

# Office of Head Start Early Childhood Science National Webcast Series

## Discovering Science: Building the Foundation from Science in the Early Years

# Early Childhood Science Series

- **Webcast #1**-Laying the foundation for science in the early childhood classroom
- **Webcast #2**-Scientific understanding and thinking in the early years and how teachers, home visitors, and parents can support it

# Early Childhood Science Series

- **Webcast #3**-Integrating science in the classroom with emphasis on language and literacy
- **Webcast #4**-Creating a classroom environment that promotes science learning











# Discovering Science

Science is about  
taking advantage of the  
learning environments in  
your Head Start program













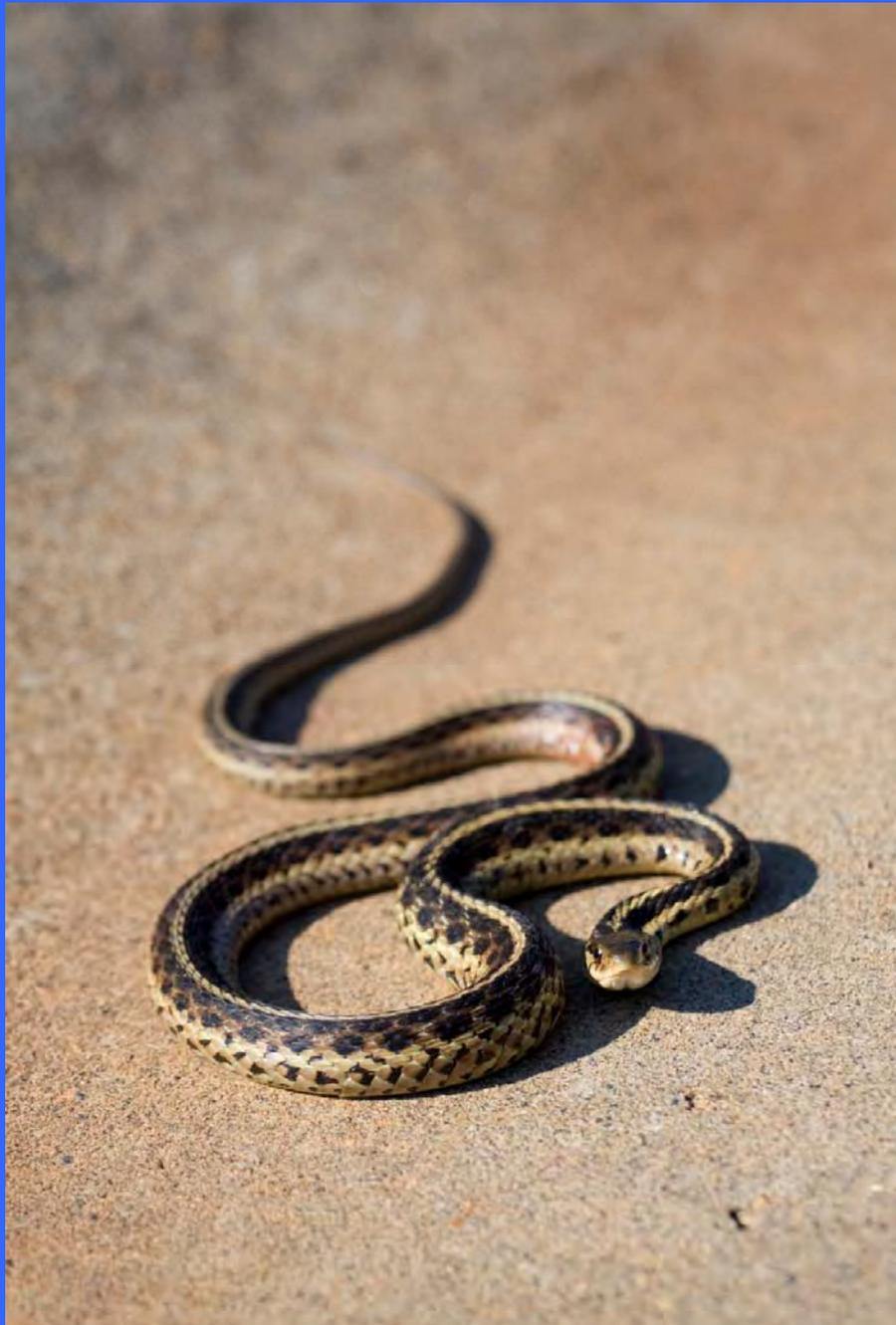
































# Discovering Science

Is science generating hypotheses and making predictions....in preschool?

YES!

# How do scientists explain how things work?

- Make careful observations
- Ask questions
- Generate hypotheses
- Make predictions
- Conduct investigations
- Collect data
- Draw conclusions
- Debate their findings

# Understanding “Science Ideas”

“Science ideas” recognize that children are constantly refining their understanding









# Head Start Child Outcomes Framework

## Domain Element: Scientific Skills & Methods

- Begins to use senses and a variety of tools and simple measuring devices to gather information
- Develops increased ability to observe and discuss common properties, differences and comparisons among objects and materials

# Head Start Child Outcomes Framework

## Domain Element: Scientific Skills & Methods

- Begins to describe and discuss predictions, explanations and generalizations based on past experiences

# Head Start Child Outcomes Framework

Indicators of dispositions and behaviors  
associated with science include when a child:

- grows in eagerness to learn about and discuss a growing range of topics, ideas, and tasks
- demonstrates increasing ability to set goals and develop and follow through on plans

# Head Start Child Outcomes Framework

Indicators of dispositions and behaviors  
associated with science include when a child:

- grows in recognizing and solving problems through active exploration, including trial and error, and interactions and discussions with peers and adults

# Why is it important to focus on science?

- Children are already doing science
- Children are making observations and asking questions, whether they ask those questions out loud or not



# Scientific Skills are Important

- Learning to make careful observations can help children read facial expressions and other social cues more accurately
- Skilled observations can also help child decode print and oral language







# Discovering Science

- Science provides rich opportunities for learning complex vocabulary
- Science investigations by nature are group collaborations
- Science can offer to a young child the joy of learning
- Science done well fosters a sense of curiosity and motivation to learn that extends far beyond the walls of the classroom



# What's wrong with the Science Center Approach?



Can you think of at least one problem with using “whiz-bang” science in the early childhood classroom?





# Basic Principles

- Principle 1: Children's curiosity and motivation to learn about the world must be nurtured by responsive, caring adults

# Basic Principles

- Principle 2: Children come to use science practices by participating in in-depth science explorations under the guidance of more capable adults

# Basic Principles

- Principle 3: Children's knowledge of the world is supported by language

# Basic Principles

- Principle 4: We should always respect the intelligence of children

# Basic Principles

- Principle 5: The goals of science in the early years is to foster children's curiosity, build foundational knowledge about the world, and develop basic scientific thinking skills

# Public Notice:

The Office of Head Start is actively seeking new Head Start & Early Head Start Grant Reviewers

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To get involved in the effort to  
provide and expand high quality  
Head Start services across  
the country

Up next...  
Q & A segment

# Reflections

- *What did I learn today that makes a difference in how I think about science in early childhood?*
- *What do I need to know to successfully implement science learning with children?*