

Lesson Plan for KNP Activity

M 4404.4: Solving Bug Word Problems

Teacher Planning Notes:

Task Group Number: 4404

Task Group Name: Buggin' Out - [2,4,6,8]

Strand: Multiplication and Division

Activity Level and Color: 4 Purple

KNP Activity Link with access to Printables and Student Instructions:

</knp/activity.php?id=4404.4&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.2](#), [KY.3.OA.3](#), [KY.3.OA.4](#)

Student-Friendly Learning Target: I am learning to represent a word problem using different methods to find the product or quotient.

Suggested Student Grouping(s): Small Group 4-5/ independent

Materials: Word Problem Cards: 30 cards in total, 2 sheets; 15 Grasshopper Game Cards & 15 Bee Game Cards; Grasshopper Work Mat: one per person; Optional: 100 bead rack

Activity Description: Each student should receive their own work mat. All the word problem cards (grasshopper and bee cards) should be shuffled and placed upside down in the middle of the students. On their turn, a student will draw a word problem card and read it out loud. The student will then write down the matching equation with the unknown in the indicated area on their work mat. Next the student will represent the equation by drawing and labeling equal groups. The student will then represent the equation as a repeated addition sentence. Once this has been completed the student will end their turn by recording their total on the work mat and share their work with the group. (Game play does not necessarily need to follow this pattern. Work mat can be completed in any order as long as the equation is recorded first.) Play will continue until all students have had four turns.

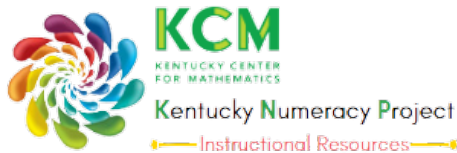
Teacher Notes: This activity challenges students to use multiplicative counting to count composite units in multiplication word problems with equal groups, arrays and comparing with unknown products and group sizes. While students will also be challenged to solve problems without a visual marker, a bead rack could be useful to support student's development of imagined quantities. Students are ready for this activity when they are able to re-present items in a multiplication problem with groups but are still relying on perceptual markers to represent each group. This activity contains two set of word problem cards based off the common multiplication and division situations. These problem types can be found in the table on page 89 in the Common Core State Standards for Mathematics.

- o 5 Green Grasshopper Cards: Equal groups/Unknown product
- o 5 Blue Grasshopper Cards: Arrays/Unknown product
- o 5 Purple Grasshopper Cards: Compare/Unknown product
- o 5 Yellow Bee Cards: Equal groups/Group size unknown
- o 5 Red Bee Cards: Arrays/Group size unknown
- o 5 Blue Bee Cards: Compare/Group size unknown

If student struggles to remember the values of each type of bug game card, set one of each type of bug game card face up in front of the student for reference. Use lamination or protective sleeves for the work mat use of dry erase markers is possible. Protective sleeves are easier to erase than lamination but do not hold up as long. It is also recommended that word problem cards are printed on card stock or heavier paper to prevent wear and tear. If unable to print word problem cards in color, label each card according to their coordinating color with markers or colored dot stickers. Alternative materials: If printing the work mat is not possible, students may create their own work mat on a piece of paper. Be sure to have them follow the same format as the one provided. Created by Jordan Rhude & Emily Westerling, 2015

Evidence of Learning (Diagnostic Assessment of Progress): Student will draw a word problem card, write the equation and solution, and then model with equal groups and repeated addition.

KNP ID #M 4404.4



www.kymath.org
kcm@nku.edu