At-Home Learning Presents CLASSROOM CONNECTION

Lesson Title: Discovering Area **Designer:** Diane Hunter
Discipline: Math **Grade Level:** 4-5

Activity 1: Make predictions of area and build connections across the mathematical concepts you are learning!
(Appropriate for AFTER the Broadcast Lesson)

Activity Goal: Work towards gauging the reasonable elements of estimation based on the length and width of a rectangle.

Targeted Math Skills: Notice the connection between the length & width of a rectangle and the area.

Materials: Rectangle cards (cut-out); writing utensil (pencil); blank paper (to record predictions)

Steps:

1. Choose a rectangle to estimate the area.
2. Record your prediction on your blank paper.
3. Find the actual area and consider how your prediction differed.
4. Look at the rectangle and make connections between what you see with the side lengths/grid and the area.

Questions to Consider:

- Was your prediction more, less, or equal to the actual area?
- What resources (tools or information) did you use to predict the area?

Activity 2: Equal Area FACE-OFF!
(Appropriate for AFTER the Broadcast Lesson)

Activity Goal: Explore and recognize different looking rectangles that contain the same area.

Targeted Math Skills: Area does not always look exactly the same.

Materials: Graph paper (or another kind of paper); writing utensil; and area cards.

Steps:

1. Pick an area card.
2. Create as many rectangles with that area as possible (3-5 minutes).
3. Compare the different rectangles that you came up with to deduce the area.

Questions to Consider:

1. How did you come up with the area dimensions?
2. What do you notice about the differing dimensions for each rectangle? Did the area you calculated match your initial observation of how the area appeared?

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Further Extension: What do you notice about the areas that had many different rectangles that could be created?

Additional Resources for Lesson-Related Extension Activities:

- **Helpful Tips**: When using square units, emphasize that area is about the squares needed to cover the space. When counting, emphasize "1 square unit, 2 square units…"

- **Student-Facing &/or Teacher-Facing:**
  - Additional lessons/resources for calculating area &/or perimeter - https://www.bbc.co.uk/bitesize/articles/znt3hcw
  - Review mathematical concepts - calculating area (Math antics) https://www.youtube.com/watch?v=xCdxURXMdFY

- **Teacher-Facing:**
  - Additional lessons/tutorials (finding perimeter review) https://www.education.com/lesson-plan/finding-perimeter/ https://www.youtube.com/watch?v=Jec4BLl-cAc
  - Additional lessons (finding area review) (Learnzillion) - https://learnzillion.com/lesson_plans/3115-9-add-the-areas-of-rectangles-within-a-rectilinear-figure-fp/

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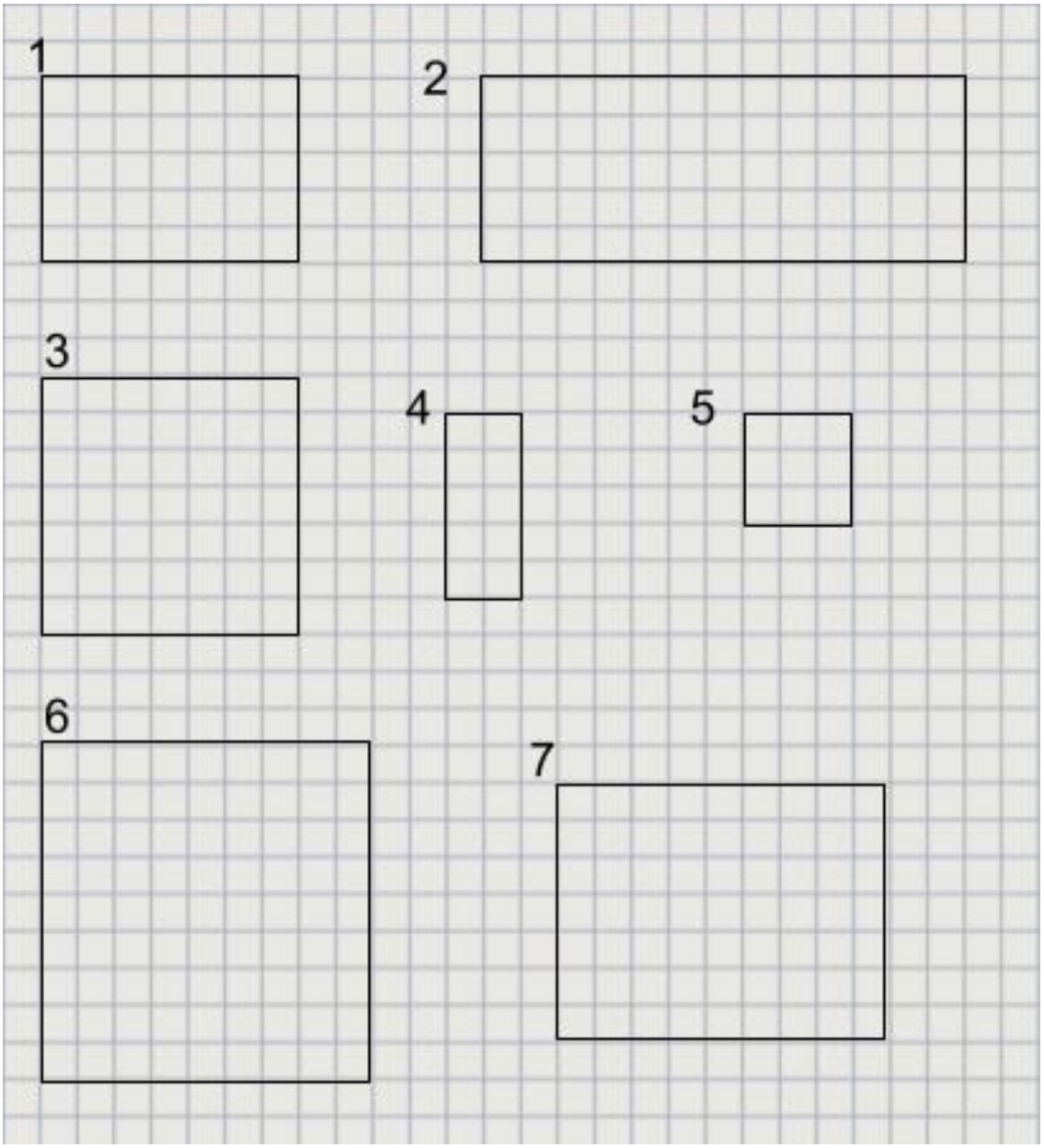
Activity 1 Materials

- Rectangle cards:



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Activity 1 Materials

- Sample prediction sheet:

Rectangle number	Prediction	Actual Area

Activity 2 Materials

- Area cards:

12 sq units	**24 sq units**	**16 sq units**
20 sq units	**18 sq units**	**25 sq units**
30 sq units	**36 sq units**	**40 sq units**