Plants Make Sense: Standards & Classroom Connections for Educators

Mission, Philosophy, & Program Objectives

SDBG's mission is to share and apply plant wisdom in our world.

Field Trips at San Diego Botanic Garden: Objective & Outcomes						
Objective		Learning Outcomes				
Engage learners in onsite activities and discussions that guide learners to connect with and appreciate plant life as it relates to their experiences, in order to:	→	1. Investigate Ideas Promote greater awareness of environmental factors and phenomena like climate change, habitat loss, ecosystem interdependence, and more.	→	2. Unlock Concepts Support foundational understanding of concepts like human impacts, climate, energy and ecosystems, and more.	→	3. Build Wisdom Influence lifelong attitudes about the work of botanical gardens and human activities like climate action, conservation, community science, etc.

Field Trips at San Diego Botanic Garden: Pillars of Experience				
Accessibility	Supportive educational resources and materials	Free exploration	Connection to natural world and its inhabitants	Community feedback

Pillars in Practice:

- SDBG's curriculum is available and free to download on our website!
- *Plants Make Sense* and other resources are developed according to grade level and integrate with wider frameworks, such as Next Generation Science Standards and UN's 17 Goals for Sustainable Development.
- To support experiential learning, students and chaperones alike are encouraged to unplug and dig deep through freeform opportunities for outdoor play.
- Empathy is essential to education. SDBG's experiences invite learners of all ages to notice living things around them and celebrate interdependence!
- SDBG wants to hear from you! Complete the attached surveys with your class before and after your visit to share how you and your class are growing.

Standards & Classroom Connections: *Plants Make Sense (K-1)*

SDBG Field Trips are designed to be enhanced by SDBG's bespoke resources and guide booklets! SDBG's signature curricula contains prompts, games, and thought experiments that reveal personal connections to plant life and the natural world while presenting relevant applications for the classroom – and life beyond. **Plants Make Sense** also integrates SDBG's Learning Outcomes (Investigate Ideas, Unlock Concepts, and Build Wisdom) with frameworks like the UN's 17 Sustainable Development Goals and the Next Generation Science Standards!

UN Sustainable Development Goals (SDGs): GOAL 15: Life on Land

"Goal 15 is about conserving life on land."

SDBG's curriculum asks students to begin building ideas about the world we share and their place in it. Conservation is central to SDBG's mission and a key theme found throughout **Plants Make Sense,** as well as SDG 15! Goal 15 appears when students are encouraged to consider important, on-topic questions about conservation, ecosystems, and the environment, like:

- *What is habitat loss?*
- *Why should we care?*
- *How does it affect our health?*
- *What can we do?*

NGSS in Action: Next Generation Science Standards challenge students to learn by doing. Read more about the NGSS behind the activities found in ***Plants Make Sense*** below:

Kindergarten Standards:

K-LS1 From Molecules to Organisms: Structures and Processes		
Performance Expectations: K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.		
Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
• Analyzing and Interpreting Data	• LS1.C: Organization for Matter and Energy Flow in Organisms	• Patterns
In ***Plants Make Sense:*** Happy Plants (Pg.7); Field Notes (Pg. 8-9); Plant Powers (Pg. 11)		

K-ESS2 Earth's Systems		
Performance Expectations: K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.; K-ESS2-2. Construct and argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.		
Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts

• Analyzing and Interpreting Data • Engaging in Argument from Evidence	• ESS2.D: Weather and Climate • ESS2.E: Biogeology • ESS3.C: Human Impacts on Earth Systems	• Patterns • Systems and System Models
In ***Plants Make Sense:*** Today's Weather (Pg. 3); Plant Powers (Pg. 11)		

K-ESS3 Earth and Human Activity		
Performance Expectations: 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.; K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.; 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.		
Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
• Asking Questions and Defining Problems • Obtaining, Evaluating, and Communicating Information	• ESS3.A: Natural Resources • ESS3.C: Human Impacts on Earth Systems	• Cause and Effect • Systems and System Models
In ***Plants Make Sense:*** Critter Count (Pg. 9); Field Notes (Pg. 8-9); Plant Powers (Pg. 11); Draw-bservations (Pg. 12-13)		

Grade 1 Standards:

1. Structure, Function, and Information Processing		
Performance Expectations: 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.; 1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.; 1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.		
Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
• Constructing Explanations and Designing Solutions • Obtaining, Evaluating, and Communicating Information	• LS1.A: Structure and Function • LS1.B: Growth and Development of Organisms • LS1.D: Information Processing	• Patterns • Structure and Function
In ***Plants Make Sense:*** Senses Scavenger Hunt (Pg. 4-5); Mindfulness Exercises #1, #2 (Pg. 6,10); Happy Plants (Pg.7); Field Notes (Pg. 8-9); Plant Powers (Pg. 11)		

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Complete the following surveys with your class. Optional: Scan and share responses with education@sdbgarden.org

Student Survey 1: Before Your Visit to the SDBG

Predict & Prepare: Field Trip to San Diego Botanic Garden!	
Name:	Today's Date:

I feel _____ to visit the San Diego Botanic Garden. (Circle one)


Very Excited


Happy


Not Excited


Nervous

Draw what you think you might see at the San Diego Botanic Garden.

Share something you are curious about at the Garden.

How important is it to take care of plants? Circle a number.
1 = Not very important; 5 = Very Important.

1 2 3 4 5

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Student Survey 2: After Your Visit to SDBG

Reflect & Respond: Field Trip to San Diego Botanic Garden!	
Name:	Today's Date:

My visit to the San Diego Botanic Garden was _____. (Circle one)

Amazing Interesting Boring Not Fun

Share one thing you learned on the field trip.

Draw your favorite part of your day at the San Diego Botanic Garden.

How important is it to take care of plants? Circle a number.
1 = Not very important; 5 = Very Important.

1 2 3 4 5

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Share your own feedback with SDBG's Experience Surveys!

- Links: Teacher | Chaperone