Lesson Plan for KNP Activity
M 4449.1: Bead Arrays (up to 5 x 5)

Teacher Planning Notes:

Task Group Number: 4449	**Task Group Name:** Bead Arrays
Strand: Multiplication and Division	**Activity Level and Color:** 1 Red

KNP Activity Link with access to Printables and Student Instructions:
/knp/activity.php?id=4449.1&prefix=M

Numeracy Target: Build and share items into equal groups
Numeracy Targets Chart

Fluency Benchmark: KY.3.OA.7 Fluently multiply and divide within 100.

Kentucky Academic Standard(s): KY.2.OA.4

Student-Friendly Learning Target: I am learning to build arrays (up to 5x5) and write a matching number sentence.

Suggested Student Grouping(s): pairs/small group

Materials: beadrack (10 rows of 10) per player, 1 cube with labels {2 rows of, 3 rows of, 3 rows of, 4 rows of, 5 rows of, 5 rows of} and another cube with labels {2, 3, 4, 4, 5, 5}, writing space or recording sheet for each student

Activity Description: Students use a 100 beadrack (10 rows of 10) to create arrays when given the number of rows and number of beads in each row. In the game version, players roll a cube to determine the number of rows and another to determine the number of beads in each row. The students make the array and record a matching addition sentence. The student with the largest array (i.e. most beads) wins the round and earns a point. In case of a tie, both (or all) players get points. An optional recording sheet is included with a place to record the cube amounts, the addition sentence and points earned. Alternatively, the teacher may choose to have all students create the same array and explore different ways to count the total number of beads in the array.

Teacher Notes: Attend to how students count the beads. Is the student counting all of the beads in one row before counting the next? Does the student skip count? Does the student use previously counted arrays or known arrays as a reference or "chunk" the rows instead of counting by 1's? Students familiar with the symbols may also write the multiplication number sentence. The amounts on the dice may vary.

Evidence of Learning (Diagnostic Assessment of Progress): Give student a 100 beadrack. Ask student to build an array that is 5 rows of 3 (or other amounts). Ask student to determine the number of beads and say or write a matching addition sentence.

KNP ID #M 4449.1