



Early Learning: Computational Thinking *Syllabus*

For small children, numbers themselves are just strange symbols with no clear meaning, and for parents, teaching them how to count can feel like just an exercise for their child's memory. But there's so much more going on! As children learn to count, they go on a journey to develop their number sense.

Contact Hours: 1

OCCRA Credit:

To earn OCCRA credit for this course, you must submit the Learning Artifact. Each Learning Artifact includes a designated space for your OPIN number.

Course Learning Objective:

Learners will explore how to support families in developing their children's computational thinking by counting groups of objects.

Demonstration of Learning:

For the learning artifact, learners will identify on the learning artifact document their choice in course resources to select one computational thinking activity to model and share with families.

Course Structure:

This course consists of three parts.

1. Watch - Participate in a live session or watch the recorded session to learn about the skills you will need to complete the course.
2. Learn by Doing - Complete this activity to practice the skill(s) presented.
3. Learning Artifact - an activity to apply knowledge or reflect on practice in your setting required for course credit.



Learning Artifact/Demonstration of Learning: Participants will complete the Learning Artifact Document by identifying Learning Indicators, Resources, and short description of learning activity to model and and share with families..

Ohio Early Learning and Development Standards

Strand Standard Statements

1. Number Sense

- a. Develops understanding of the stable order of the counting sequence and learns to recite numbers in order.
- b. Develops understanding of one-to-one correspondence and cardinality.
- c. Develops ability to subitize small quantities.
- d. Develops ability to recognize and name written numerals.

Skills Checklist

Developing Computational Thinking

- ☐ Practice Counting using number words and writing numerals
- ☐ Recognize groups of objects to group

Resources:

- ☐ [Number Sense~How Many? Ways to help build number sense Website](#)
- ☐ [Paper Plate Pizza Directions and Tips](#)
- ☐ [▶ How to Make a Pizza Craft With a Paper Plate | Family Math | PBS SoCal](#)
- ☐ [Play Number Lotería to Practice Counting](#)
- ☐ [Paper Lady Bug](#)
- ☐ [▶ How to Make a 10-Minute Paper Ladybug Craft | Family Math | PBS SoCal](#)
- ☐ [PBS SoCal Family Math Website](#)
- ☐ [📄 Early Learning: Computational Thinking](#)

Learning Artifact Google Doc:

- ☐ [📄 Early Learning: Computational Thinking](#)

OCCRRRA Standard:

Standards:Knowledge Based: Learning Experiences



Knowledge Concept:

The principles of integrating curriculum across all developmental domains including how to embed learning in everyday routines and activities.

Level 1:

Describes ways to develop and implement a daily schedule and routine that are appropriate for all children's learning and development. Describes ways to choose a curriculum that includes all domains in Ohio's Early Learning and Development Standards and includes knowledge of individual children and their interests.

The strategies that create a rich environment that fosters curiosity, thinking and problem-solving.

Level 1:

Supports and encourages children's participation in a variety of learning experiences that foster curiosity, thinking and problem-solving.

Standards:

Ohio Educator Standards

4 Teachers plan and deliver effective instruction that advances the learning of each individual student.

5 Teachers create learning environments that promote high levels of learning and achievement for all students

ISTE Educator Standards

2.1. Learner Teachers

continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning. Teachers:

2.1.b. Pursue professional interests by creating and actively participating in local and global learning networks.

2.1.c. Stay current with research that supports improved student learning outcomes, including findings from the learning sciences.

2.5. Designer Teachers

design authentic, learner-driven activities and environments that recognize and accommodate learner variability. Teachers:

2.5.a. Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.

2.5.b. Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.

2.5.c. Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning





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