

The Power of Plants Scope & Sequence

Grade 1 Unit 4

Anchor Phenomenon: A plant grows and changes over time. ([Bean Time-Lapse](#))

Essential Question: How are plants powerful?

	Lesson 1	Lesson 2	Lesson 3	Lesson 4	Lesson 5	Lesson 6	Lesson 7	Lesson 8	Lesson 9	Lesson 10	Lesson 11	Lesson 12
Estimated Time	50 min.	60 min.	65 min.	55 min.	45 min.	45 min.	45 min.	80 min.	60 min.	45 min.	65 min.	55 min.
NGSS PE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SEP	SEP1 SEP2	SEP1	SEP1	SEP3	SEP6	SEP4 SEP5	SEP6	SEP6	SEP6	N/A	SEP6	N/A
DCI	LS1.A	LS1.A	LS1.A	LS1.A	LS1.A	LS1.A	LS1.A	LS1.A	LS1.A	N/A	LS1.A	N/A
CCC	CCC1	CCC6	CCC1	CCC1	CCC6	CCC1	CCC6	CCC6	CCC6	N/A	CCC1	N/A
NGSS 3 Dimensional Learning Concept/ Objective	Develop a model to describe patterns in external parts that help a plant survive and grow.	Students ask questions about plant growth and describe how external parts are used to help a plant survive and grow through a lens of structure and function.	Students ask questions and use patterns to describe how external parts are used to help a plant survive and grow.	Students plan and conduct an investigation and use patterns as evidence to describe how external parts are used to help a plant survive and grow.	Use information from observations to construct an evidence based account about the shape and stability of natural objects and how they help them survive and grow.	Describe, measure, and/or compare quantitative attributes of seeds and patterns of what we eat.	Design a solution to help a plant survive using roots, stems, leaves, and flowers.	Construct an explanation about how the structures of a plant help them survive, grow, and meet their needs.	Construct an explanation about how the structures of a plant help them survive, grow, and meet their needs.	Objective: Collect and observe data to represent and communicate the types of stems the class eats. Analyze and interpret data.	Construct an explanation about how the structures of a plant help them survive, grow, and meet their needs.	Objective: Explore uses of materials and tools to create leaf rubbing works of art.

Investigative Phenomenon	Plants have external parts that help them survive and grow.	Plants have external parts that help them survive and grow.	Plants have parts that help them survive and grow.	A seed is a part of a plant that helps it survive and grow.	A lima bean seed has a structure that helps it survive and grow.	People eat seeds.	Roots are a part of a plant that help it survive and grow.	Roots are a part of a plant that help it survive and grow.	A stem is a part of a plant that helps it survive and grow.	n/a	Leaves are parts of a plant that help it survive and grow.	
Question to Investigate	N/A	N/A	How do we know if something is a plant?	How can we grow a plant?	How are seeds powerful?	What seeds do we eat?	How are roots powerful?	What roots do we eat?	How are stems powerful?	What stems do we eat?	How are leaves powerful?	N/A
Success Criteria	I can use LEGO to model how a plant grows. I can share patterns I notice between our models	I can observe plant parts. I can draw a model showing how a plant grows.	I can sort plant parts.	I can plan and conduct an investigation to grow a seed.	I can describe the structure of a seed.	I can analyze data about the seeds we eat.	I can design a way for a flower to stand up by itself. I can explain how roots help a plant survive and grow.	I can analyze data about the roots we eat.	I can draw a model of a stem. I can explain how stems help a plant survive and grow. I can make a claim using evidence.	I can analyze data about the stems we eat.	I can draw and sort different kinds of leaves. I can explain how leaves help plants grow and survive.	
Math					1.MD.C.4	1.MD.C.4		1.MD.C.4		1.MD.C.4	K.MD.B.3	
Health		1.1.G										
VAPA									1.VA:Cr1.2	1.DA:Cr2a	1.VA:Cr3 1.MU:Pr6a	1.VA:Cr2.1
HOM	12	12	15	7	16	9	16	15	16	9	15	2

	Lesson 13	Lesson 14	Lesson 15	Lesson 16	Lesson 17	Lesson 18	Lesson 19	Lesson 20	Lesson 21	Lesson 22	Lesson 23	Lesson 24	Lesson 25
Estimated Time	45 min.	55 min.	65 min.	45 min.	45 min.	50 min.	55 min.	45 min.	55 min.	45 min.	40 min.	40 min.	55 min.
NGSS PE	1-LS3-1	1-LS3-1	1-LS1-1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1-LS3-1
SEP	SEP6	SEP6	SEP6	N/A	N/A	N/A	SEP4	N/A	N/A	N/A	N/A	N/A	SEP6
DCI	LS3.A	LS3.B	LS1.A ETS1.A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	LS3.A
CCC	CCC1	CCC1	CCC1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	CCC1
NGSS 3 Dimensional Learning Concept/ Objective	Make observations of patterns to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.	Make observations of patterns to construct an evidence-based account that individual s of the same kind of plant are recognizable as similar but can also vary in many ways.	Students use materials to design a powerful plant that helps solve a human problem using patterns to show how their parts help it to survive and grow.	Objective Identify healthy food and classify food into categories/food groups.	Objective Understand and sort healthy vs. less-healthy foods. Create a healthy plate.	Objective Students generate survey questions and collect data about healthy eating habits.	Objective Display data from surveys in graphs. Make claims about healthy eating habits.	Objective Use role-play to share knowledge about healthy eating choices. Practice theatre skills through a creative drama experience.	Objective Students use the Design Thinking Process to plan the final product. (eBook)	Objective Students use the Design Thinking Process to create the final product. (eBook)	Objective Improve eBooks using peer feedback.	Objective Students share their learning and their products with an authentic audience at exhibition.	Use patterns to describe how plants also are very much, but not exactly, like their parents.
Investigative Phenomenon	Our seedlings have similarities and differences.	A seedling and an adult plant have similarities and differences.	Plants can have powerful parts. (i.e. cactus spines, pea tendrils, rose thorns)	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	A young and adult plant.

Question to Investigate	N/A	How are young and adult plants similar and different?	How are plants powerful?	How do plants give us power?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Success Criteria	I can describe similarities and differences between seedlings.	I can describe similarities and differences between seedlings and adult plants.	I can design a powerful plant.	I can identify healthy foods.	I can identify and sort go, grow and glow foods.	I can collect data on our class' eating habits.	I can graph data from our class' eating habits survey.	I can use role-play to share knowledge about healthy eating choices.	I can use the Design Thinking Process to plan our ebook.	I can use the Design Thinking Process to create our ebook	I can use the Design Thinking Process to improve our ebook.	I can share my learning with an authentic audience at exhibition.	I can explain how a young plant will become an adult plant.
Math	1.MD.A.2	1.MD.A.1	1.OA.C.5	K.MD.B.3	1.G.A.3	1.MD.C.4	1.MD.C.4						
Health				1.1.N	5.2.N	1.3.G							
VAPA		Theatre 1.TH:Cr1b Visual Art 1.VA:Cr1.2						Theatre 1.TH:Cr2b					
HOM	10	10	11	5	4	7	7	8	11	15	9	9	9

KEY

NGSS PE: Next Generation Science Standards Performance Expectations

[1-LS3-1.](#) Make observations to construct an evidence-based account that young plants are like, but not exactly like, their parents. [Clarification Statement: Examples of patterns could include features plants share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size.]

[1-LS1-1.](#) Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.* [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal

solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.]

SEP: Science Engineering Practice (DO)

SEP1: Asking Questions and Defining Problems	SEP2: Developing and Using Models	SEP3: Planning and Carrying Out Investigations	SEP4: Analyzing and Interpreting Data	SEP5: Using Mathematics and Computational Thinking	SEP6: Constructing Explanations and Designing Solutions	SEP7: Engaging in Argument from Evidence	SEP8: Obtaining, Evaluating, and Communicating Information
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DCI: Disciplinary Core Idea (KNOW)

LS1.A - Structure and Function: Plants have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow. (1-LS1-1)
 LS3.A - Inheritance of Traits: Plants are very much, but not exactly, like their parents. (1-LS3-1)
 LS3.B - Variation of Traits: Individuals of the same kind of plant are recognizable as similar but can also vary in many ways. (1-LS3-1)

CCC: Crosscutting Concept (THINK & LINK)

CCC1: Patterns	CCC2: Cause & Effect	CCC3: Scale, Proportion, & Quantity	CCC4: Systems & System Models	CCC5: Energy & Matter	CCC6: Structure & Function	CCC7: Stability & Change
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HOM: Habits of Mind

#1: Persisting: Strives to reach goals when tasks are difficult. Stays focused and keeps trying. Bounces back when things go wrong and tries to figure out what happened. (I can stick to it!)

#2: Managing Impulsivity: Thinking before acting; remaining calm. Considers consequences and alternatives for actions. (I can take my time!)

- #3: Listening with Understanding and Empathy:** Spends time listening to others' ideas. Is able to remember what others say. (I can understand others!)
- #4: Thinking Flexibly:** Is inspired by learning new concepts. Looks at ideas from others point of view. Can gather information for multiple sources and apply to real life situations. (I can look at it another way!)
- #5: Thinking About Your Thinking (Metacognition):** Student has the ability to understand when they are an expert and when they are a novice. (I understand when I know and when I need help.)
- #6: Striving for Accuracy:** Puts in effort and takes time to complete work. Enjoys producing exceptional work. (I can do my best!)
- #7: Questioning and Problem Posing:** How do you know? Having a questioning attitude; knowing what data are needed and developing questioning strategies to produce those data. Finding problems to solve. (I can ask thoughtful questions and find problems!)
- #8: Applying Past Knowledge to New Situations:** Uses what has been learned before in new situations. Is able to retain information as connections are made. (I can use what I learned!)
- #9: Thinking and Communicating with Clarity and Precision (Communication):** Supports thoughts with explanations and evidence. Knows social rules for interacting with others. (I can be clear!)
- #10: Gather Data through All Senses:** Enjoys hands-on learning experiences. Is aware of the world around them. (I can learn about the world around me!)
- #11: Creating, Imagining and Innovating:** Starts with a vision and works backwards. Uses creative ideas to solve problems. Considers multiple perspectives and is open to feedback. Able to compare and contrast emotional and factual information. (I can try a different way!)
- #12: Responding with Wonderment and Awe:** Student is curious about the world around them and finds interest. They are compelled, enthusiastic and passionate about learning and their place in the universe. (I am curious and have fun learning.)
- #13: Taking Responsible Risks:** Likes adventure, tries new things confidently and in a responsible manner. (I can try new things!)
- #14: Finding Humor:** Situations are perceived from interesting and original perspectives, humor is initiated and appreciated in others. Student is able to distinguish between situations needing compassion and those that are truly funny. (I can laugh!)
- #15: Thinking Interdependently (Teamwork):** Sensitive to the needs of others. Understanding that when people work together they are more powerful. Negotiates conflict constructively. (I can work with a team and learn from others!)
- #16: Remaining Open to Continuous Learning:** Viewing problems as powerful ways to learn. Always looking for new and better ways, interested in alternatives. (I can learn from experiences!)