Infant/Toddler Curriculum: Supporting the Development of Early Math Skills

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PITC is a project of the California Departments of Education & Social Services and WestEd conducted since 1985

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Welcome

- Infant Curriculum
- Cognitive Development
- Problem Solving
- Reflective Curriculum Planning
- Communication with families

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What is infant curriculum?

Curriculum reflects our intentional support for each infant's learning and development. It offers a balance between children's emerging interests and planned experiences. It is a process of collaborative discovery and shared meaning that honors each child's personal, familial, and cultural identity.

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Cognitive Development

"Cognitive Development refers to the process of growth and change in intellectual/mental abilities such as thinking, reasoning, and understanding."

California Infant/Toddler Learning & Development Foundations, pg. 59

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CA I/T Foundations

- Cause and Effect
- Spatial Relationships
- Problem Solving
- Number Sense
- Classification

Head Start Early Learning Outcomes Framework

- Exploration and Discovery
- Early Mathematical Thinking
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When children are playing, what are some examples that demonstrate early math exploration?

Reflection

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Cognitive Development: Guiding Principles

- Relate to the child as an active meaning maker
- Provide opportunities for exploration
- Respect the child's initiative and choices
- Allow ample time for children to make sense of experiences
- Appreciate the child's creativity
- Describe the child's actions and the effects of actions
- Support self-initiated repetition and practice
- Give appropriate encouragement for problem solving and mastery

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Problem Solving: Birth to 36 Months

"The developing ability to engage in a purposeful effort to reach a goal or figure out how something works".

California Infant/Toddler Learning and Development Foundations, pg. 62

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Reasoning and Problem Solving: Birth to 36 Months

"Cognitive development includes reasoning, memory, problem-solving, and thinking skills that help young children understand and organize their world.."

Head Start Early Learning Outcomes Framework, pg. 50

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The Curriculum Planning Process

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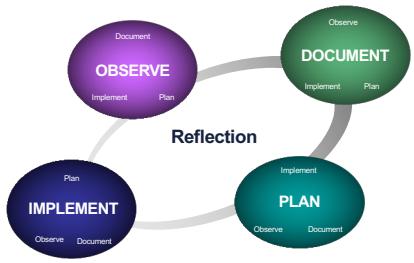
Curriculum Planning Process



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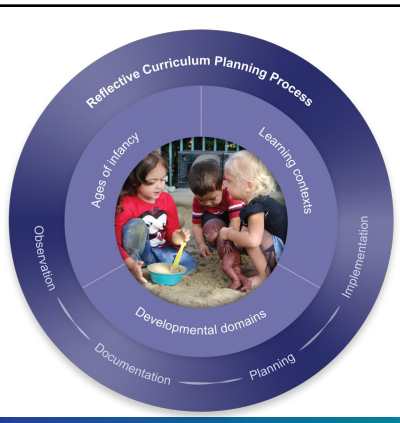

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The Three Ages of Infancy

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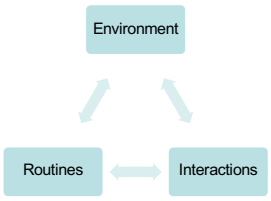
Learning Contexts



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Planning Questions to Consider...

- Which developmental domains are reflected in the children's experience?
- Which sub-domain and/or goals do we want to target?
- How can we modify the environment, our interactions, and/or daily routines to support their progress?

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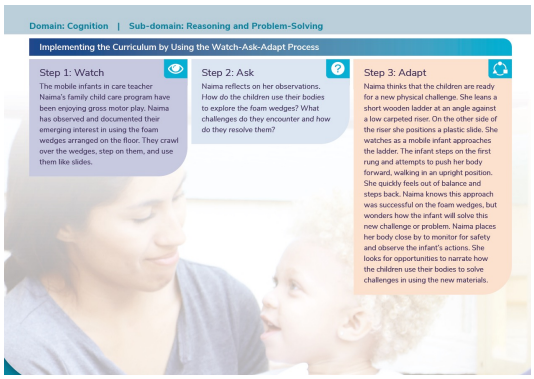
Domain: Cognition | Sub-domain: Reasoning and Problem-Solving
Implementing the Curriculum by Using the Watch-Ask-Adapt Process
Step 1: Watch
The mobile infants in care teacher Naima's family child care program have been enjoying gross motor play. Naima has observed and documented their emerging interest in using the foam wedges arranged on the floor. They crawl over the wedges, step on them, and use them like slides.
Step 2: Ask
Naima reflects on her observations. How do the children use their bodies to explore the foam wedges? What challenges do they encounter and how do they resolve them?
Step 3: Adapt
Naima thinks that the children are ready for a new physical challenge. She leans a short wooden ladder at an angle against a low carpeted riser. On the other side of the riser she positions a plastic slide. She watches as a mobile infant approaches the ladder. The infant steps on the first rung and attempts to push her body forward, walking in an upright position. She quickly feels out of balance and steps back. Naima knows this approach was successful on the foam wedges, but wonders how the infant will solve this new challenge or problem. Naima places her body close by to monitor for safety and observe the infant's actions. She looks for opportunities to narrate how the children use their bodies to solve challenges in using the new materials.
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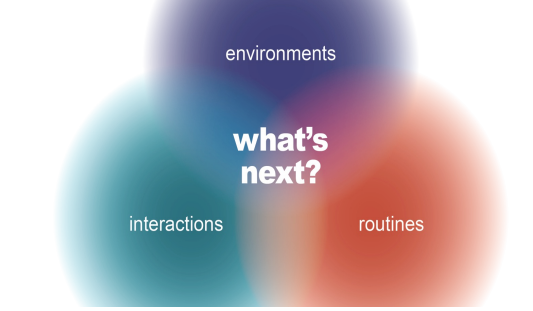
environments
what's next?
interactions
routines
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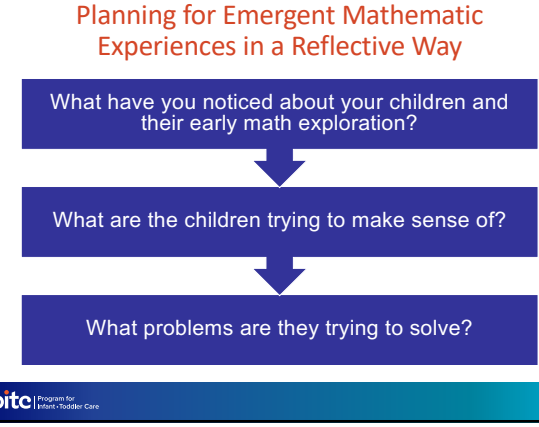
Planning for Emergent Mathematic Experiences in a Reflective Way
What have you noticed about your children and their early math exploration?
What are the children trying to make sense of?
What problems are they trying to solve?
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Connecting with Families

How can you talk about how children play and early math exploration with families?

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Thank you for Participating

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Resources

California Department of Education. 2009. *California Infant/Toddler Learning & Development Foundations*. Sacramento: California Department of Education

California Department of Education. 2012. *California Infant/Toddler Curriculum Framework*. Sacramento: California Department of Education

Head Start Early Learning Outcomes Framework: Ages Birth to Five. U.S Department of Health and Human Services. Administration for Children and Families.

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