

Lesson Plan for KNP Activity

S 2209.4: Problem Solvers

Teacher Planning Notes:

Task Group Number: 2209

Task Group Name: Problem Solvers

Strand: Structuring

Activity Level and Color: 4 Purple

KNP Activity Link with access to Printables and Student Instructions:

</knp/activity.php?id=2209.4&prefix=S>

Numeracy Target: Intermediate structures to 20

[Numeracy Targets Chart](#)

Fluency Benchmark: KY.2.OA.2 Fluently add and subtract within 20.

Kentucky Academic Standard(s): [KY.1.OA.1](#), [KY.1.OA.6](#), [KY.1.OA.8](#)

Student-Friendly Learning Target: I am learning to model and solve word problems in the range of 1-20.

Suggested Student Grouping(s): whole group, small group, partners, or independent work

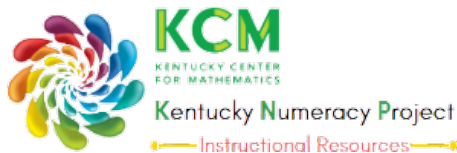
Materials: question cards, working mats, manipulatives (counters, cubes, etc.), paper and pencil or other writing materials

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 then write an equation to describe their model and explain their thinking to their teacher or partner.

Teacher Notes: This activity fosters student exploration of part-part-whole relationships of numbers through 20. Concrete materials are used to give students opportunities to explore different ways to model computational situations, while still supporting the ongoing development of fluency to 20. 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.). While some students may not require the use of manipulatives to solve all word problems, the use of modeling within this activity reinforces student strategies for problem solving and provides a good way for students to show their thinking and strategies, even if they can mentally do the computation. The use of manipulatives is also a good way to prepare students to demonstrate their thinking on state assessments. Students are also asked to write a matching equation in this activity to demonstrate a numerical representation of their model. Students should be encouraged to write equations that have the missing quantity in varied positions. For example, in the question \"Ten students were in the library. Six students were boys and the rest were girls. How many girls?\" the corresponding equation could be written as $10 = 6 + ?$ instead of always placing the = at the end of the equation. 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 them to work with what card type will challenge them.

Evidence of Learning (Diagnostic Assessment of Progress): Give students a handful out counters (at least 20). 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 and write a corresponding equation.

KNP ID #S 2209.4



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