

# Environmental Awareness: Supporting a Path Towards Action

BLANDY  
EXPERIMENTAL FARM



University  
of Virginia



Virginia Association of Science Teachers PDI  
November 16-18, 2023  
Hotel Roanoke, Virginia

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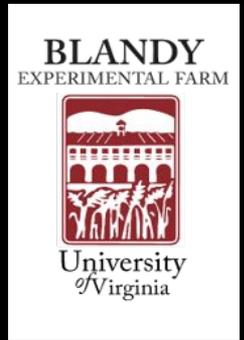
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# Session Agenda

- Introduction
- Opening discussion(s)
- Presentation on Sobel's Stages of Environmental Awareness
- Engage in an investigation
- Reflection/ discussion



# University of Virginia's Blandy Experimental Farm & The State Arboretum of Virginia



- Field ecological research station
- The State Arboretum of Virginia

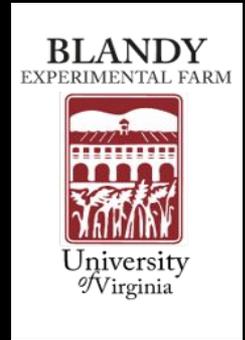
**University of Virginia's  
Blandy Experimental Farm  
&  
The State Arboretum of  
Virginia**



**Blandy's Mission: To increase understanding of the natural environment through research and education**

# Education Outreach

- Hands-on, outdoor, experiential field investigations
- ~7000 PK-12 students per year
- Inquiry, Science Process and Skills focused programs
- Correlated to state and national standards
- Field-based STEM Learning
- Teacher professional development



# What is *environmental awareness*?



# What is *environmental awareness*?

Understanding the importance of protecting the earth and making choices that benefit the environment

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# What does the following quote mean to you?

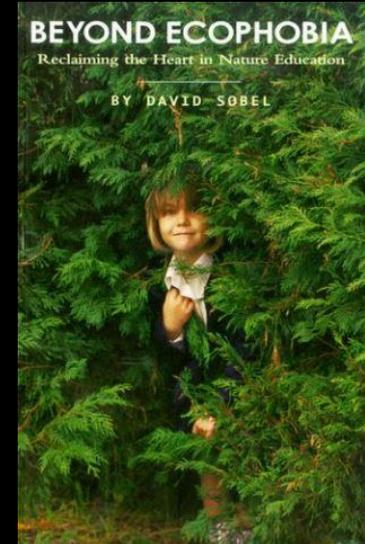
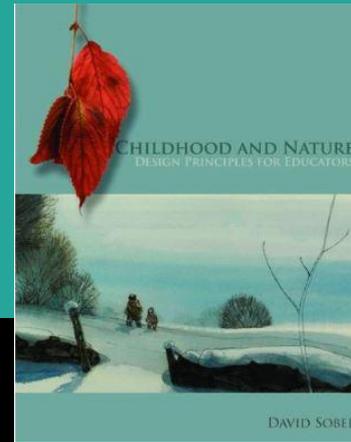


*“If we want children to flourish, we need to give them time to connect to nature and love the earth before we ask them to save it.”*

*– David Sobel*

# Who is David Sobel?

David Sobel is a teacher and author. He advocates for nature-based early childhood education and has been — recognized as further developing the place-based education movement through his writing and lectures.



# Sobel's Stages of Environmental Awareness

- **Empathy Stage (~ ages 4-7)**
- **Exploration Stage (~ ages 8-11)**
- **Social Action Stage (~ ages 12-15)**



# Empathy Stage (~ ages 4-7)

- Encourage a sense of connectedness with plants and animals and focus on familiar organisms.
- Suggested activities include: Stories, songs, moving like animals, celebrating seasons
- Anthropomorphizing animals is encouraged!



# Exploration Stage (~ ages 8-11)

- Explore the local environment and encourage students to develop a sense of place.
- Suggested activities include: exploring the landscape, map-making, gardening, taking care of animals, and stream studies
- First focus on the immediate surroundings of the home and school, then branch out to the neighborhood and beyond.



# Social Action Stage (~ ages 12-15)

- Encourage students to develop a sense of connectedness to society. They want to engage in action projects that allow them to make positive changes to the environment.
- Suggested activities include: managing school recycling programs, organizing stream clean-ups, writing to legislation, and planting riparian buffers



# Jean Piaget's Stages of Cognitive

Stage	Approximate Age Range	Description
<b>Sensorimotor</b>	Birth – 2 years	<ul style="list-style-type: none"><li>• Infants and toddlers understand the world in terms of physical actions on the environment.</li><li>• Infants move from simple reflexes to an organized set of behaviors.</li></ul>
<b>Preoperational</b>	2 – 7 years	<ul style="list-style-type: none"><li>• Young children concentrate on constructing a world of permanent objects.</li><li>• Preschool children can use mental symbols to represent objects and events.</li><li>• Language is developing rapidly through dramatic play.</li><li>• Social games and games with rules emerge as children become increasingly involved in social play with peers.</li></ul>
<b>Concrete Operational</b>	7 – 11 years	<ul style="list-style-type: none"><li>• Children's reasoning skills become more logical.</li><li>• Thinking becomes decentered, dynamic and reversible.</li><li>• Children can organize objects into hierarchies of classes.</li><li>• Children have developed a theory of mind, although they may still have difficulties taking on the perspective of another person.</li><li>• Children are beginning to take intentions into account in their moral judgments.</li></ul>
<b>Formal Operational</b>	11 years on	<ul style="list-style-type: none"><li>• Adolescents can think systematically, can reason about abstract concepts, and can understand ethics and scientific reasoning.</li><li>• Adolescents can generate hypotheses.</li><li>• Moral reasoning has evolved to understand that rules are a result of mutual agreement</li></ul>

How do Piaget's stages compare to Sobel's stages?



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## How do Piaget's stages compare to Sobel's stages?

➔ **Empathy** - Students develop a connectedness with animals and plants through pretend play

➔ **Exploration** - Students develop a sense of place by exploring their local environment.

➔ **Social Action** - Students feel a connectedness with society and want to engage in action projects.

# Circle of Life



Exploration Stage (~ ages 8-11)

# Circle of Life

How can this lesson be adapted to other stages?



Empathy

Exploration

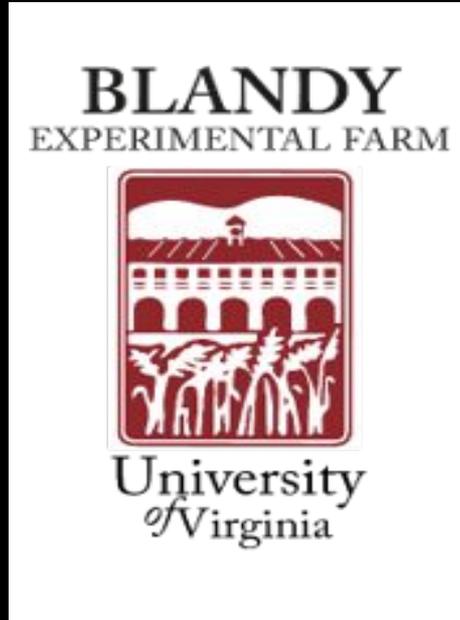


Social Action

# Thank you!

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# Stare at a Stick



Exploration Stage (~ ages 8-11)

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Empathy

Exploration

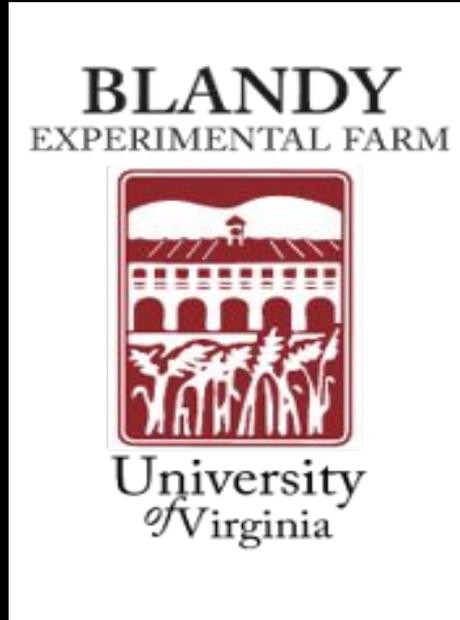


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