change, and measurement ○ Evolution and equilibrium ○ Form and function <p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry 	<ol style="list-style-type: none"> 1. Match pictures of the products animals are hunted and sold for to the picture of the animal. 2. Research to determine the population numbers of some endangered species. 3. List ways to help stop the growth of endangered species. 	<ol style="list-style-type: none"> 1. Describe some of the problems affecting the species of plants and animals of the Earth? 2. Explain why creatures are becoming endangered or even extinct? 3. Identify species that are endangered and their population numbers.

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<p align="center">Unit 2: IPM Basics</p> <p align="center">Lesson 1: Plan the Work; Work the Plan **</p> <ul style="list-style-type: none"> • To understand the steps involved in Integrated Pest Management (IPM) • To recognize that there are alternatives to chemical pest controls (SCI, LA) 	<p>Initial Understanding of Informational Texts</p> <p>R–3–7.2 Using information from the text to answer questions related to explicitly stated main/central ideas or details</p> <p>R–3–7.3 Organizing information to show understanding (e.g., representing main/central ideas or details within text through charting or mapping)</p>	<p>Unifying Concepts and Processes</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-12, all students should develop understanding and abilities aligned with the following concepts and processes: <ul style="list-style-type: none"> ○ Systems, order, and organization ○ Evidence, models, and explanation ○ Constancy, change, and measurement <p>Life Science</p> <ul style="list-style-type: none"> • Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Read non-fiction material and use the information to answer specific questions on pests. 2. Classify organisms or objects by one and two observable properties and explain the rule used for sorting (e.g., size, habitat, reproduction). 3. Utilize the IPM acronym to research pests through Identification, Population, and Method of management. 4. Create a plan to manage the pests researched. 	<ol style="list-style-type: none"> 1. Count objects in a group and use mathematical terms to describe quantitative relationships such as: same as, more than, less than, equal, etc. 2. Describe the similarities and differences in the appearance and behaviors of types of pests. 3. Identify characteristics that distinguish pests and their management through I.P.M.

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<p align="center">Unit 2: IPM Basics</p> <p align="center">Lesson 2: Safety First **</p> <ul style="list-style-type: none"> • To recognize that non-chemical options may be used to control pests (insects, weeds, and diseases) • To understand that chemical solutions should not be the first choice to control pests (SCI, LA) 	<p>Analysis and Interpretation of Informational Texts/Citing Evidence</p> <p>R–3–8: Analyze and interpret informational texts, citing evidence where appropriate by:</p> <ul style="list-style-type: none"> R–3–8.3 Making basic inferences, drawing basic conclusions, or forming judgments/opinions about central ideas that are relevant. 	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Explain how different objects presented can be used to non-chemically control pests. 2. Understand the detrimental affects that chemical pesticides have on life and the environment. 3. Write, speak, or draw ways that weather influences humans, other animals and plants. 	<ol style="list-style-type: none"> 1. Describe the methods IPM supports to manage pests: physical, mechanical, cultural, and biological.

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<p>Unit 3: Insect Lifestyles</p> <p>Lesson 1: What's the Buzz?</p> <ul style="list-style-type: none"> • To recognize that insects develop in stages from egg to adult • To understand that many insects are beneficial to humans (SCI, MA) 	<p>Data, Statistics, and Probability</p> <p>M(DSP)–2–1 Interprets a given representation (pictographs with one-to-one correspondence, line plots, tally charts, or tables) to answer questions related to the data, or to analyze the data to formulate conclusions.</p>	<p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry <p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Make scientific observations on an insect's observable properties and its name and its uses. 2. Observe and write, speak or draw about similarities and differences in appearance, life cycle, and behaviors of various animals and insects. 3. Explain how insects can be harmful by spreading diseases or feeding on plants or other insects; and also how they can be helpful by providing food for humans and other creatures, pollinating flowers, and increasing biodiversity. 	<ol style="list-style-type: none"> 1. Construct a Venn diagram to show how the bee and the mosquito are alike and different. 2. Describe the similarities and differences in the appearance, life cycle, and behaviors of insects.

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<p>Unit 3: Insect Lifestyles</p> <p>Lesson 2: Who “Bee”longs Here?</p> <ul style="list-style-type: none"> • To understand the division of labor among social insects • To understand the importance of cooperative effort (LA, SCI) 	<p>Breadth of Vocabulary</p> <p>R–3–3: Shows breadth of vocabulary knowledge through demonstrating understanding of word meanings or relationships by:</p> <ul style="list-style-type: none"> • R–3–3.1 Identifying synonyms, antonyms, or homonyms/homophones; or categorizing words. 	<p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry <p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Make scientific observations using the five senses, and distinguish between an object’s observable properties and its name or its uses. 2. Observe and write, speak or draw about similarities and differences between plants and animals. 	<ol style="list-style-type: none"> 1. Use the senses and simple measuring tools, such as rulers and equal-arm balances, to observe common objects and sort them into groups based on size, weight, shape or color. 2. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans).

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<p align="center">Unit 3: Insect Lifestyles</p> <p align="center">Lesson 3: Nibble, Sip, and Grind</p> <p>* To understand that the variety in insect mouthparts are adaptations to their diet (SCI, Math)</p>	<p>Data, Statistics, and Probability</p> <p>M(DSP)–3–1 Interprets a given representation (line plots, tally charts, tables, or bar graphs) to answer questions related to the data, to analyze the data to formulate conclusions, or to make predictions.</p> <p>M(DSP)–3–3 Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)–3–1.</p>	<p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry <p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Living things have different structures and behaviors that allow them to meet their basic needs.</p>	<ol style="list-style-type: none"> 1. Observe, experiment with model structures, and tally what items listed each sample insect can eat. 2. Identify structures and behaviors used by mammals, birds, amphibians, reptiles, fish and insects to move around, breathe and obtain food and water (e.g., legs/wings/fins, gills/lungs, claws/fingers, etc.) 	<ol style="list-style-type: none"> 1. Describe the similarities and differences in what insects ingest as food. 2. Describe the structures that animals, including humans, use to eat.

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<p align="center">Unit 3: Insect Lifestyles Enrichment</p> <p align="center">Lesson 1: Making a “Bee”line</p> <ul style="list-style-type: none"> • To recognize that cooperative behavior is involved in successful social interactions • To understand that bees are capable of communicating with one another (SCI, PE) 	<p>Not Applicable to this Activity</p>	<p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry <p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Infer from direct observation, class participation and print or electronic information that most animals and plants need water food and air to stay alive. 2. Identify structures and behaviors used by mammals, birds, amphibians, reptiles, fish and insects to move around, breathe and obtain food and water (e.g., legs/wings/fins, gills/lungs, claws/fingers, etc.) 3. Explain that living things experience a life cycle during which they undergo a predictable sequence of changes from birth, growth, reproduction and death. 	<ol style="list-style-type: none"> 1. Describe the different ways that bees obtain nectar. 2. Recognize that cooperative behavior is involved in successful social interactions 3. Understand that bees are capable of communicating with one another.

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<p align="center">Unit 3: Insect Lifestyles Enrichment</p> <p align="center">Lesson 2: It's Good To "Bee" Home</p> <ul style="list-style-type: none"> • To understand the role cooperative effort plays in the life style of honeybees • To appreciate the instinctive behavior of honeybees • To realize that honeybees are beneficial insects (SCI, Math) 	<p>Geometry and Measurement</p> <p>M(G&M)–2–1 Uses properties, attributes, composition, or decomposition to sort or classify polygons or objects by a combination of two or more non-measurable or measurable attributes.</p>	<p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry <p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Living things have different structures and behaviors that allow them to meet their basic needs.</p>	<ol style="list-style-type: none"> 1. Work cooperatively in a group to complete a model hive. 2. Identify structures and behaviors used by insects, namely bees, to move around, store food, and build a home. 	<ol style="list-style-type: none"> 1. Understand the cause/effect relationship of cooperative work and goals achieved. 2. Describe the structure and purpose of a bee hive.

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<p>Unit 4: Plant Lifestyles</p> <p>Lesson 1: Let the Sun Shine In</p> <ul style="list-style-type: none"> • To understand that plants need sunlight to produce chlorophyll • To understand that green plants need chlorophyll to survive • To recognize the importance of green plants to all other forms of life (LA, SCI) 	<p>W-6 Informational Writing: Reports, Procedures, or Persuasive Writing- Organizing Information</p> <p>W-4-6.1 Grouping ideas logically (e.g., predictable categories, steps of a procedure, reasons/arguments)</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Living things have different structures and behaviors that allow them to meet their basic needs.</p> <p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry 	<ol style="list-style-type: none"> 1. Hypothesize, control variables, and record results for a two week period while conducting an experiment to demonstrate photosynthesis. 2. Infer from direct observation and print or electronic information that most animals and plants need water food and air to stay alive. 	<ol style="list-style-type: none"> 1. Describe the cause and effect relationship between sunlight and chlorophyll productions (photosynthesis) 2. Recognize that because green plants are the only living organisms capable of producing their own food, all other living organisms depend on them either directly or indirectly for survival..

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<p>Unit 4: Plant Lifestyles</p> <p>Lesson 2: Weed Wise</p> <ul style="list-style-type: none"> • To understand that plants which “overgrow” their environment threaten habitats • To understand that other living things depend on plants (SCI) 	<p>W-6 Informational Writing: Reports, Procedures, or Persuasive Writing- Organizing Information</p> <p>W-4-6.1 Grouping ideas logically (e.g., predictable categories, steps of a procedure, reasons/arguments)</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Living things have different structures and behaviors that allow them to meet their basic needs. – Plants need air, water and sunlight to survive.</p> <p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry 	<ol style="list-style-type: none"> 1. Sort and classify plants (or plant parts) by observable characteristics (e.g., leaf shape/size, stem or trunk covering, flower or fruit). 	<ol style="list-style-type: none"> 1. Identify and describe how a seed grows, and the parts of a plant. 2. Identify a weed, and describe the best ways to eliminate them. 3. Explain that plants whose rates of growth threaten to crowd out other plants and animals that share the same habitat are considered invasive plants.

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<p>Unit 4: Plant Lifestyles</p> <p>Lesson 3: Pushy Plants</p> <ul style="list-style-type: none"> • To understand that plants which “overgrow” their environment threaten habitats • To understand that other living things depend on plants (SCI, Math) 	<p>W-6 Informational Writing: Reports, Procedures, or Persuasive Writing- Organizing Information</p> <p>W-4-6.1 Grouping ideas logically (e.g., predictable categories, steps of a procedure, reasons/arguments)</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Living things have different structures and behaviors that allow them to meet their basic needs. – Plants need air, water and sunlight to survive.</p>	<ol style="list-style-type: none"> 1. Sort and classify plants (or plant parts) and weeds by observable characteristics (e.g., leaf shape/size, stem or trunk covering, flower or fruit). 2. Describe how all living things are dependent on plants for food, oxygen, and shelter. 3. Recognize a plant or animal introduced from another region whose life cycle and adaptations to its environment allow it to take over an area and push other plants and animals out are known as “invasive.” 	<ol style="list-style-type: none"> 1. Identify and describe how a seed grows, and the parts of a plant. 2. Identify a weed, and describe the best and safest ways of elimination. 3. Plants provide food, medicines, shelter, fuel, and even the oxygen that other living things need to survive. 4. Recognize that cooperative behavior is involved in successful social interactions

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<p align="center">Unit 5: Pest Control</p> <p align="center">Section 1: Natural (Biological) Control</p> <p align="center">Lesson 1: Natures' Bug Zappers</p> <p>* To recognize that nature provides natural predators to control overpopulation (SCI, LA, Math)</p>	<p>R-3-4: Demonstrates initial understanding of elements of literary texts by...</p> <ul style="list-style-type: none"> • R-3-4.2 Paraphrasing or summarizing key ideas/plot, with events sequenced as appropriate to text. <p>R-3-5: Analyze and interpret elements of literary texts, citing evidence where appropriate by..</p> <ul style="list-style-type: none"> • R-3-5.3 Making basic inferences about problem, conflict, or solution (e.g. cause-effect relationships). 	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>All organisms cause changes in the environment where they live. Some of these changes are detrimental to the organism or other organisms, whereas others are beneficial.</p>	<ol style="list-style-type: none"> 1. Observe and write, speak or draw about similarities and differences between harmful and helpful insects. 2. Infer from direct observation and print or electronic information that any insect can be considered a pest and a guest. 3. Sort and classify insects into categories of “pest” and “guest.” 	<ol style="list-style-type: none"> 1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects, and mammals (including humans). 2. Describe the different structures insects have for obtaining food, defense, and predatory functions. 3. Understand nature provides many natural predators to control pest populations.

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<p align="center">Unit 5: Pest Control</p> <p align="center">Section 1: Natural (Biological) Control</p> <p align="center">Lesson 2: Bug Busters</p> <ul style="list-style-type: none"> • To recognize that bats help control the insect population • To understand nature's food chain (SCI, LA, Math) 	<p>R-3-4: Demonstrates initial understanding of elements of literary texts by...</p> <ul style="list-style-type: none"> • R-3-4.2 Paraphrasing or summarizing key ideas/plot, with events sequenced as appropriate to text. <p>R-3-5: Analyze and interpret elements of literary texts, citing evidence where appropriate by.</p> <ul style="list-style-type: none"> • R-3-5.3 Making basic inferences about problem, conflict, or solution (e.g. cause-effect relationships). 	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>All organisms cause changes in the environment where they live. Some of these changes are detrimental to the organism or other organisms, whereas others are beneficial.</p>	<ol style="list-style-type: none"> 1. Observe and write, speak or draw about the characteristics of bats. 2. Infer from print and electronic sources that bats are nocturnal, shy, and gentle mammals that help to control the insect population. 3. Understand that without animals like bats, the insect population would overrun the earth. 	<ol style="list-style-type: none"> 1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans). 2. Describe the different ways that animals, including bats, obtain water and food. 3. Understand nature provides many natural predators to control pest populations.

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<p style="text-align: center;">Unit 5: Pest Control</p> <p style="text-align: center;">Section 1: Natural (Biological) Control</p> <p style="text-align: center;">Lesson 2: If You Can't Run, Hide</p> <p>* To understand the predator/prey relationship.</p> <p>* To recognize that coloration and size can help prey to avoid capture. (SCI, Math)</p>	<p>Data, Statistics, and Probability</p> <p>M(DSP)–3–1 Interprets a given representation (line plots, tally charts, tables, or bar graphs) to answer questions related to the data, to analyze the data to formulate conclusions, or to make predictions.</p> <p>M(DSP)–3–3 Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)–3–1.</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Many characteristics of an organism are inherited from the parents of the organism, but other characteristics result from an individual's interactions with the environment.</p>	<ol style="list-style-type: none"> 1. Understand that prey can avoid capture in a variety of ways. Some use speed to escape their predators. Others smell or taste bad, and still others use camouflage to hide in plain sight. 2. Work together as a large group to complete a set of multi-step problems that simulate the predator/prey relationship. 3. Tally, organize, and report data to the group following their investigation. 	<ol style="list-style-type: none"> 1. Describe how animals that are predators in one situation can be prey in another, and that this predator/prey relationship comprises nature's food chain. 2. Understand nature provides many natural predators to control pest populations. 3. Explain how different organisms develop various defense mechanisms such as camouflage to successfully avoid predators.

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<p style="text-align: center;">Unit 5: Pest Control</p> <p style="text-align: center;">Section 2: Physical/Mechanical/ Cultural Control</p> <p style="text-align: center;">Lesson 1: Restaurant for Roaches</p> <p>* To understand the ways to prevent cockroach invasions. (SCI, LA)</p>	<p>Data, Statistics, and Probability</p> <p>M(DSP)–3–1 Interprets a given representation (line plots, tally charts, tables, or bar graphs) to answer questions related to the data, to analyze the data to formulate conclusions, or to make predictions.</p> <p>M(DSP)–3–3 Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M(DSP)–3–1.</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>An organism’s patterns of behavior are related to the nature of that organism’s environment,, including the kinds and numbers of other organisms present, the availability of food and resources, and the physical characteristics of the environment.</p>	<ol style="list-style-type: none"> 1. Describe how cockroaches, like any other living organism, need a source of food, water, and shelter to live. 2. Identify structures and behaviors used by mammals, birds, amphibians, reptiles, fish and insects to move around, breathe and obtain food and water (e.g., legs/wings/fins, gills/lungs, claws/fingers, etc.) 3. Design a plan to keep a home cockroach free including eating only at the table, cleaning up crumbs, covering leftovers (even pet food), not leaving counters wet, rinsing the sink after toothbrushing, putting the cap on the toothpaste and taking out the garbage. 	<ol style="list-style-type: none"> 1. Describe the different ways that animals, including humans, obtain water and food. 2. Describe the structures that animals, including humans, use to move around. 3. Understand how utilizing physical and mechanical sources successfully manage pests within the home.

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<p align="center">Unit 5: Pest Control</p> <p align="center">Section 2: Physical/Mechanical/ Cultural Control</p> <p align="center">Lesson 2: Snap the Trap</p> <p>* To investigate the criteria for a successful trap. (SCI, LA)</p>	<p>W-6 Informational Writing: Reports, Procedures, or Persuasive Writing- Organizing Information</p> <p>W-4-6.1 Grouping ideas logically (e.g., predictable categories, steps of a procedure, reasons/arguments)</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Create a design and formulate a plan to creating an effective trap. 2. Build a successful trap with the following criteria: <ul style="list-style-type: none"> • must be the right size • must use the right bait • must provide no way to escape • must be placed in the right location • may need to hold, but not harm, the creature 	<ol style="list-style-type: none"> 1. Understand what is needed to make an effective trap. 2. Analyze data and design a multi-step plan for creating an effective trap.
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<p>Unit 5: Pest Control</p> <p>Section 3: Chemical Control</p> <p>Lesson 1: Danger: Destruction Zone</p> <ul style="list-style-type: none"> • To recognize the value of wetland ecosystems. • To understand the negative effect chemicals cause to wetland ecosystems. (SCI) 	<p>Not applicable to this activity.</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Science as Inquiry</p> <ul style="list-style-type: none"> • Content Standard A: As a result of activities in grades K-4, all students should develop: <ul style="list-style-type: none"> ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry. 	<ol style="list-style-type: none"> 1. Illustrate a flow chart of a wetland food chain. 2. Understand the effect a small amount of pesticide has on a stream and its wildlife 	<ol style="list-style-type: none"> 1. Understand that wetlands in the United States are adversely affected by chemical pesticides and an increasing human population.

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<p align="center">Unit 5: Pest Control</p> <p align="center">Section 3: Chemical Control</p> <p align="center">Lesson 2: Pesticides on the Move</p> <p>* To understand the dangers and negative effects of using chemicals to control pests. (SCI, LA)</p>	<p>R-3-5: Analyze and interpret elements of literary texts, citing evidence where appropriate by...</p> <p>R-3-5.3 Making basic inferences about problem, conflict, or solution (e.g. cause-effect relationships).</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Humans depend on their natural and constructed environments. Humans change environments in ways that can be either beneficial or detrimental for themselves and other organisms.</p>	<ol style="list-style-type: none"> 1. Understand that even though pesticides are part of pest management how detrimental to the environment chemical controls can be. 2. Illustrate the effects of chemicals on the environment through the creation of a mural. 	<ol style="list-style-type: none"> 1. To understand that chemical powders and sprays applied to get rid of pests can harm land, water, plants, and animals including people.

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<p align="center">Unit 6: Summary</p> <p align="center">Lesson 1: There's a Wiser Way</p> <p>* To illustrate an understanding of IPM.</p> <p>* To recognize the need for reduction of chemical applications in pest management. (SCI, LA, Graphic Arts)</p>	<p>R-3-3: Shows breadth of vocabulary knowledge through demonstrating understanding of word meanings or relationships by ...</p> <ul style="list-style-type: none"> • R-3-3.2 Selecting appropriate words to use in context, including content specific vocabulary (e.g., predator/prey), or words with multiple meanings) 	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments 	<ol style="list-style-type: none"> 1. Create a poster urging people to use methods other than chemicals to control pests. 2. Utilize appropriate vocabulary learned to explain the various alternative IPM methods for pest control. 	<ol style="list-style-type: none"> 1. Understand that IPM seeks to understand the lifestyle of a pest and determine the pest population before taking action. 2. Explain that IPM applies the most environmentally sound methods to pest management.

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<p>Unit 6: Summary</p> <p>Lesson 2: Wrap Up and Review</p> <p>* To understand that chemical application is not the only solution to pest problems. * To discover safer ways than using chemicals to control pests. * To understand the need for reducing the use of chemicals in our environment. (SCI, LA, SS)</p>	<p>Not applicable to this activity.</p>	<p>Life Science</p> <ul style="list-style-type: none"> • Content Standard C: As a result of activities in grades K-4, all students should develop understanding of: <ul style="list-style-type: none"> ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments <p>Earth and Space Science</p> <ul style="list-style-type: none"> • Content Standard D: As a result of their activities in grades K-4, all students should develop an understanding of <ul style="list-style-type: none"> ○ Properties of earth materials ○ Objects in the sky ○ Changes in earth and sky 	<ol style="list-style-type: none"> 1. Name some kinds of controls used in IPM (biological, mechanical, physical, cultural). 2. Choose a object from a collection gathered (ie: flyswatter, mousetrap, screening, ant trap, shoe, etc) and explain how it is used to control pests. 3. Make scientific observations using the five senses, and distinguish between an object's observable properties and its name or its uses. 	<ol style="list-style-type: none"> 1. Understand that using chemicals to control pests should not be our first choice. 2. Explain that IPM uses mechanical, physical, and biological methods as well as urging people to practice common sense when dealing with pests. 3. Clarify that chemicals are not healthy for us or our environment.