

Lesson Plan for KNP Activity

S 2209.2: Problem Solvers

Teacher Planning Notes:	
Task Group Number: 2209	Task Group Name: Problem Solvers
Strand: Structuring	Activity Level and Color: 2 Blue
KNP Activity Link with access to Printables and Student Instructions: /knp/activity.php?id=2209.2&prefix=S	
Numeracy Target: Intermediate structures to 10 Numeracy Targets Chart	
Fluency Benchmark: KY.1.OA.6 Fluently add and subtract within 10.	
Kentucky Academic Standard(s): KY.1.OA.1 , KY.1.OA.4 , KY.2.OA.2	
Student-Friendly Learning Target: I am learning to model and solve word problems using manipulatives in the range of 1-10.	
Suggested Student Grouping(s): whole group, small group, partners, or independent work	
Materials: question cards, working mats, various manipulatives (counters, cubes, bear counters, etc.)	
Activity Description: Students will draw a question card and model the question with manipulatives using either a number bond or part-part-whole mat to solve for the missing quantity. Students will describe their model and explain their thinking to their teacher or partner.	

Teacher Notes: With this activity, students should have an initial understanding of the part-part-whole relationships (i.e. understanding addition as putting together and adding to, and understanding subtraction as taking apart and taking from) of numbers. The range of numbers in this activity has been extended to 10 to give students opportunities to explore different ways to model computational situations using concrete materials, while still supporting the ongoing development of fluency to 10 (and building/supporting the foundation for fluency to 20). This activity presents an opportunity for students to develop strategies for breaking numbers into different parts, to develop strategies for understanding and solving word problems, and to become fluent with computation within 10. Students should be encouraged to use their own strategies throughout this activity and keywords should NOT be promoted (i.e., the word altogether does not always mean addition, etc.). As students develop a good working knowledge of modeling and solving these types of problems with concrete materials, the activity can be extended by having students attach a post-it or numeral card to the corresponding collections on their working mats. For example, if a student gets a card that says "9 boys went into the library, and then 2 boys came out. How many boys are in the library now?" and models the problem with counters on a working mat, the student could then place a post-it note with the corresponding numeral under each collection to model the problem with both materials and numerals. This is a good way to help students transition from concrete to abstract representations and to develop a sense of the relationship between addition and subtraction. Teachers are also encouraged to create additional questions to supplement the questions provided within the activity. Using classroom and/or school specific questions are a great way to reinforce the understanding of computation while using real-world examples that are relevant to students. Problem cards are labeled with letters indicating the increasing level of complexity. Cards labeled with letter A address kindergarten levels of master. Cards labeled with letter B address first grade levels of master. Cards labeled with letter C address second grade levels of master. First grade students will continue to work with card type A while progressing to mastery to card type B. Second grade students will work with card type A and B while progressing to mastery of card type C. Students should not be restricted to a specific card type with they are ready to advance. Be flexible and allow they to work with what card type will challenge them.

Evidence of Learning (Diagnostic Assessment of Progress): Give students a handful of counters (at least 10). Verbally pose a math problem that involves situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions and ask student to solve with counters.

KNP ID #S 2209.2



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