

Weaving Math and Science Experiences into the Everyday Lives of Young Children

Developer Name: Cathy Cody

Session Title: Weaving Math and Science Experiences into the Everyday Lives of Young Children

Delivery Mode: In-person

Descriptor: In a face to face setting, the participants will discuss two of NAEYC's Position Statements: Developmentally Appropriate Practice *and* Early Childhood Mathematics. They will discuss the commonalities between math and science and create one activity plan for math and one for science using knowledge they acquired during these discussions. Teachers who have some experience in the classroom will benefit most from the information in this session.

Overall learning outcome(s) for CEU Session: Participants will demonstrate how to integrate developmentally appropriate math and science concepts into the everyday lives of young children.

Pre-assessment strategy: Administer pretest.

DCD Topic Areas to be covered: 2 – Children's Physical and Intellectual Development & 8 – Child Growth and Development

Supplemental Materials/References (what you anticipate will be used):

- NAEYC Key Messages of the Position Statement on DAP <http://www.naeyc.org/files/naeyc/file/positions/KeyMessages.pdf>
- NAEYC Position Statement *Where We Stand on Early Childhood Mathematics* <http://www.naeyc.org/files/naeyc/file/positions/ecmath.pdf>
- *NC Foundations*
- Kamii, C. (1982). *Number in Preschool and Kindergarten: Educational Implications of Piaget's Theory*. Washington, D.C.: NAEYC
- Cycle of Learning Lesson Plan

CEU Session Outline

Module #	Learning Outcomes	Instructional Methods	Engagement Strategies	Assessment Strategies
1. Personal experiences with math and science. (30 min)	<p>At the end of the session, participants will be able to identify their own feelings associated with math and science.</p> <p>At the end of the session, participants will be able to describe at least one math experience that has had a positive influence on them.</p> <p>At the end of the session, participants will be able to describe at least one science experience that has had a positive influence on them.</p> <p>At the end of the session, participants will be able to summarize ways in which these experiences can make them a better teacher.</p>	<ul style="list-style-type: none"> • Group discussions (comprehension) • Individual reflection (assess) 	<ul style="list-style-type: none"> • Participate in conversation about personal fears regarding math & science 	<ul style="list-style-type: none"> • Oral discussions • Pre-assessment & Post assessment

<p>2. Developmentally appropriate math and science activities as defined by research. (60 minutes)</p>	<p>At the end of the session, participants will be able to define the 2 components of Developmentally Appropriate Practice (DAP) as defined by NAEYC.</p> <p>At the end of the session, participants will be able to define and identify developmentally appropriate math and science activities for 3-5 year olds.</p> <p>At the end of the session, participants will be able to compare developmentally appropriate math and science activities with developmentally inappropriate math and science activities.</p> <p>At the end of the session, participants will be able to list some of the “Widely Held Expectations in Scientific Thinking and Invention” according to N.C. <i>Foundations</i></p>	<ul style="list-style-type: none"> • Lecture (listen) • Individual reflection (assess) • Printed materials (read) • Group discussions (comprehension) 	<ul style="list-style-type: none"> • Read NAEYC documents • Discuss NAEYC documents 	<ul style="list-style-type: none"> • Oral discussions • Pre-assessment & Post assessment
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<p>3. Commonalities of math & science, including four basic concepts of math & science. (2.5 hours)</p>	<p>At the end of the session, participants will be able to name the six principles of teaching number according to Constance Kamii.</p> <p>At the end of the session, participants will be able to name the five process skills in learning about science.</p> <p>At the end of the session, participants will be able to discuss the commonalities between math and science.</p> <p>At the end of the session, participants will be able to plan a developmentally appropriate math and a developmentally appropriate science activity using the Cycle of Learning Lesson/Activity Plan.</p>	<ul style="list-style-type: none"> • Group discussions (comprehension) • Lecture (listen) • Printed materials (read) 	<ul style="list-style-type: none"> • Review printed materials • Develop Two Activity Plans—one math and one science 	<ul style="list-style-type: none"> • Oral discussions • Pre-assessment & Post assessment
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<p>4. Math and Science Throughout the classroom. (60 minutes)</p>	<p>At the end of the session, participants will be able discuss DAP as it applies to math and science throughout the classroom.</p> <p>At the end of the session, participants will be able to explain how they would integrate math into at least 3 areas in their own classrooms.</p> <p>At the end of the session, participants will be able to explain how they would integrate science into at least 3 areas in their own classrooms.</p>	<ul style="list-style-type: none"> • Lecture (listen) • Individual reflection (assess) • Group discussions (comprehension) 	<ul style="list-style-type: none"> • Review DAP • Discuss lecture notes • Generate a list of ideas for integrating math and science throughout their own classrooms 	<ul style="list-style-type: none"> • Oral discussions • Pre-assessment & Post assessment
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Total Time: 5 hours