

Elementary (TK–2) lesson plans

NGSS Standard Alignment List

Lesson Name	Standard Alignment
Lesson 1: Growing Green: Fun with Plants in Water	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p>
Lesson 2: How Plants Grow in water: A Look at the Past, Present, and Future	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p>
Lesson 3: Becoming a Gardyn Expert: A Fun Adventure	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p>
Lesson 4a: Growing with the Seasons: Learning About When to Plant	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.</p>
Lesson 4b: Seasonal Fun: How to Adjust Your Garden Kit Throughout the Year	<p>K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.</p> <p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p>

Lesson 5a: Caring for Your Plants: A Fun Gardyn Adventure	<p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p>
Lesson 5b: Helping Plants Grow: Fun Gardyn Adventures and How to Take Care of Them	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p>
Lesson 6a: Welcome to Your Plant Home: A Cozy Place for Growing	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p>
Lesson 6b: Welcome to Your Gardyn Wonderland: Discovering Seeds and How They Grow	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p>
Lesson 7a: Sprout Time: How Seeds Start to Grow	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p>
Lesson 7b: Sprout Central: How Seeds Start to Grow and How Weather Changes Affect Them	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.</p>
Lesson 8: Exploring Weather Changes and Plant Growth	<p>K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.</p> <p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p>
Lesson 9a: Water Fun: Helping Seeds Grow with Kelby's Help!	4-LS1-1 - Construct an argument that plants get the materials they need for growth

	<p>chiefly from air and water.</p> <p>4-ESS3-1 - Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>
Lesson 9b: Watering Wonders: How to Help Seeds Grow with Kelby and Keep Our Water Clean	<p>K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p> <p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p>
Lesson 10: Growing Green: The Plant Life Cycle Adventure	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p>
Lesson 11a: Plant Power: Learning About What Plants Need to Grow Strong	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-PS3-1: Make observations to determine the effect of sunlight on Earth's surface.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p>
Lesson 11b: Plant Power: How Warmth Helps Plants Grow	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p>
Lesson 12: From Garden to Plate: How Your Veggies Travel	<p>K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p> <p>K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p> <p>K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</p>
Lesson 13: Exploring Plant Parts and Their Functions	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including</p>

	<p>humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</p>
Lesson 14a: Keeping Plants Happy and Healthy	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p>
Lesson 14b: Keeping Plants Happy: How to Protect Them from Bugs and Sickness	<p>K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p> <p>K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p> <p>K-2-ETS1-1: Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.</p> <p>K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</p>
Lesson 15: A Mindful Harvest Time: Enjoying What We've Grown	<p>K-ESS3-3: Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.</p> <p>K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p>
Lesson 16a: The Joy of Harvesting: Exploring Our Hydroponic Gardyn	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-2-ETS1-2: Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.</p>
Lesson 16b: Exploring Our Gardyn Treasures: Food, Culture, and Traditions	<p>K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS3-1: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</p> <p>K-ESS2-2: Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p>

Elementary school (3rd–5th) lesson plans

NGSS Standard Alignment List

Lesson Name	Standard Alignment
Lesson 1: Cultivating Green: Hydroponics and Environmental Dynamics	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
Lesson 2: Hydroponics Through Time: A Historical, Present, and Future Perspective	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
Lesson 3: The Journey to Gardyn Mastery	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
Lesson 4a: Syncing with Seasons: Exploring the Crop Calendar in Your Starter Kit	5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water. 3-ESS3-1: Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.
Lesson 4b: Syncing with Seasons: Exploring Crop Calendar Flexibility in Your Starter Kit	3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. 3-ESS3-1: Use models to reflect the impacts of climate change on farming and agriculture.
Lesson 5a: Nurturing Nature: Gardyn Expedition and Care	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-PS3-4: Apply scientific ideas to design, test, and refine a device that converts energy

	from one form to another.
Lesson 5b: Nurturing Nature: Gardyn Expedition and Care: Gardyn Maintenance	3-LS1-1: Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growing, reproduction, and death. 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
Lesson 6a: Your Gardyn Oasis: A Nursery Welcome	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
Lesson 6b: Your Gardyn Oasis: A Nursery Welcome: Seed Banks and Seed Vaults	5-LS2-1: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. 3-LS3-2: Use evidence to support the explanation that traits can be influenced by the environment.
Lesson 7a: Sprout Central: Unraveling Germination	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
Lesson 7b: Sprout Central: Unraveling Germination: Understanding Germination Rates and Climate Change	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-ESS3-1: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
Lesson 8: Agriculture in the Age of Climate Change	5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect Earth's resources and environment. 4-ESS3-2: Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
Lesson 9a: Hydro-Hydration: Water Systems and Seedling Development with Kelby Assist!	4-LS1-1: Construct an argument that plants get the materials they need for growth chiefly from air and water. 4-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Lesson 9b: Hydro-Hydration: Water Systems and Seedling Development with Kelby Assist! As a solution to Eutrophication	<p>4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-ESS3-2: Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.</p>
Lesson 10: The Botanical Life Cycle Unveiled	<p>4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</p>
Lesson 11a: The Nutrient Narrative Unpacked: Plant Nutrients & Conditioning Factors	<p>4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-1: Obtain and combine information from books and other reliable sources to explain how actions affect plants.</p>
Lesson 11b: The Nutrient Narrative Unpacked: Exploring Heat Energy on Plant Growth	<p>4-PS3-2: Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.</p> <p>4-ESS3-1: Obtain and combine information to describe that energy and fuels are natural resources that human societies use.</p>
Lesson 12: From Farmstand to Table: Tracing the Path of Your Produce	<p>5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water.</p> <p>5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</p>
Lesson 13: Botanical Anatomy and Pruning Techniques	<p>4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</p>
Lesson 14a: Natural Pest Management & Disease Control: A Balancing Act	<p>4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.</p> <p>4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.</p>
Lesson 14b: Natural Pest Management & Disease Control: A Balancing Act: Natural vs Chemical Pesticides	<p>5-LS2-1: Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p>

	4-ESS3-2: Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.
Lesson 15: Cultivating Wellness: Preparing for a Mindful Harvest	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-LS1-2: Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
Lesson 16a: Reaping Rewards: The Joy of Harvesting	4-LS1-1: Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction. 4-PS3-4: Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.
Lesson 16b: Reaping Rewards: Beyond the Harvest Time	5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water. 5-PS1-3: Make observations and measurements to identify materials based on their properties.