

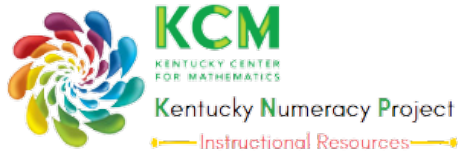
Lesson Plan for KNP Activity

M 4449.4: Bead Arrays (Finding factors)

Teacher Planning Notes:	
Task Group Number: 4449	Task Group Name: Bead Arrays
Strand: Multiplication and Division	Activity Level and Color: 4 Purple
KNP Activity Link with access to Printables and Student Instructions: /knp/activity.php?id=4449.4&prefix=M	
Numeracy Target: Multiply and divide within 100 using counting strategies Numeracy Targets Chart	
Fluency Benchmark: KY.3.OA.7 Fluently multiply and divide within 100.	
Kentucky Academic Standard(s): KY.3.OA.3 , KY.3.OA.5 , KY.3.OA.7	
Student-Friendly Learning Target: I am learning to create arrays with a given number of beads.	
Suggested Student Grouping(s): pairs/small group	
Materials: 100 beadrack (10 rows of 10) per player, number cards within 100, writing space or 1 recording sheet per person	
Activity Description: Students use a 100 beadrack (10 rows of 10) create arrays for a given number of beads. In the game version, on a player's turn the player draws a number to determine the number of beads. The student then creates as many arrays as possible for that amount. In this case, treat "turn around facts" (i.e., 2×5 and 5×2) as different arrays. The student who can create the most arrays for his or her number earns a point. The first player to earn 4 points wins. An optional recording sheet is included with a place to record the total, the created arrays, and points earned. As an alternative to the game, the teacher may give one number to the group and allow the students to work together to find all the different arrays. As an extension, students might use graph paper or dot paper to create arrays with a dimension greater than 10.	
Teacher Notes: Attend to how students approach making arrays. Is it only trial and error, or do they use one array to generate others? For example, if a 5×6 array works, then so will a 6×5 (commutative) and 10×3 (doubling and halving) and 3×10 .	

Evidence of Learning (Diagnostic Assessment of Progress): Give student a 100 bead rack. Ask student to build an array with 30 beads (or another amount). Ask for additional ways. As an extension, ask for an array that "doesn't fit" on a bead rack.

KNP ID #M 4449.4



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