

# Lesson Plan for KNP Activity

## A 3340.5: Problem Strings

<b>Teacher Planning Notes:</b>	
<b>Task Group Number:</b> 3340	<b>Task Group Name:</b> Panel Dot Cards
<b>Strand:</b> Addition and Subtraction	<b>Activity Level and Color:</b> 5 Pink
<b>KNP Activity Link with access to Printables and Student Instructions:</b> <a href="/knp/activity.php?id=3340.5&amp;prefix=A">/knp/activity.php?id=3340.5&amp;prefix=A</a>	
<b>Numeracy Target:</b> Add and subtract using a range of composite strategies <a href="#">Numeracy Targets Chart</a>	
<b>Fluency Benchmark:</b> KY.2.OA.2 Fluently add and subtract within 20.	
<b>Kentucky Academic Standard(s):</b> <a href="#">KY.2.NBT.5</a>	
<b>Student-Friendly Learning Target:</b> I am learning to use composite strategies to add and subtract within 20.	
<b>Suggested Student Grouping(s):</b> teacher partner, small group, whole class	
<b>Materials:</b> Problem strings in the range of 20, double bead rack (optional), writing materials	
<b>Activity Description:</b> The teacher will choose or create a problem string and present the string, one problem at a time, to the student or group of students. (See the print link for more information about problem strings and several examples.)	

**Teacher Notes:**

Problem strings are a powerful tool for supporting math talk in the classroom. After posing problems, give plenty of wait time. Prompt students to explain their thinking and invite them to find and use a variety of strategies. Use questions such as "Can you use this problem to solve the next problem?", "Can you solve it another way?" and "Do you see a pattern?" to foster reflections, sense making and the development of more advanced strategies. If students need the support of materials, problems can be presented on a double bead rack, such as the virtual bead accessible through the interactive website link, and then screened. For more information about strings, see the print link.

**Evidence of Learning (Diagnostic Assessment of Progress):**

Present any of the problem strings. Prompt student to explain thinking for each solution. Prompt student to look for patterns or ways to use previous problems to solve subsequent problems.

**KNP ID #A 3340.5**

[www.kymath.org](http://www.kymath.org)  
[kcm@nku.edu](mailto:kcm@nku.edu)