Science and Nature: It Matters for Infants and Toddlers

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Science is a way of thinking
Technology is a way of using tools to solve problems
Engineering is a way of doing
Math is a way of measuring
So, Why is STEM Important for Infants and Toddlers?

- Natural Curiosity
- Need to explore and make sense of the world around them
- Zone in on individual interests
- Builds vocabulary
- STEM activities naturally stimulate young children’s senses: touch, smell, taste, movement, balance, sight, and hearing.
- Naturally encourages children to use scientific processes while they play, create, investigate, and explore. Goodstart Early Learning Ltd.
- Infants and toddlers with special needs
Early Brain Development is Directly Related to STEM:

https://youtu.be/VNNsN9IJkws

https://youtu.be/m_5u8-QSh6A
What We Know About Brain Development and STEM...

- Early experiences build the brain’s foundation
- Plasticity is greatest in the first years of life
- Serve and Return builds brain structure, understanding and vocabulary
- Even though children may not remember specific details, they have the memory that learning about nature, animals, etc. is a positive experience. They also remember the close bond that they had with the adult. This leads to enjoying learning and enjoying STEM activities.
Any Questions?
How Can We Support STEM Development for Infants and Toddlers Through Science and Nature Exploration?

- Watch for natural opportunities and curiosity in children
- Provide materials
- Join them in exploration
- Discuss/provide language for what they are experiencing and might be feeling
- Connect experience to what children have done or experienced before

University of Washington, Center for Research and Professional Development
Science and Nature Activity Ideas

- Bird feeder
- Books, magazines, and pictures (homemade book) with real pictures
- Ball Play
Science and Nature Activity Ideas

- Living Creatures
- Ice and water
- Chemical Reactions - Cooking, Mixing paint, sensory mixtures
Science and Nature Activity Ideas

- Plants and Trees
- Sensory Materials
- Weather
- Other
Questions or Ideas?
Every baby knows the **scientific method!**

1. Make an observation.
2. Form a hypothesis.
3. Perform the experiment.
4. Analyze the data.
5. Report your findings.
6. Invite others to reproduce the results.
Also referred to as guidelines or expectations, are descriptions of the knowledge, behaviors and skills that children from birth through five years may demonstrate during the first 2000 days of life.

Area 5.4 Scientific Reasoning

Infants and toddlers observe, describe, predict and explore the world around them.
Teaching Strategies Gold Assessment

- A system for assessing children from birth through kindergarten
- Teaching Strategies Inc. 2010

- 24 Uses scientific inquiry skills
- 25 Demonstrates knowledge of the characteristics of living things
- 26 Demonstrates knowledge of the physical properties of objects
- 27 Demonstrates knowledge of the Earth’s environment

Teaching Strategies Inc. 2010
If you have any questions...

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