Welcome to Learning Lab # 9 of Erikson Early Math iNNOVATIONS!

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Greetings!

Obstacle Course

Rosie's Walk

by Pat Hutchins

A Big Idea about Spatial Relationships

Relationships between
objects and places
can be described
with mathematical precision.

A New Route for Rosie:
A Math Investigation for Adults

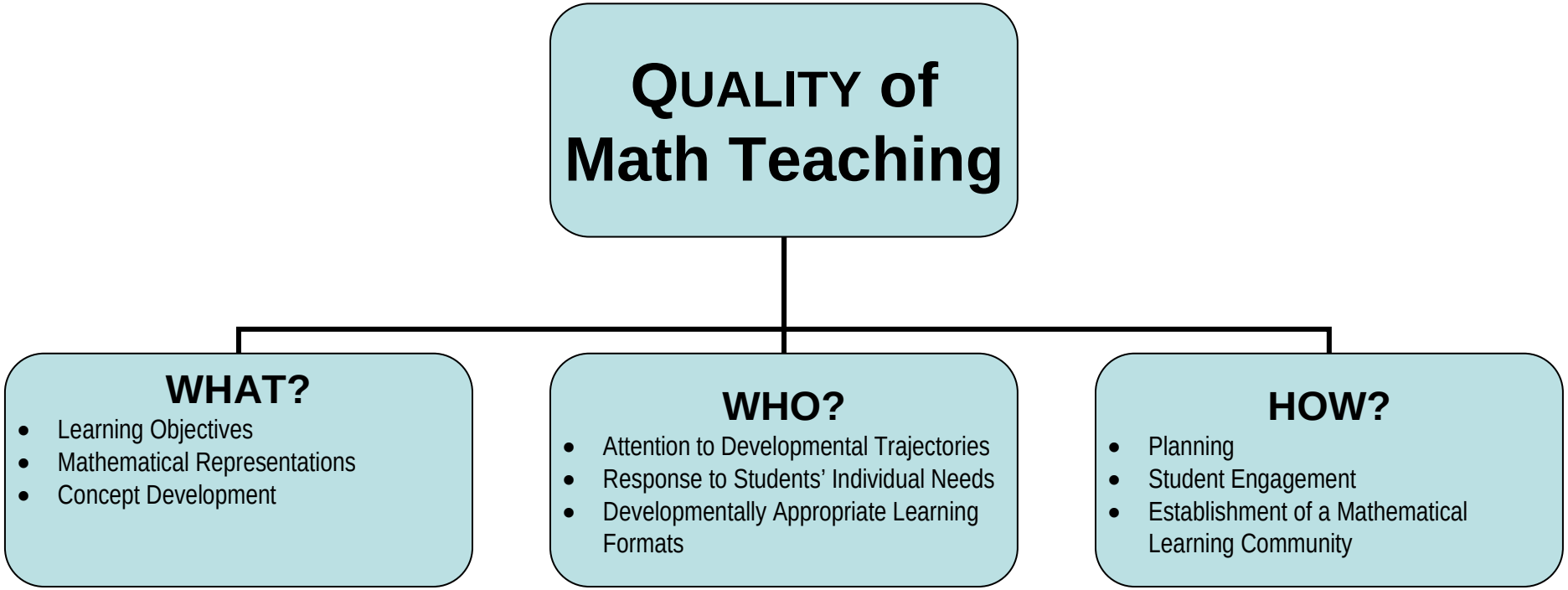
- On a coordinate grid, map out a new route for Rosie to walk. The route must include three places for Rosie to visit.
- Move to sit with a partner from another table.
- With a barrier to hide the maps from each other, one partner describes her/his map while the other tries to draw it. The drawer may only ask two clarifying questions.
  - Switch so each person gets a turn in each role.
- Did you learn anything from the 1st round of the game that changed how you played the 2nd?
- How far does Rosie have to travel to complete the route on your map?
  - Can the map you made tell you?
  - What do you need to know to figure that out?

A Big Idea about Spatial Relationships

Our own experiences
of space and
two-dimensional representations of space
reflect a specific point of view.

Introducing the HIS-EM framework

High-Impact Strategies for Early Mathematics (HIS-EM)



The HIS-EM framework considers three ***domains*** when examining the quality of math teaching:

- ***WHAT?*** The degree to which teaching practice incorporates a deep knowledge of foundational mathematics concepts.
- ***WHO?*** The degree to which teaching practice demonstrates an understanding of young children's typical developmental growth in mathematics and an understanding of particular, individual students' learning needs.
- ***HOW?*** The degree to which teaching practice includes the effective use of mathematics teaching strategies**.**

Each of the three ***domains*** is further defined by three ***dimensions*** that make a significant impact of the quality of mathematics teaching and learning in the classroom.
(See the chart in your handouts for further explanation.)

Introducing
a new activity plan form
that reflects
the HIS-EM framework.

Video Analysis: Planning Conversation
An interview with the Coach

- *What do the teacher & coach decide to focus on?*
- *Why did they make that choice?*

Video Analysis: *"Walk with Rosie"*

Teacher Practice (HIS-EM): Mathematical Representation

High-Impact Strategies

- Teachers model students' thinking.
- Teachers scaffold as students explain or model their own thinking.

Student Practice (Common Core)

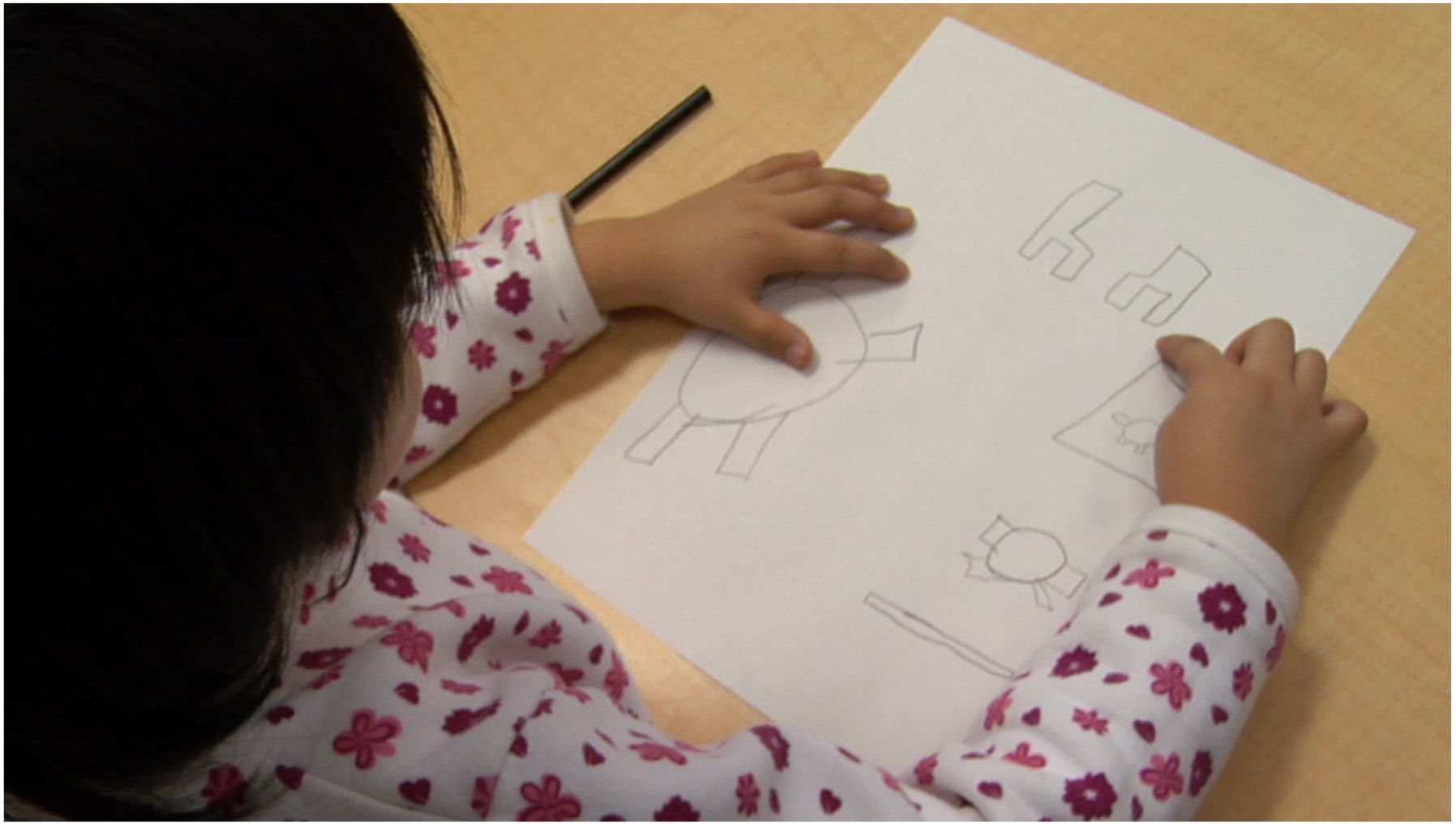
#4: Model with mathematics.

#6: Attend to precision.

Video Analysis: Evidence of Practice

- *Are the mathematical representations accurate?*
- *Do they help students make sense of mathematical ideas?*

Video Analysis: Mathematical Representation



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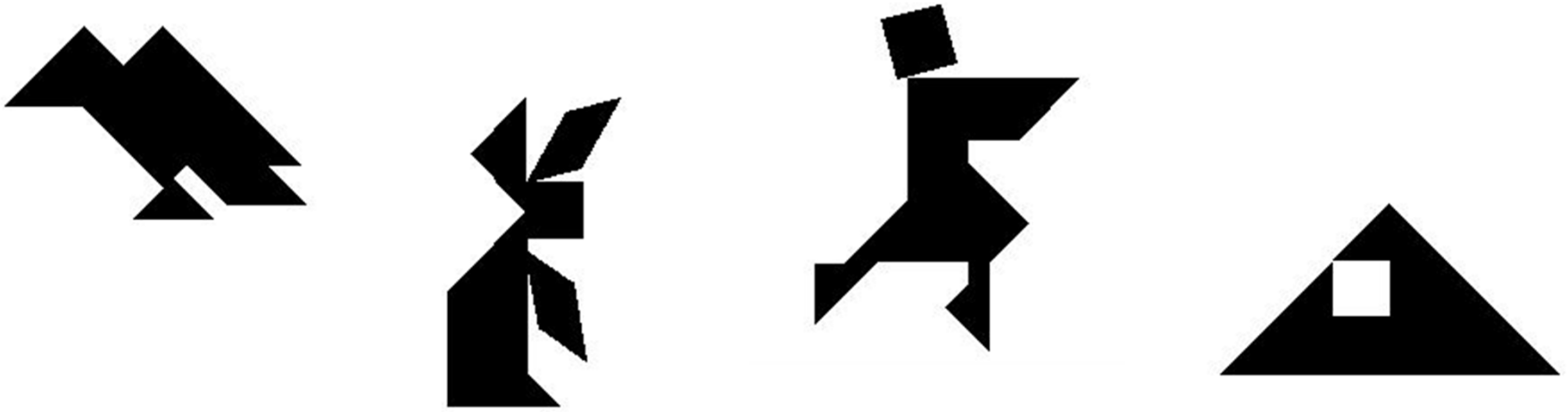
Tangram Time

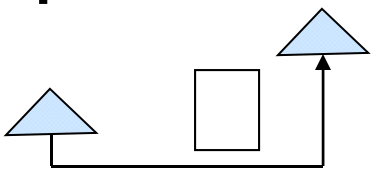
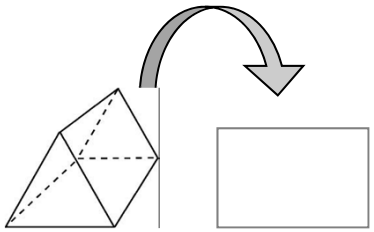
- We start by making our own.
- Can you put it back into a square?
- Can you make your first initial?
- Can you complete one of these puzzles?



A Big Idea about Spatial Relationships

Spatial relationships
can be visualized
& manipulated mentally.

Big Ideas of Spatial Relationships

Topic	Big Ideas	Examples
Describing Space 	●Relationships between objects and places can be described with mathematical precision.	• Maps and models represent the 3-dimensional world. • *Joshua is in front of Ana, and he is behind Tameika.*
Visualizing Space 	●Our own experiences of space and two-dimensional representations of space reflect a specific point of view. ●Spatial relationships can be visualized and manipulated mentally.	• A party hat looks triangular from the side, but when you lay it down, it can look like a circle. • An expert jigsaw-puzzle solver can picture a missing piece and does not rely on trial and error.

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Reflecting on today's learning …

Have a restful winter break
& a happy start to the New Year!

We'll see you again
at Erikson
on Friday, February 1, 2013.

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