Department of Agriculture Integrated Pest Management
Maine Curriculum Alignment: Kindergarten and Grade 1

Unit / Lesson ** = Core Lessons	*Maine State Learning Results (Grades PreK-2) Performance Indicators and Descriptors*	*New England Common Assessment Program Grade Level Expectations*	*National Science Education Content Standards*	*Grade-Level Expectations* *Students should be able to:*	*Assessment*
Unit 1: Introduction **Lesson 1: What is IPM?**** • To understand the purpose and methods of Integrated Pest Management, IPM (SCI, LA)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/B1 - Skills and Traits of Scientific Inquiry** a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Unifying Concepts and Processes** • **Standard:** As a result of activities in grades K-12, all students should develop understanding and abilities aligned with the following concepts and processes: o Systems, order, and organization o Evidence, models, and explanation o Constancy, change, and measurement o Evolution and equilibrium o Form and function	1. Count, order and sort objects by their observable properties.	1. Count objects in a group and use mathematical terms to describe quantitative relationships such as: same as, more than, less than, equal, etc.

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Unit 1: Introduction **Lesson 2: Maples, Mosquitoes, and Me!** • To recognize that all living things have basic needs • To identify the characteristics of living things (SCI, LA)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/D3 – Matter and Energy** Students use observable characteristics to describe objects, materials and changes to physical properties of materials. a. Describe objects in terms of what they are made of and their physical properties.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Unifying Concepts and Processes** • **Standard:** As a result of activities in grades K-12, all students should develop understanding and abilities aligned with the following concepts and processes: ○ Systems, order, and organization ○ Evidence, models, and explanation ○ Constancy, change, and measurement ○ Evolution and equilibrium ○ Form and function **Science as Inquiry** • Content Standard A: As a result of activities in grades K-4, all students should develop: ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry	1. Make scientific observations using the five senses, and distinguish between an object's observable properties and its name or its uses. 2. Classify organisms or objects by one and two observable properties and explain the rule used for sorting (e.g., size, color, shape, texture or flexibility). 3. Count, order and sort objects by their observable properties. 4. Observe and describe differences between living and nonliving things in terms of growth, offspring and need for energy from "food." 5. Sort and count living and nonliving things in the classroom, the schoolyard, and in pictures.	1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans). 2. Describe characteristics that distinguish living from nonliving things.

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Unit 1: Introduction **Lesson 3: Leaves, Legs, or Neither** • To determine what living things need to survive • To recognize patterns of classification • To distinguish between plants and animals while recognizing the shared characteristics of both (SCI, LA, Math)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **Math/Data Analysis 2:** Students read, construct, and interpret picture graphs. **SCI/E3 – Cells** Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Unifying Concepts and Processes** • **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: ○ Systems, order, and organization ○ Evidence, models, and explanation ○ Constancy, change, and measurement **Physical Science** • **Content Standard B:** As a result of activities in grades K-4, all students should develop understanding of: ○ Properties of objects and materials **Life Science** • **Standard C**: As a result of activities in grades K-4, all students should develop understanding of: ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments	1. Make scientific observations using the five senses, and distinguish between an object's observable properties and its name or its uses. 2. Classify organisms or objects by one and two observable properties and explain the rule used for sorting (e.g., size, color, shape, texture or flexibility). 3. Count, order and sort objects by their observable properties. 4. Observe and describe differences between living and nonliving things in terms of growth, offspring and need for energy from "food." 5. Sort and count living and nonliving things in the classroom, the schoolyard, and in pictures. 6. Observe and write, speak or draw about similarities and differences between plants and animals	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 plants, birds, fish, insects and mammals (including humans). 3. Describe characteristics that distinguish living from nonliving things.

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Unit 2: Protecting the Planet **Lesson 1: Sharing the Planet**** * To understand that humans are caretakers of the Earth, not merely rulers of the planet. (SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/E2 – Ecosystems** Students understand how plants and animals depend on each other and the environment in which they live. b. Compare different animals and plants that live in different environments of the world.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments **Earth and Space Science** • **Content Standard D:** As a result of their activities in grades K-4, all students should develop an understanding of: o Properties of earth materials o Objects in the sky o Changes in earth and sky	**1.** Observe and write, speak or draw about similarities and differences between plants and animals. **2.** Write, speak or draw ways that weather influences humans, other animals and plants.	1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans).

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Unit 2: Protecting the Planet **Lesson 2: Beauty Has Its Price**** ***To understand that the demand for "pretty" produce results in the use of chemical control (SCI)	**SCI/E1 – Biodiversity** Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals. a. Describe similarities and differences in the way plants and animals look and the things that they do. b. Describe some features of plants and animals that help them live in different environments. c. Describe how organisms change during their lifetime.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Science as Inquiry** • **Content Standard A**: As a result of activities in grades K-4, all students should develop: o Abilities necessary to do scientific inquiry o Understanding about scientific inquiry **Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments	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.	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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Unit 2: Protecting the Planet **Lesson 3: CAUTION: Chemicals**** • To recognize that chemicals can spread through soil and water • To understand that chemicals can endanger plants and animals • To realize that the use of chemicals to control pests is not a wise FIRST choice (LA, SCI, Math)	**LA/B3 –Argument/Analysis** Students write to inform an audience on a specific topic. a. Write brief descriptions of objects, people, places, or events. b. Record and share, in writing, information that has been gathered. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them. **Math/Measurement 2 –** Students understand how to measure length and capacity and use appropriate units**.**	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Science as Inquiry** • **Content Standard A**: As a result of activities in grades K-4, all students should develop: o Abilities necessary to do scientific inquiry o Understanding about scientific inquiry **Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments	**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.	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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Unit 3: Know Your Neighbors **Lesson 1: Six and Three are Right For Me**** • To identify body parts common to all insects • To distinguish insects from other small creatures (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/E3 – Cells** Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive. .	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Science as Inquiry** • **Content Standard A**: As a result of activities in grades K-4, all students should develop: o Abilities necessary to do scientific inquiry o Understanding about scientific inquiry **Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments Living things have different structures and behaviors that allow them to meet their basic needs.	1. Observe and write, speak or draw about similarities and differences between plants and animals. 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.)	1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans). 2. Describe the structures that animals, including humans, use to move around.

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Unit 3: Know Your Neighbors **Lesson 2: Living Like an Insect** ***** To identify the four stages of a caterpillar's life cycle (egg, larva, pupa, adult) (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/E1 – Biodiversity** Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals. a. Describe similarities and differences in the way plants and animals look and the things that they do. b. Describe some features of plants and animals that help them live in different environments. c. Describe how organisms change during their lifetime. **SCI/E3 – Cells** Students describe parts and wholes of living things, their basic needs, and the structures and processes that help them stay alive.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Science as Inquiry** • **Content Standard A**: As a result of activities in grades K-4, all students should develop: ○ Abilities necessary to do scientific inquiry ○ Understanding about scientific inquiry **Physical Science** • **Content Standard B:** As a result of the activities in grades K-4, all students should develop an understanding of: ○ Properties of objects and materials ○ Position and motion of objects **Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: ○ The characteristics of organisms ○ Life cycles of organisms ○ Organisms and Environments	1. Infer from direct observation 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. Compare and contrast information about animals and plants found in fiction and nonfiction sources. 4. Explain that living things experience a life cycle during which they undergo a predictable sequence of changes from birth, growth, reproduction and death.	1. Describe the different ways that animals, including humans, obtain water and food. 2. Describe the changes in organisms, such as frogs and butterflies, as they undergo metamorphosis.

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Unit 3: Know Your Neighbors **Lesson 3: Scamper, Skitter, and Crawl**** • To recognize the various ways that insects move in their environment • To understand that locomotion is part of an insect's survival technique (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them. **SCI/E1 – Biodiversity** Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals. b. Describe some features of plants and animals that help them live in different environments.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Science as Inquiry** • Content Standard A: As a result of activities in grades K-4, all students should develop: o Abilities necessary to do scientific inquiry o Understanding about scientific inquiry **Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments Living things have different structures and behaviors that allow them to meet their basic needs.	1. Observe and write, speak or draw about similarities and differences between plants and animals. 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.)	1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans). 2. Describe the structures that animals, including humans, use to move around.

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Unit 3: Know Your Neighbors **Lesson 4: Staying Alive** * To understand how animals adapt to their environment (LA, SCI)	**LA/C1 – Research** Students answer research questions by gathering information from print and non-print sources b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/E1 – Biodiversity** Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals. b. Describe some features of plants and animals that help them live in different environments.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments Living things have different structures and behaviors that allow them to meet their basic needs.	1. 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.)	1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans). 2. Describe the structures that animals, including humans, use to camouflage themselves.

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Unit 3: Know Your Neighbors **Lesson 5: People Need Plants** • To identify parts of a plant • To recognize the importance of plants in our daily diet (LA, SCI, Math)	**LA/B3 –Argument/Analysis** Students write to inform an audience on a specific topic. a. Write brief descriptions of objects, people, places, or events. b. Record and share, in writing, information that has been gathered. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them. **Math/Data –** Students are able to count, order and sort objects by their properties.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments Living things have different structures and behaviors that allow them to meet their basic needs. – Plants need air, water and sunlight to survive.	1. Sort and classify plants (or plant parts) by observable characteristics (e.g., leaf shape/size, stem or trunk covering, flower or fruit).	1. Describe the different structures plants have for obtaining water and sunlight.

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Unit 3: Know Your Neighbors **Lesson 6: Some Seeds Grow Weeds**** • To identify the difference between weeds and other plants • To understand the life cycle of a plant (SCI, LA)	**LA/A1 – Interconnected Elements** Students read texts, within a grade appropriate span of text complexity, and apply their knowledge and strategies of comprehension a. Use comprehension strategies to understand texts within a grade appropriate span of text complexity. b. Develop vocabulary using knowledge of word parts and relationships among words including action words and different words that describe similar meanings. d. Read fluently and accurately with appropriate pacing and expression. e. Demonstrate comprehension by making logical predictions based on text or stating connections made. **SCI/E1 – Biodiversity** Students describe similarities and differences in the observable behaviors, features, and needs of plants and animals. b. Describe some features of plants and animals that help them live in different environments.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments Living things have different structures and behaviors that allow them to meet their basic needs. – Plants need air, water and sunlight to survive.	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).	1. Identify and describe how a seed grows, and the parts of a plant. 2. Identify a weed, and describe the best and safest way (physical control) of elimination.

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Unit 3: Know Your Neighbors **Lesson 7: Merrily We Move Along (How Seeds Travel)** • To identify how a plant grows • To determine and understand methods by which seeds travel to plant themselves (SCI)	**SCI/B1 Skills and Traits of** Scientific Inquiry Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. c. Use simple instruments with basic units of measurement to gather data and extend the senses. d. Know what constitutes evidence that can be used to construct a reasonable explanation. e. Use writing, speaking, and drawing to communicate investigations and explanations.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments Living things have different structures and behaviors that allow them to meet their basic needs. – Plants need air, water and sunlight to survive.	1. Observe and write, speak or draw about similarities and differences between plants and animals. 2. Infer from direct observation and print or electronic information that most animals and plants need water food and air to stay alive. 3. Sort and classify plants (or plant parts) by observable characteristics (e.g., leaf shape/size, stem or trunk covering, flower or fruit). 4. Compare and contrast how seeds of different plants are adapted for dispersal by water, wind or animals.	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 plants have for obtaining water and sunlight.

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Unit 4: Pest or Pal **Lesson 1: The Good, the Bad, and the Ugly**** • To identify some of the important roles insects play on the Earth • To identify insects that are harmful or helpful to the environment (SCI, Math)	**SCI/B1 Skills and Traits of** Scientific Inquiry Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. c. Use simple instruments with basic units of measurement to gather data and extend the senses. d. Know what constitutes evidence that can be used to construct a reasonable explanation. e. Use writing, speaking, and drawing to communicate investigations and explanations. **Math/Data –** Students are able to count, order and sort objects by their properties.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments **Earth and Space Science** • **Content Standard D:** As a result of their activities in grades K-4, all students should develop an understanding of o Properties of earth materials o Objects in the sky o Changes in earth and sky	1. Recognize varied individuals as examples of the same kind of living thing (e.g., different color rabbits are all rabbits; different breeds of dogs are all dogs).	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 humans, obtain water and food.

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Unit 4: Pest or Pal **Lesson 2: What's Bugging You?** • To develop an understanding of the term "pest" • To identify pests that bother people (SCI, Math)	**SCI/B1 Skills and Traits of** Scientific Inquiry Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. c. Use simple instruments with basic units of measurement to gather data and extend the senses. d. Know what constitutes evidence that can be used to construct a reasonable explanation. e. Use writing, speaking, and drawing to communicate investigations and explanations. **Math/Data –** Students are able to count, order and sort objects by their properties.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments **Earth and Space Science** • **Content Standard D:** As a result of their activities in grades K-4, all students should develop an understanding of o Properties of earth materials o Objects in the sky o Changes in earth and sky	1. Recognize varied individuals as examples of the same kind of living thing (e.g., different color rabbits are all rabbits; different breeds of dogs are all dogs).	1. Describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans).

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Unit 5: IPM Methods **Lesson 1: Ladybugs to the Rescue**** • To identify insect body parts • To identify predator/prey relationships that provide biological control of insect pests • To recognize the diversity of life on the Earth (SCI, Math)	**SCI/B1 Skills and Traits of** Scientific Inquiry Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. c. Use simple instruments with basic units of measurement to gather data and extend the senses. d. Know what constitutes evidence that can be used to construct a reasonable explanation. e. Use writing, speaking, and drawing to communicate investigations and explanations. **Math/Data –** Students are able to count, order and sort objects by their properties.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments **Earth and Space Science** • **Content Standard D:** As a result of their activities in grades K-4, all students should develop an understanding of o Properties of earth materials o Objects in the sky o Changes in earth and sky	1. Observe and write, speak or draw about similarities and differences between plants and animals. 2. Infer from direct observation and print or electronic information that most animals and plants need water food and air to stay alive. 3. 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.)	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 humans, obtain water and food. 3. Describe the structures that animals, including humans, use to move around.

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Unit 5: IPM Methods **Lesson 2: Itsy Bitsy Spider** • To recognize the differences between insects and arachnids • To understand why spiders are beneficial (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments	1. Observe and write, speak or draw about similarities and differences between plants and animals. 2. Infer from direct observation and print or electronic information that most animals and plants need water food and air to stay alive. 3. 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.)	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 humans, obtain water and food. 3. Describe the structures that animals, including humans, use to move around.

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Unit 5: IPM Methods **Lesson 3: To Catch a Leprechaun** * To investigate the criteria for a successful trap. (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Science and Technology** • **Content Standard E:** As a result of activities in grades K-4, all students should develop: o Abilities of technological design o Understanding about science and technology o Abilities to distinguish between natural objects and objects made by humans	1. Seek information in books, magazines and pictures. 2. Present information in words and drawings.	1. Brainstorm, design, construct, and discuss how to make a leprechaun trap.

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Unit 5: IPM Methods **Lesson 4: Easy as Pie**** * To understand that there are alternatives to using chemicals to control pests (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments	1. Make scientific observations using the five senses, and distinguish between an object's observable properties and its name or its uses.	1. Describe tools and actions used to safely control pests.

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Unit 5: IPM Methods **Lesson 5: Mouse Mess** * To determine safe ways to control mice and other "pests" that invade places where food is served and stored. (LA, SCI)	**LA/C1 - Research** Students answer research questions by gathering information from print and non-print sources a. Follow an established procedure for locating sources appropriate to reading level. b. Collect information for a specific purpose. c. Organize findings. d. Share information gathered using oral and visual examples. **SCI/C1 – Understandings of Inquiry** Students describe the use of questions and accurate communication in scientists' work. a. Describe how scientific investigations involve asking and answering a question. b. Point out the importance of describing things and investigations accurately so others can learn about them or repeat them.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments	1. Compare and contrast information about animals and plants found in fiction and nonfiction sources.	1. Describe the different ways that animals, including humans, obtain water and food.

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Unit 5: IPM Methods **Lesson 6: U R LUNCH!**** * To recognize that clothing choices can protect a person from pests (SCI, Math)	**SCI/B1 Skills and Traits of** Scientific Inquiry Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. c. Use simple instruments with basic units of measurement to gather data and extend the senses. d. Know what constitutes evidence that can be used to construct a reasonable explanation. e. Use writing, speaking, and drawing to communicate investigations and explanations. **Math/Data –** Students are able to count, order and sort objects by their properties.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments **Earth and Space Science** • **Content Standard D:** As a result of their activities in grades K-4, all students should develop an understanding of o Properties of earth materials o Objects in the sky o Changes in earth and sky	1. Observe and write, speak or draw about similarities and differences between plants and animals.	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 humans, obtain water and food.

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Unit 5: IPM Methods **Lesson 7: Wrap Up and Review**** • 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/B1 Skills and Traits of** Scientific Inquiry Students conduct and communicate results of simple investigations. a. Ask questions and make observations about objects, organisms, and events in the environment. b. Safely conduct simple investigations to answer questions. c. Use simple instruments with basic units of measurement to gather data and extend the senses. d. Know what constitutes evidence that can be used to construct a reasonable explanation. e. Use writing, speaking, and drawing to communicate investigations and explanations.	**Students at the Kindergarten and First Grade level are not formally assessed through large scale assessment.**	**Life Science** • **Content Standard C**: As a result of activities in grades K-4, all students should develop understanding of: o The characteristics of organisms o Life cycles of organisms o Organisms and Environments **Earth and Space Science** • **Content Standard D:** As a result of their activities in grades K-4, all students should develop an understanding of o Properties of earth materials o Objects in the sky o Changes in earth and sky	1. Make scientific observations using the five senses, and distinguish between an object's observable properties and its name or its uses.	1. Describe how IPM uses mechanical, physical, and biological methods when dealing with pest problems.

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