

 **Teacher Time** Mark Your Calendar and Register!

Infant and Toddler Perceptual, Motor, and Physical Development
Friday, April 20, 2018
3-4 p.m. ET


[Click Here to Register](#)



Preschool Perceptual, Motor, and Physical Development
Friday, May 18, 2018
3-4 p.m. ET

[Click Here to Register](#)



 **Teacher Time** Welcome!

While you wait for Teacher Time to begin, please:


- Introduce yourself in the chat box, and let us know:
 - Where are you from, and what is your role?
 - Why is geometry important in the preschool years?



"The only way to LEARN mathematics is to DO mathematics." - Paul Halmos

"In the context of play, preschoolers learn about the positions of their bodies in space."

Head Start Early Learning Outcomes Framework: Ages Birth to Five




TEACHER TIME:
Cognition for Preschoolers


March 16, 2018

Hosts: Judi Stevenson-Garcia & Treshawn Anderson


Guest Experts: Doug Clements & Crystal Day-Hess

Chat Room Facilitator: Jan Greenberg


 **NATIONAL CENTER ON**
Early Childhood Development, Teaching and Learning


 Adobe Connect Features

Chat Room Facilitator:
Jan Greenberg





- Download supporting documents
- Raise your hand!
- Video note
- Complete evaluation



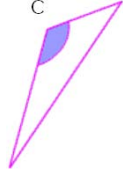
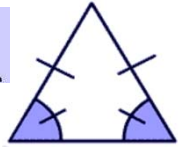

 Cognition:
Mathematics Development

Geometry Spatial Sense





A. B C





Geometry

- Math related to **shapes, size, and positioning of figures**:
- Early math skills predict later math success;
- More early, math-related activities predict math skills in elementary school





Geometry

Literacy development

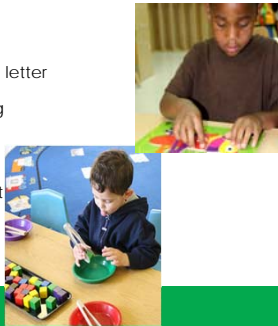
- Recognizing the difference between letter shapes
- Shapes and lines translate into writing

Problem-Solving

- Trial and error
- Close attention to shape characteristics

Early Science Learning

- Strengthens observation skills
- Practice categorization





Spatial Sense

- Math related to **knowing the shape of your environment**:
- Knowing the position of your body in space;
- Ability to recognize, visualize, represent, and transform geometric shapes





Spatial Sense

- Preschoolers are beginning to grasp spatial vocabulary with help from an adult;
- Older preschoolers understand basic spatial knowledge such as directionality, order, up/down, front/behind





Cognition: Emergent Mathematical Thinking

Doug Clements &
Crystal Day-Hess
Marsico Institute of Early
Learning and Literacy





Cognition: Emergent Mathematical Thinking

- Geometry is part of how children come to know the world.
- Children develop spatial sense by moving through the world.
- Children need rich experiences with a wide variety of shapes.





Cognition: Emergent Mathematical Thinking

- We use spatial relationships to understand geometric forms
- Slides, flips, and turns are spatial relationships
- Combining shapes is spatial relationships, as well as
- Knowledge of how shapes go together to make other shapes





Cognition: Emergent Mathematical Thinking

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Effective Teaching Practices

- Use spatial words
- Create activities for children to explore spatial concepts and talk to them about how they move
- Offer a wide variety of shapes that are different and can be compared
- Give children vocabulary for parts and attributes
- Use shape books to teach about creativity and transformation of shapes

 **Approaches to Learning**


- Children learn to persist in a challenging tasks, like puzzles, even when it is frustrating
- Preschoolers become more flexible in their thinking and are able understand that shapes can take on different forms
- Children use their imaginations and spatial sense when climbing on structures or building castles



 **Ongoing Assessment**

- *Focused* observation and *intentional* engagement



 **Ongoing Assessment**

If your birthday falls between January and June:	If your birthday falls between July and December:
Where/when are you most likely to assess Geometry?	Where/when are you most likely to assess Spatial Sense?


Teacher Time Ongoing Assessment

- Focused observation and intentional engagement
- Two-way communication
- Families are the best source of information



Teacher Time


UNDERSTANDING STEAM AND HOW CHILDREN USE IT | CHANGING PRACTICES IN STEAM FIRST-STEP | COMPARING STEAM LEARNING | SUPPORTING THE POWER OF STEAM LEARNING | FIND OUT MORE



<https://eclkc.ohs.acf.hhs.gov/sites/default/files/pdf/steam-ipdf.pdf>

Teacher Time

Resources:
 Effective Practice Guides - Cognition
 MyPeers
 T4T
 ELOF2GO



Remember to complete the evaluation – we value your feedback!

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