Appendix C
Lesson Plan from Second Teaching with Notes for Final Revision

Note: Comments with * are notes for final revision

Grade Level: Third
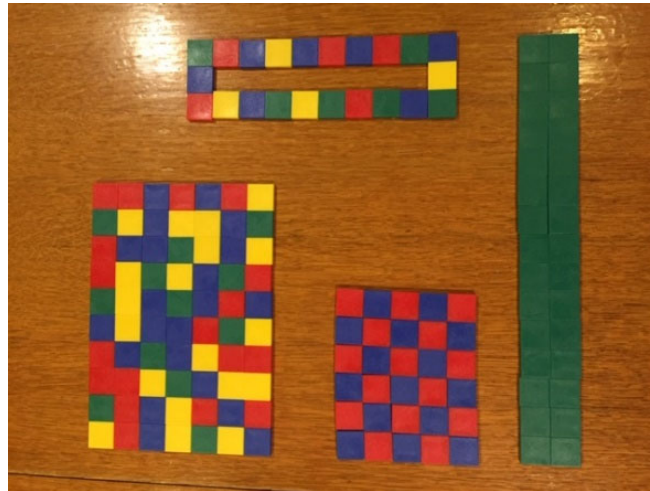
Length of Time: 60 minutes

Task Name: Crystal's Rug

Planning Component	Component Information
Tennessee Math Standard	3.MD.C.7 Relate area of rectangles to the operations of multiplication and addition.
Standard for Mathematical Practice	MP1 Make sense of problems and persevere in solving them. MP2 Reason abstractly and quantitatively. MP6 Attend to precision. MP7 Look for and make use of structure.
Literacy Skills for Mathematical Proficiency	Understand and use correct mathematical vocabulary. Discuss and articulate mathematical ideas.
Essential Understandings, Learning Goal(s), and Performance Goal(s)	Essential Understanding(s): The amount of space inside a shape is its area, and area can be estimated or found using square units. Square units can be used to create shapes with given areas. Standard measurement units are used for consistency in finding and communicating measurements. The area of some rectangles can be used to model the Distributive Property. Learning Goal(s): The student will relate area to the operations of multiplication and addition. Performance Goal(s): The student demonstrates an understanding of area by composing multiple rectangles with the same area.
Materials Needed	Task Recording Sheet Grid Paper Tiles

Steps of the Lesson	Number Talk: Which One Doesn't Belong? (*Rework this image so that all are arrays. Some of the arrays would have equal perimeter and 3 of the arrays would have equal area.)
	Task: Crystal's Rug
	Crystal wants a rectangular rug for her living room. She asks a rug maker to make a rectangular rug with an area of 36 square feet. The rug maker realizes there is more than one way that he can make the rug, so he decides to make rugs all of the possible dimensions and then let her choose. Use picture, equations or words to model your thinking.
	*Delete this question: What are all the dimensions of all the rugs that he could make? And replace with: a) List all possible dimensions of rectangles which are used to model possible rugs that he could make. b) List all possible rectangular rugs he could make.
	• Private Think Time so individual students can solve task.
	• Small Group Share: Share work in small groups. Students will compare their work and determine if they have found rectangles with an area of 36 ft.
	• Select and Sequence student work to share with whole group. ▪ Think about Concrete-Pictorial-Abstract as students share. ▪ Keep in mind area models and strategies to find all rectangles. ▪ Look for organized list to verify that all rectangular rugs were found. Debrief: making the real-life connection (difference in questions a and b) (reason abstractly and quantitatively practice standard)

Possible Solution Path	Assessing Questions	Advancing Questions
The student cannot get started.	How many tiles you will need to model the rug?	
Student only writes equations.	How does the equation relate to the task?	Can you model your equation with tiles or grid paper?
Student only records one rectangle.	Is there another rug with 36 square units?	How do you know if you have found all the rugs?

Additional Formative Assessments	N/A
Extensions: (Eliminated after first teaching)	Can you design a rug that is 36 square units but not a rectangle? Record your thinking and prove it is 36 square units. Use a diagram and equation.