

# Grade K Section 3

Activity	<i>Everyday Mathematics</i> Goal for Mathematical Practice	Guiding Questions
<b>Activity 3-1 Number Books</b>		
Writing Numbers 0-10  <i>(Teacher's Guide to Activities, pages 138 and 139)</i>	<b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.  <i>See also:</i> <b>GMP 1.6, GMP 2.2, GMP 4.1, GMP 6.1</b>	How did you know how many objects to draw?  What goes in the picture box to show 0? Why?
Reviewing Color Patterns  <i>(Teacher's Guide to Activities, page 139)</i>	<b>GMP 7.1</b> Find, extend, analyze, and create patterns.  <i>See also:</i> <b>GMP 3.1</b>	Which pattern was the hardest to figure out? Why?  <b>How do you figure out how to extend patterns?</b>
<b>Activity 3-2 Macaroni Necklaces</b>		
Making Macaroni Necklaces  <i>(Teacher's Guide to Activities, page 140)</i>	<b>GMP 7.1</b> Find, extend, analyze, and create patterns.  <i>See also:</i> <b>GMP 3.1, GMP 3.2, GMP 6.1</b>	How would you describe the pattern on your necklace?  How is your pattern similar to or different from your classmates' patterns?
Estimating Pennies  <i>(Teacher's Guide to Activities, page 141)</i>	<b>GMP 3.1</b> Explain both what to do and why it works.  <i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 4.1, GMP 5.2, GMP 6.2</b>	How did you estimate how many pennies were in the jar? Did the jar with 10 pennies help? If so, how?  <b>Which jar of pennies would you rather have? Why?</b>

<b>Activity 3-3 Roll and Record</b>		
<p>Graphing Dice Rolls</p> <p><i>(Teacher's Guide to Activities, pages 142 and 143)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 4.2, GMP 6.1</b></p>	<p>What do the numbers on your graph stand for? What do the filled-in squares stand for?</p> <p>How does your graph show which number you rolled the most?</p>
<p>Continuing Number Books</p> <p><i>(Teacher's Guide to Activities, page 143)</i></p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 6.1</b></p>	<p>Where do you see numbers in your daily life?</p> <p><b>When and why do we write numbers?</b></p>
<b>Activity 3-4 The Pan Balance</b>		
<p>Introducing the Pan Balance</p> <p><i>(Teacher's Guide to Activities, pages 144–146)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 3.1, GMP 4.1, GMP 5.3, GMP 8.3</b></p>	<p>How do you use a pan balance to compare weights?</p> <p><b>Why or when might we want to compare the weights of objects?</b></p>
<p>Playing <i>Give the Next Number</i></p> <p><i>(Teacher's Guide to Activities, page 147)</i></p>	<p><b>GMP 6.3</b> Be accurate when you count, measure, and calculate.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 3.2, GMP 4.1</b></p>	<p>How do you keep track of the numbers when it is not your turn?</p> <p><b>When have you needed to count correctly in your daily life? Why was it important to get the count right?</b></p>
<b>Activity 3-5 Domino Concentration Game</b>		
<p>Playing <i>Domino Concentration</i></p> <p><i>(Teacher's Guide to Activities, pages 148 and 149)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2</b></p>	<p>Can there be more than one domino card that matches the same number card? How?</p> <p>How are the domino cards and number cards the same? How are they different?</p>

<p>Continuing Number Books</p> <p><i>(Teacher's Guide to Activities, page 149)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.3</b></p>	<p>Could you use dominoes to show the number on each page? How?</p> <p>Compare your page for one of the numbers with someone else's page for the same number. What is the same about them? What is different?</p>
<b>Activity 3-6 Monster Squeeze Game</b>		
<p>Playing <i>Monster Squeeze</i></p> <p><i>(Teacher's Guide to Activities, pages 150 and 151)</i></p>	<p><b>GMP 1.3</b> Try different approaches when your problem is hard.</p> <p><i>See also:</i> <b>GMP 1.2, GMP 8.3</b></p>	<p>How do you use the answers to old guesses to make a new guess?</p> <p><b>What can you do if you feel frustrated when doing math?</b></p>
<p>Telling and Drawing Number Stories</p> <p><i>(Teacher's Guide to Activities, page 151)</i></p>	<p><b>GMP 1.5</b> Check whether your solution makes sense.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.4, GMP 1.6, GMP 2.1, GMP 2.2, GMP 3.1, GMP 3.2, GMP 4.1, GMP 4.2, GMP 5.1, GMP 5.2, GMP 5.3, GMP 6.1, GMP 6.3</b></p>	<p>How can you check your answer to a number story problem?</p> <p><b>Why is it important to check our answers in math?</b></p>
<b>Activity 3-7 Measurement with Objects</b>		
<p>Measuring with Nonstandard Units</p> <p><i>(Teacher's Guide to Activities, pages 152 and 153)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 4.1, GMP 5.1, GMP 6.1, GMP 6.2, GMP 6.3</b></p>	<p>How do you know if you have too few or too many cubes (or another material) when you measure?</p> <p><b>Are cubes (or another material) a good tool for measuring every object? Why or why not?</b></p>

<p>Continuing Number Books</p> <p><i>(Teacher's Guide to Activities, page 154)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 4.1, GMP 6.3</b></p>	<p>What do the numbers in your book stand for?</p> <p><b>How are numbers like letters? How are they different from letters?</b></p>
<b>Activity 3-8 Pocket Problems</b>		
<p>Solving Pocket Problems</p> <p><i>(Teacher's Guide to Activities, pages 156 and 157)</i></p>	<p><b>GMP 1.5</b> Check whether your answer makes sense.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.4, GMP 1.6, GMP 2.1, GMP 2.2, GMP 3.1, GMP 4.1, GMP 6.3, GMP 7.1, GMP 7.2</b></p>	<p>How can you check your answer to a pocket problem?</p> <p><b>What can you do if your answer doesn't seem to make sense?</b></p>
<p>Graphing Dice Rolls</p> <p><i>(Teacher's Guide to Activities, page 157)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 2.2, GMP 4.2</b></p>	<p>How does the <i>Dice Race</i> chart (or Dice Roll graph) help you keep track of the numbers you rolled?</p> <p>How could you do the activity without the chart or graph?</p>
<b>Activity 3-9 Number Card Games</b>		
<p>Playing Number Card Games</p> <p><i>(Teacher's Guide to Activities, pages 158 and 159)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i> <b>GMP 3.1, GMP 6.3</b></p>	<p>How did you put your cards in numerical order?</p> <p><b>Is it easier to find numbers when they are mixed up or in order? Why?</b></p>

Continuing Number Books  <i>(Teacher's Guide to Activities, page 159)</i>	<b>GMP 6.3</b> Be accurate when you count, measure, and calculate.  <i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 2.2, GMP 4.1</b>	How do you check that you drew the correct number of pictures on each page?  <b>Why is it important to count carefully (accurately)?</b>
<b>Activity 3-10 Probability Stories</b>		
Thinking about Probability: Can Pigs Fly?  <i>(Teacher's Guide to Activities, pages 160 and 161)</i>	<b>GMP 3.1</b> Explain both what to do and why it works.  <i>See also:</i> <b>GMP 3.2, GMP 4.1, GMP 6.1</b>	What is an example of something that is <i>likely</i> to happen today? Why is it likely? Do others agree?  What is something that is <i>unlikely</i> to happen today? Why is it unlikely? Do others agree?
Creating Shape Art  <i>(Teacher's Guide to Activities, page 161)</i>	<b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.  <i>See also:</i> <b>GMP 1.4, GMP 2.1, GMP 4.1</b>	How would you describe one of the shapes or pictures you made?  <b>How could you describe a shape if you don't know its name?</b>
<b>Activity 3-11 Probability Tray</b>		
Using a Probability Tray  <i>(Teacher's Guide to Activities, pages 162 and 163)</i>	<b>GMP 1.1</b> Work to make sense of your problem.  <i>See also:</i> <b>GMP 1.2, GMP 2.1, GMP 2.2, GMP 3.1, GMP 6.1, GMP 7.2</b>	What color do you think you will pick? Why? How sure are you?*
Creating Shape Art  <i>(Teacher's Guide to Activities, page 163)</i>	<b>GMP 4.1</b> Apply mathematical ideas to real-world situations.  <i>See also:</i> <b>GMP 1.4, GMP 2.1</b>	Could you use the shapes to make a picture of something in the real world?  <b>What are some examples of shapes in our environment?</b>

<b>Activity 3-12 Pan Balance 2: Leveling</b>		
<p>Balancing Objects with Clay</p> <p><i>(Teacher's Guide to Activities, pages 164 and 165)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 1.4, GMP 3.1, GMP 6.1</b></p>	<p>How did you make your pan balance level? How do you know whether to add (or take away) clay?</p> <p>What mistakes might someone make when using a pan balance?</p>
<p>Playing <i>Count and Sit</i></p> <p><i>(Teacher's Guide to Activities, page 165)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i> <b>GMP 6.3, GMP 7.1</b></p>	<p>How does the game change as more people sit down?</p> <p>Can you figure out who will be the last one standing? How?</p>
<b>Activity 3-13 Train Games</b>		
<p>Playing Train Games</p> <p><i>(Teacher's Guide to Activities, pages 166 and 167)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.4, GMP 3.1, GMP 6.3, GMP 7.2, GMP 8.1</b></p>	<p>How do you figure out how many more you need to get up to 10 (or down to 0)?</p> <p>What are different combinations of rolls you can get to finish the game?</p>
<p>Finding <i>I Spy</i> Patterns</p> <p><i>(Teacher's Guide to Activities, page 167)</i></p>	<p><b>GMP 6.2</b> Use the level of precision you need for your problem.</p> <p><i>See also:</i> <b>GMP 4.1, GMP 6.1, GMP 7.1</b></p>	<p>What clues could you give so you do not give away the pattern too quickly?</p> <p>What clues could you give to help us find the pattern if we have trouble?</p>

<b>Activity 3-14 Favorite Colors Graph</b>		
<p>Graphing Favorite Colors</p> <p><i>(Teacher's Guide to Activities, pages 168 and 169)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.1, GMP 8.3</b></p>	<p>How can we show this [favorite color] information on paper?*</p> <p><b>What else could you show in a bar graph?</b></p>
<p>Measuring with Objects</p> <p><i>(Teacher's Guide to Activities, page 169)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 3.1, GMP 5.2, GMP 6.1, GMP 6.3</b></p>	<p>How did you use pictures, numbers, or other ways to record your measurements?</p> <p>Why might we want to record our measurements in these ways?</p>
<b>Activity 3-15 Count by 10s</b>		
<p>Counting by 10s</p> <p><i>(Teacher's Guide to Activities, pages 170 and 171)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 5.1, GMP 6.1, GMP 6.3, GMP 7.1, GMP 8.2</b></p>	<p><b>Why is it faster to count the fingers by 10s than by 1s? When else might you count by 10s?</b></p> <p>How many children do we need to have 40 (or another number) fingers? How did you figure that out?</p>
<p>Solving Pocket Problems</p> <p><i>(Teacher's Guide to Activities, page 171)</i></p>	<p><b>GMP 7.1</b> Find, extend, analyze, and create patterns.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 3.1, GMP 4.1, GMP 6.3, GMP 7.2, GMP 8.1</b></p>	<p>What do you notice about the total number of objects each time we <i>add</i> to our pocket?</p> <p>What do you notice about the total number of objects each time we <i>subtract</i> (take away) from the objects in the pocket?</p>

<b>Activity 3-16 Teen Frame Game</b>		
<p>Playing <i>Teen Frame</i></p> <p>(<i>Teacher's Guide to Activities</i>, pages 172 and 173)</p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i>  <b>GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 3.1, GMP 3.2</b></p>	<p>If you always fill up the ten boxes in the top row, how do you know how many to put in the bottom row?</p> <p><b>Why or when might it be helpful to think of teen numbers as “10 and some more”? Are there other numbers you can think of in similar ways? How might you make a gameboard for them?</b></p>
<p>Choosing from a Probability Tray</p> <p>(<i>Teacher's Guide to Activities</i>, page 173)</p>	<p><b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 2.1, GMP 2.2, GMP 3.1, GMP 7.2</b></p>	<p>Explain why it is likely or unlikely that the next counter chosen will be red (or another color).</p> <p>If I add more red (or blue) counters, will it be more or less likely that I will choose a red (or blue)?</p>

\*denotes a question that is currently in the *Everyday Mathematics* materials



# Grade K Section 4

Activity	<i>Everyday Mathematics</i> Goal for Mathematical Practice	Guiding Questions
<b>Activity 4-1 Number Line Mathematics</b>		
Counting Steps on the Number Line  <i>(Teacher's Guide to Activities, pages 188 and 189)</i>	<b>GMP 1.6</b> Connect mathematical ideas and representations to one another.  <i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 5.2</b>	How is the walk-on number line like our Growing Number Line?  <b>How is a number line helpful?</b>
Exploring Pattern Blocks  <i>(Teacher's Guide to Activities, page 189)</i>	<b>GMP 7.1</b> Find, extend, analyze, and create patterns.  <i>See also:</i> <b>GMP 6.1</b>	Do all the shapes with the same number of sides look the same? How are they the same and different?  How else are the pattern blocks the same? Can you make groups of blocks that are alike?
<b>Activity 4-2 Top-It Card Games</b>		
Playing <i>Top-It</i>  <i>(Teacher's Guide to Activities, pages 190 and 191)</i>	<b>GMP 5.1</b> Choose appropriate tools for your problem.  <i>See also:</i> <b>GMP 2.2, GMP 3.1</b>	<b>How do you know which of two numbers is higher?*</b>  If you aren't sure, what tools could help you decide which number is higher? What tools wouldn't be helpful for this?
Skip Counting by 10s  <i>(Teacher's Guide to Activities, page 191)</i>	<b>GMP 7.2</b> Use patterns and shortcuts to solve problems.  <i>See also:</i> <b>GMP 3.1, GMP 6.3, GMP 7.1, GMP 8.1, GMP 8.2</b>	How is <i>Give the Next Number</i> different when we count by 10s than when we count by 1s? Why is it like that?  Can anyone figure out how high we will get if we stop after everyone gets one turn?

<b>Activity 4-3 The Pattern-Block Template</b>		
<p>The Pattern-Block Template</p> <p><i>(Teacher's Guide to Activities, pages 192 and 193)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 7.1</b></p>	<p>What do you think the Pattern-Block Template might be used for?*</p> <p><b>How is a pattern-block template helpful?</b></p>
<p>Solving Pocket Problems</p> <p><i>(Teacher's Guide to Activities, page 193)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 3.1, GMP 4.1, GMP 6.3, GMP 7.1, GMP 7.2</b></p>	<p>How does the number of objects in the pocket change when I <i>add</i> to the pocket?</p> <p>Why does the number in the pocket always get bigger when I add to the pocket?</p>
<b>Activity 4-4 The Addition Symbol (+)</b>		
<p>Joining Objects Using the Addition Symbol</p> <p><i>(Teacher's Guide to Activities, pages 194 and 195)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 4.1, GMP 6.1, GMP 6.3, GMP 7.1</b></p>	<p>If you have a + between two numbers, what does it tell you to do?</p> <p><b>What does the addition symbol (+) mean? What words or pictures or gestures could we use if we didn't know that symbol?</b></p>
<p>Creating Pattern Strips</p> <p><i>(Teacher's Guide to Activities, page 195)</i></p>	<p><b>GMP 7.1</b> Find, extend, analyze, and create patterns.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 3.2, GMP 5.2</b></p>	<p>Compare your pattern to one that someone else made. How are the patterns alike? How are they different?</p> <p>How are these patterns like the patterns you made with macaroni? How are they different?</p>

<b>Activity 4-5 Follow My Pattern</b>		
<p>Creating and Extending Pattern-Block Patterns</p> <p><i>(Teacher's Guide to Activities, pages 196 and 197)</i></p>	<p><b>GMP 3.2</b> Work to make sense of others' mathematical thinking.</p> <p><i>See also:</i> <b>GMP 1.3, GMP 6.1, GMP 7.1, GMP 7.2</b></p>	<p>How do you figure out a partner's pattern? What do you do if you can't figure it out?</p> <p><b>What might make some patterns hard to figure out?</b></p>
<p>Estimating Objects in a Collection</p> <p><i>(Teacher's Guide to Activities, page 197)</i></p>	<p><b>GMP 6.2</b> Use the level of precision you need for your problem.</p> <p><i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 3.1, GMP 4.1, GMP 5.2</b></p>	<p>Based on your estimate, do you think there are enough raisins (or other item) for everyone in the class to have at least one? How sure are you?</p> <p>Based on your estimate, do you think there are enough raisins (or other item) for everyone in the class to have 10? How sure are you?</p>
<b>Activity 4-6 Interrupted Counts</b>		
<p>Counting from Different Numbers</p> <p><i>(Teacher's Guide to Activities, page 198)</i></p>	<p><b>GMP 5.1</b> Choose appropriate tools for your problem.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 6.3</b></p>	<p>Which tools in our classroom can help you count? How do you decide which tool to use?</p> <p><b>Do you always need a tool to help you count?</b></p>
<p>Graphing Dice Rolls</p> <p><i>(Teacher's Guide to Activities, page 199)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 6.1</b></p>	<p>How does your graph help you do the activity?</p> <p><b>When else might you use a chart or a graph to help you keep track of something?</b></p>

<b>Activity 4-7 Meet the Calculator</b>		
<p>Exploring Calculators</p> <p><i>(Teacher's Guide to Activities, pages 200–202)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 4.1</b></p>	<p><b>Why do you think the calculator only has numeral keys for 0–9? How can we display 10 on the calculator?*</b></p> <p><b>How can we display other 2-digit numbers?</b></p> <p>Why does the calculator have a clear key?</p>
<p>Playing <i>Teen Frame</i></p> <p><i>(Teacher's Guide to Activities, page 202)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2</b></p>	<p>How or where is the 10 in your number model shown on your Teen Frame? How about the other numbers in your number model?</p> <p>How does your number model connect with your Teen Frame?</p>
<b>Activity 4-8 Roll and Record with Two Dice</b>		
<p>Graphing Sums of Dice</p> <p><i>(Teacher's Guide to Activities, pages 204 and 205)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 5.1, GMP 5.2, GMP 6.1, GMP 7.2</b></p>	<p>Why do you think that 7 (or a different frequently-appearing number) came up more often than 2 (or 12)?</p> <p>Which number do you think would win if we did the activity again? Why?</p>
<p>Feeling Shapes</p> <p><i>(Teacher's Guide to Activities, page 205)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i> <b>GMP 3.2, GMP 6.1, GMP 7.1, GMP 7.2</b></p>	<p><b>Without looking at a shape (just by feeling it), explain how you know which one it is.</b></p> <p>Could you be wrong about your guess? Why or why not?</p>

<b>Activity 4-9 Body and Rope Shapes</b>		
<p>Making Shapes</p> <p><i>(Teacher's Guide to Activities, pages 206 and 207)</i></p>	<p><b>GMP 1.2</b> Make a plan for solving your problem.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.3, GMP 1.4, GMP 1.6, GMP 2.1, GMP 3.2, GMP 6.1, GMP 7.1, GMP 7.2</b></p>	<p>How did your group plan before you started making the shape? Would you change your plan for a different shape?</p> <p><b>How might having a plan help you solve problems?</b></p>
<p>Making Symmetrical Snowflakes</p> <p><i>(Teacher's Guide to Activities, page 207)</i></p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i>  <b>GMP 3.1, GMP 6.1, GMP 7.1</b></p>	<p>Have you ever noticed symmetry in a real snowflake or in something else in nature?</p> <p><b>How do you know if an object you find is symmetrical?</b></p>
<b>Activity 4-10 Shape Comparisons</b>		
<p>Comparing Shapes</p> <p><i>(Teacher's Guide to Activities, pages 208 and 209)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i>  <b>GMP 3.1, GMP 6.1, GMP 7.1, GMP 7.2</b></p>	<p><b>Is this still a triangle? Why or why not?*</b></p> <p><b>Are both of these triangles? Why or why not? How are they the same? How are they different?*</b></p>
<p>Sorting Names</p> <p><i>(Teacher's Guide to Activities, page 209)</i></p>	<p><b>GMP 1.4</b> Solve your problem in more than one way.</p> <p><i>See also:</i>  <b>GMP 7.1</b></p>	<p>How many different ways can we sort the names?</p> <p><b>Why (or when) might we want to sort things (toys, clothes, words, etc.) in different ways?</b></p>
<b>Activity 4-11 The Subtraction Symbol (–)</b>		
<p>Removing Objects Using the Subtraction Symbol</p> <p><i>(Teacher's Guide to Activities, pages 210 and 211)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i>  <b>GMP 1.6, GMP 2.1, GMP 4.1, GMP 6.1, GMP 6.3, GMP 7.1</b></p>	<p>If you have a – between two numbers, what does it tell you to do?</p> <p><b>What does the subtraction symbol (–) mean? What words or pictures or gestures could we use if we didn't know that symbol?</b></p>

<p>Practicing Number Writing</p> <p><i>(Teacher's Guide to Activities, page 211)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 6.1</b></p>	<p>What do these numerals we are writing have to do with counting or adding or subtracting?</p> <p><b>Why is it helpful to know how to write numbers correctly?</b></p>
<b>Activity 4-12 Slate Activities</b>		
<p>Using Slates</p> <p><i>(Teacher's Guide to Activities, pages 212 and 213)</i></p>	<p><b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 5.1, GMP 5.2</b></p>	<p>How does writing our answers on slates help us communicate our math thinking?</p> <p>What other ways or tools could we use to communicate our thinking?</p>
<p>Measuring with Objects</p> <p><i>(Teacher's Guide to Activities, page 213)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 5.2, GMP 6.1, GMP 6.3</b></p>	<p>How do you use the connecting cubes (or other object) to measure? Why does that work?</p> <p><b>Could we measure with any other materials? Why or why not?</b></p>
<b>Activity 4-13 Introduction to Attribute Blocks</b>		
<p>Exploring Attribute Blocks</p> <p><i>(Teacher's Guide to Activities, pages 214 and 215)</i></p>	<p><b>GMP 7.1</b> Find, extend, analyze, and create patterns.</p> <p><i>See also:</i> <b>GMP 1.4, GMP 6.1, GMP 7.2</b></p>	<p>What do you notice about the blocks that might help us sort them?</p> <p><b>Why (or when) is it helpful to sort things?</b></p>
<p>Counting On from Different Numbers</p> <p><i>(Teacher's Guide to Activities, page 215)</i></p>	<p><b>GMP 6.3</b> Be accurate when you count, measure, and calculate.</p> <p><i>See also:</i> <b>GMP 5.1, GMP 7.1, GMP 7.2</b></p>	<p>What is tricky about counting on from different numbers?</p> <p><b>What kinds of things (e.g., tools, patterns, etc.) help you when you count so you don't make mistakes?</b></p>

<b>Activity 4-14 “What’s My Rule?” Fishing Game</b>		
Fishing for Children  <i>(Teacher’s Guide to Activities, page 216)</i>	<b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.  <i>See also:</i> <b>GMP 1.1, GMP 1.5, GMP 7.1, GMP 7.2, GMP 8.1</b>	What is my fishing rule?*  How did you figure out my fishing rule? What helped you figure out the rule?
Playing <i>I Spy</i> with Shapes  <i>(Teacher’s Guide to Activities, page 217)</i>	<b>GMP 3.2</b> Work to make sense of others’ mathematical thinking.  <i>See also:</i> <b>GMP 6.1, GMP 7.2, GMP 8.1</b>	What clues help you figure out the mystery object? Are there particular words that are helpful?  What questions would you want to ask me if I wasn’t giving good clues?
<b>Activity 4-15 Number Stories: Stage 2</b>		
Relating Symbols to Number Stories  <i>(Teacher’s Guide to Activities, pages 218 and 219)</i>	<b>GMP 1.1</b> Work to make sense of your problem.  <i>See also:</i> <b>GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 4.1, GMP 5.1, GMP 5.2, GMP 6.3</b>	Was anything put together in the story? Was anything taken away? Did we end up with more or fewer than we started with?*  <b>What strategies do you use to figure out if something is a “joining” story or a “take-away” story?</b>
Counting by 10s  <i>(Teacher’s Guide to Activities, page 219)</i>	<b>GMP 7.2</b> Use patterns and structures to solve problems.  <i>See also:</i> <b>GMP 3.1, GMP 6.3, GMP 7.1, GMP 8.1, GMP 8.2</b>	How is <i>Count and Sit</i> different when we count by 10s than when we count by 1s? Why is it like that?  Can anyone figure out who will sit down next before we start counting? How?

<b>Activity 4-16 Two-Digit Numbers</b>		
<p>Reading 2-Digit Numbers</p> <p><i>(Teacher's Guide to Activities, pages 220 and 221)</i></p>	<p><b>GMP 2.2.</b> Explain the meanings of the numbers, words, picture, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 6.1, GMP 6.3, GMP 7.1, GMP 7.2, GMP 8.2</b></p>	<p>How are the numbers 38 and 83 the same? How are they different?</p> <p><b>How are 2-digit numbers different from 1-digit numbers?</b></p>
<p>Describing Probability</p> <p><i>(Teacher's Guide to Activities, page 221)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 2.1, GMP 2.2, GMP 3.1, GMP 6.1</b></p>	<p>Which color block do you think you are most (or least) likely to choose?</p> <p>How do you use the blocks on the tray to make your prediction?</p>

\*denotes a question that is currently in the *Everyday Mathematics* materials



# Grade K Section 5

Activity	<i>Everyday Mathematics</i> Goal for Mathematical Practice	Guiding Questions
<b>Activity 5-1 Order of Daily Events</b>		
Sequencing Daily Events  <i>(Teacher’s Guide to Activities, pages 236 and 237)</i>	<b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.  <i>See also:</i> <b>GMP 2.2, GMP 4.1</b>	What does your timeline show about your day?  <b>What others things can you put in order?</b>
Playing the <i>Growing and Disappearing Train Game</i>  <i>(Teacher’s Guide to Activities, page 237)</i>	<b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.  <i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 6.3, GMP 7.2, GMP 8.1</b>	What happens to your train when you roll a green (+)? Why?  What happens to your train when you roll a red (-)? Why?
<b>Activity 5-2 Patterns with Craft Sticks</b>		
Making Craft-Stick Patterns  <i>(Teacher’s Guide to Activities, page 238)</i>	<b>GMP 7.1</b> Find, extend, analyze, and create patterns.  <i>See also:</i> <b>GMP 2.1, GMP 6.1, GMP 3.2</b>	How are craft-stick patterns the same as other patterns you have made?  How are craft-stick patterns different from other patterns you have made?
Looking Ahead to the 100 <sup>th</sup> Day  <i>(Teacher’s Guide to Activities, page 239)</i>	<b>GMP 1.5</b> Check whether your solution makes sense.  <i>See also:</i> <b>GMP 6.3, GMP 7.2</b>	How could you make sure you have 100 objects in your “100 collection”?  <b>What are different ways to count to 100?</b>

<b>Activity 5-3 Find the Block Game</b>		
<p>Playing <i>Find the Block</i></p> <p>(<i>Teacher's Guide to Activities</i>, pages 240 and 241)</p>	<p><b>GMP 8.2</b> Use properties, rules, and shortcuts to solve problems.</p> <p><i>See also:</i> <b>GMP 3.1, GMP 3.2, GMP 6.1, GMP 7.2</b></p>	<p>Why did you sit down (or remain standing) after that clue?</p> <p>What are all the attributes we need to know to discover the mystery block?</p>
<p>Using Slates to Practice Writing 2-Digit Numbers</p> <p>(<i>Teacher's Guide to Activities</i>, page 241)</p>	<p><b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 7.1, GMP 7.2</b></p>	<p>What do you notice about the number right before (or after) a given number?</p> <p><b>What happens to a number if you switch the order of the digits?</b></p>
<b>Activity 5-4 Guess My Number Game</b>		
<p>Playing <i>Guess My Number</i></p> <p>(<i>Teacher's Guide to Activities</i>, pages 242 and 243)</p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.4, GMP 2.1, GMP 3.1, GMP 3.2, GMP 6.1</b></p>	<p>What other clues could describe this number?*</p> <p><b>Why is it good to be able to describe numbers in so many different ways?</b></p>
<p>Using Pan Balances</p> <p>(<i>Teacher's Guide to Activities</i>, page 243)</p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 2.2, GMP 3.1, GMP 5.2, GMP 6.1, GMP 6.3</b></p>	<p>How can you use drawings to show what you found using the pan balance?</p> <p><b>Why is it important to write and draw your findings?</b></p>

<b>Activity 5-5 Count with Calculators</b>		
Counting Forward and Backward with a Calculator  <i>(Teacher's Guide to Activities, pages 244 and 245)</i>	<b>GMP 5.2</b> Use mathematical tools correctly and efficiently.  <i>See also:</i> <b>GMP 1.6, GMP 2.2, GMP 7.1, GMP 8.1</b>	Why do you press the ON/C or AC button before you enter a new number?  <b>Why (or when) might you want to use a calculator for counting up or back?</b>
Playing <i>Monster Squeeze</i>  <i>(Teacher's Guide to Activities, page 245)</i>	<b>GMP 8.3</b> Reflect on your thinking before, during, and after you solve a problem.  <i>See also:</i> <b>GMP 1.2, GMP 1.3, GMP 3.1</b>	How do you use the answers to old guesses to make a new guess?  How does <i>Monster Squeeze</i> help us learn to solve problems?
<b>Activity 5-6 Measurement with Children's Feet</b>		
Measuring with Feet  <i>(Teacher's Guide to Activities, pages 246 and 247)</i>	<b>GMP 6.3</b> Be accurate when you count, measure, and calculate.  <i>See also:</i> <b>GMP 5.2</b>	Why is it important to "mark off" when you measure?  <b>How else can you make sure you measure accurately?</b>
Playing <i>Top-It</i>  <i>(Teacher's Guide to Activities, page 247)</i>	<b>GMP 5.1</b> Choose appropriate tools for your problem.  <i>See also:</i> <b>GMP 2.2, GMP 3.1, GMP 7.2</b>	<b>How do you know which of two numbers is greater?</b>  If you aren't sure, what tools could help you decide which number is greater? What tools would not be helpful for this?
<b>Activity 5-7 How Big Is a Foot?</b>		
Reading and Discussing <i>How Big Is a Foot?</i>  <i>(Teacher's Guide to Activities, pages 248 and 249)</i>	<b>GMP 5.3</b> Estimate and use what you know to check the answers you find using tools.  <i>See also:</i> <b>GMP 3.1, GMP 5.1, GMP 5.2, GMP 6.1, GMP 6.2, GMP 6.3</b>	Why did the bed in the story turn out to be the wrong size? How do you think they could have prevented this problem?  <b>What is different about measuring with a child's foot and a standard foot? Why should you always pay attention to the unit you are measuring with?</b>

<p>Counting by 10s</p> <p><i>(Teacher's Guide to Activities, page 249)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i> <b>GMP 3.1, GMP 5.1, GMP 6.3, GMP 7.1, GMP 8.1</b></p>	<p>What number comes after 100 when you count by 10s?</p> <p>How could you use the counting by 10s patterns to count by 10s past 100?</p>
<b>Activity 5-8 Count by 5s</b>		
<p>Counting by 5s</p> <p><i>(Teacher's Guide to Activities, pages 250 and 251)</i></p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i> <b>GMP 5.2, GMP 7.1, GMP 8.1</b></p>	<p>Can you think of things that come in groups of five?*</p> <p><b>Do you think it would be faster to count a large number of objects by 5s or by 1s?*</b></p>
<p>Graphing Sums of Dice Throws</p> <p><i>(Teacher's Guide to Activities, page 251)</i></p>	<p><b>GMP 1.4</b> Solve your problem in more than one way.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.2, GMP 5.1, GMP 5.2, GMP 7.2</b></p>	<p>How did you figure out your sums? <b>Could you figure them out in other ways?</b></p> <p>Do you use different strategies for different dice combinations? <b>How do you decide which strategy to use?</b></p>
<b>Activity 5-9 Introduction of Tally Marks</b>		
<p>Introducing and Using Tally Marks</p> <p><i>(Teacher's Guide to Activities, pages 252 and 253)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 4.1, GMP 4.2, GMP 6.3</b></p>	<p>What does each tally mark stand for on our transportation tally chart?</p> <p><b>When have you seen tally marks being used? When else might we use tally marks?</b></p>

<p>Making Equivalent Names for Numbers</p> <p><i>(Teacher’s Guide to Activities, page 253)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.4, GMP 2.2, GMP 3.1, GMP 3.2, GMP 6.1</b></p>	<p>How many different ways can we show (represent) this number?</p> <p><b>Why is it good to be able to describe numbers in so many different ways?</b></p>
<p><b>Activity 5-10 The Raft Game</b></p>		
<p>Playing <i>The Raft Game</i></p> <p><i>(Teacher’s Guide to Activities, pages 254 and 255)</i></p>	<p><b>GMP 6.3</b> Be accurate when you count, measure, and calculate.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.6, GMP 3.1, GMP 7.2</b></p>	<p>How did you know you could trade for a raft (or plank) just then?</p> <p>Why is it important to count your beans carefully?</p>
<p>Estimating Beans</p> <p><i>(Teacher’s Guide to Activities, page 255)</i></p>	<p><b>GMP 1.5</b> Check whether your solution makes sense.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 3.1, GMP 4.1</b></p>	<p>How do you try to make a “pretty close” estimate?</p> <p><b>What can you do to get better at making “pretty close” estimates?</b></p>
<p><b>Activity 5-11 Standard and Nonstandard Feet</b></p>		
<p>Measuring and Comparing</p> <p><i>(Teacher’s Guide to Activities, pages 256 and 257)</i></p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i>  <b>GMP 3.1, GMP 5.1, GMP 5.2, GMP 5.3, GMP 6.1, GMP 6.2, GMP 6.3</b></p>	<p>Why are the measurements different depending on the foot you use?</p> <p><b>Do you think it is good that there is a standard foot for measuring? Why or why not? When might it be important?</b></p>
<p>Counting by 1s</p> <p><i>(Teacher’s Guide to Activities, page 257)</i></p>	<p><b>GMP 6.3</b> Be accurate when you count, measure, and calculate.</p> <p><i>See also:</i>  <b>GMP 3.1, GMP 6.1, GMP 7.1, GMP 7.2, GMP 8.1</b></p>	<p>How can you use what you know about number patterns to predict the next number when you get to numbers like 29, 39, and 49?</p> <p><b>When do you need to count correctly in your life?</b></p>

<b>Activity 5-12 Tools for Measuring Length</b>		
Measuring with Different Tools  <i>(Teacher's Guide to Activities, pages 258 and 259)</i>	<b>GMP 5.1</b> Choose appropriate tools for your problem.  <i>See also:</i> <b>GMP 5.2, GMP 5.3, GMP 6.2, GMP 6.3</b>	Why did you choose that tool to measure your object?  <b>Why do we have different tools for measuring things?</b>
Playing <i>Domino Concentration</i>  <i>(Teacher's Guide to Activities, page 259)</i>	<b>GMP 1.6</b> Connect mathematical ideas and representations to one another.  <i>See also:</i> <b>GMP 1.2, GMP 1.3, GMP 1.4, GMP 2.1, GMP 2.2, GMP 8.3</b>	Is there more than one domino that can match each number card? Why or why not?  Is there more than one number card that can match each domino? Why or why not?
<b>Activity 5-13 Pet Bar Graph</b>		
Graphing Pets  <i>(Teacher's Guide to Activities, pages 260 and 261)</i>	<b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.  <i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 4.2</b>	What is a good title for our graph? Why is it a good title?  Why is it important to title and label our graph?
Following Craft-Stick Patterns  <i>(Teacher's Guide to Activities, page 261)</i>	<b>GMP 7.1</b> Find, extend, analyze and create patterns.  <i>See also:</i> <b>GMP 3.2, GMP 6.1</b>	How would you describe your partner's pattern?*
<b>Activity 5-14 Attribute Spinner Game</b>		
Playing the <i>Attribute Spinner Game</i>  <i>(Teacher's Guide to Activities, page 262)</i>	<b>GMP 6.2</b> Use the level of precision you need for your problem.  <i>See also:</i> <b>GMP 8.2, GMP 8.3</b>	How can we make sure we choose the correct block?  How does the game change when we add another spinner?

<p>Tallying Class Data</p> <p><i>(Teacher’s Guide to Activities, page 263)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1</b></p>	<p>Why did we use a tally chart to show which cookies we like?</p> <p><b>What other information about our class could we show with a tally chart?</b></p>
<b>Activity 5-15 Introduction to the Number Grid</b>		
<p>Getting to Know the Class Number Grid</p> <p><i>(Teacher’s Guide to Activities, pages 264 and 265)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i> <b>GMP 5.2, GMP 6.1, GMP 7.1, GMP 7.2, GMP 8.1, GMP 8.2, GMP 8.3</b></p>	<p>What do you notice about the Class Number Grid? Why do you think it is organized this way?</p> <p>How did you figure out the hidden number(s)? Did any patterns help you?</p>
<p>Writing Number Models for Number Stories</p> <p><i>(Teacher’s Guide to Activities, page 265)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 4.1</b></p>	<p>How does your number model “match” the number story?</p> <p><b>Can you retell the number story using the number model you wrote?</b></p>
<b>Activity 5-16 Number-Grid Search Game</b>		
<p>Playing <i>Number-Grid Search</i></p> <p><i>(Teacher’s Guide to Activities, pages 266 and 267)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i> <b>GMP 3.2, GMP 6.1, GMP 8.1, GMP 8.2, GMP 8.3</b></p>	<p>How can the Searcher (or the Guide) use the patterns on the number grid to make a good guess (or give good clues)?</p> <p><b>What are other ways we can use patterns on the number grid?</b></p>

<p>Playing the <i>Matching Coin Game</i></p> <p>(<i>Teacher's Guide to Activities</i>, page 267)</p>	<p><b>GMP 6.2</b> Use the level of precision you need for your problem.</p> <p><i>See also:</i></p> <p><b>GMP 6.3</b></p>	<p>Do you need to count the coins to know which tray has the most coins?</p> <p>Why or why not?</p>
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\*denotes a question that is currently in the *Everyday Mathematics* materials.



# Grade K Section 6

Activity	<i>Everyday Mathematics</i> Goal for Mathematical Practice	Guiding Questions
<b>Activity 6-1 Introduction of the Penny</b>		
Exploring the Penny  <i>(Teacher's Guide to Activities, pages 282 and 283)</i>	<b>GMP 4.1</b> Apply mathematical ideas to real-world situations.  <i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 6.1, GMP 6.3</b>	<b>What is money used for?*</b>  <b>Why do you think there are different kinds of money?*</b>
Counting Steps on a Number Line  <i>(Teacher's Lesson Guide, page 283)</i>	<b>GMP 5.2</b> Use mathematical tools correctly and efficiently.  <i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 2.2, GMP 4.2, GMP 6.3</b>	<b>How does the number line help you solve problems?</b>  Which number line do you like to use: the walk-on number line or the wall number line? Why?
<b>Activity 6-2 Introduction of the Nickel</b>		
Exploring the Nickel  <i>(Teacher's Guide to Activities, pages 284 and 285)</i>	<b>GMP 1.6</b> Connect mathematical ideas and representations to one another.  <i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.3</b>	Why is it fair to exchange five pennies for one nickel?  Can you think of other times we have traded or exchanged equivalent amounts?
Playing the <i>Growing and Disappearing Train Game</i>  <i>(Teacher's Guide to Activities, page 285)</i>	<b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.  <i>See also:</i> <b>GMP 1.5, GMP 2.1, GMP 3.1, GMP 6.3</b>	How do you know whether to add or subtract cubes from your train?  What happens to your train when you roll the addition (or subtraction) symbol? Why?

<b>Activity 6-3 Solid Shape Museum</b>		
<p>Making a Shape Museum</p> <p><i>(Teacher's Guide to Activities, pages 286–288)</i></p>	<p><b>GMP 6.1</b> Communicate your mathematical ideas clearly and precisely.</p> <p><i>See also:</i> <b>GMP 4.1, GMP 7.1, GMP 7.2</b></p>	<p>What do you notice about the shapes of these items?*</p> <p><b>How are these two shapes (any two) alike and different?*</b></p>
<p>Making Symmetrical Hearts and Other Designs</p> <p><i>(Teacher's Guide to Activities, page 288)</i></p>	<p><b>GMP 1.5</b> Check whether your solution makes sense.</p> <p><i>See also:</i> <b>GMP 1.3</b></p>	<p>How can you check to see if your shape is symmetrical?</p> <p><b>Why is it important to check your work?</b></p>
<b>Activity 6-4 Counts to Measure Time</b>		
<p>Beating Out Time</p> <p><i>(Teacher's Guide to Activities, pages 290 and 291)</i></p>	<p><b>GMP 8.3</b> Reflect on your thinking before, during, and after you solve a problem.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 3.1, GMP 5.1, GMP 6.2</b></p>	<p>What number do you think we will get if we count faster while she walks?*</p> <p>Why?</p> <p>What do you think would happen if we mixed slow and fast counting?*</p> <p>Why?</p>
<p>Playing <i>The Raft Game</i></p> <p><i>(Teacher's Guide to Activities, page 291)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i> <b>GMP 6.3, GMP 8.1, GMP 8.2</b></p>	<p>What counting patterns can you use to find out how many beans you have? Have you noticed anything else that might help you find your total number of beans?</p> <p><b>When else might it be helpful to use counting patterns?</b></p>
<b>Activity 6-5 Surveys and Graphs</b>		
<p>Graphing Survey Data</p> <p><i>(Teacher's Guide to Activities, pages 292 and 293)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.1</b></p>	<p>What questions could you ask that other people could answer using your graph?</p> <p><b>Can you think of any other way you could have shown your results?</b></p>

Counting to the Number of the Day  <i>(Teacher's Guide to Activities, page 293)</i>	<b>GMP 7.1</b> Find, extend, analyze, and create patterns.  <i>See also:</i> <b>GMP 4.1, GMP 6.3, GMP 7.2, GMP 8.1</b>	Can we get to the Number of the Day by counting only by 10s? Only by 5s? Only by 1s?  <b>Do you notice any similarities between counting by 5s and counting by 10s patterns? What are the differences in the patterns?</b>
<b>Activity 6-6 I Spy with Shapes</b>		
Playing <i>I Spy</i> with Shapes  <i>(Teacher's Guide to Activities, pages 294 and 295)</i>	<b>GMP 8.2</b> Use properties, rules, and shortcuts to solve problems.  <i>See also:</i> <b>GMP 6.1, GMP 7.2, GMP 8.1, GMP 8.3</b>	Which clues helped you figure out the shape/object I was thinking of?  Were some shapes/objects harder to figure out than others? Why or why not?
Making a "Number of Pets" Graph  <i>(Teacher's Guide to Activities, page 295)</i>	<b>GMP 1.6</b> Connect mathematical ideas and representations to one another.  <i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 4.2, GMP 6.1</b>	What can you learn from the "Types of Pets" graph (Activity 5-13)? What can you learn from the "Number of Pets" graph? How are these graphs the same and different?  <b>What other information could we collect and graph about pets?</b> How would that graph compare to these two?
<b>Activity 6-7 Introduction of the Dime</b>		
Exploring the Dime  <i>(Teacher's Guide to Activities, pages 296 and 297)</i>	<b>GMP 7.2</b> Use patterns and structures to solve problems.  <i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 4.1, GMP 7.1, GMP 8.1, GMP 8.2</b>	How is counting dimes and pennies like counting to the Number of the Day on the number line?  <b>Why do you think we have coins worth 1 cent, 5 cents, and 10 cents, but not worth 3 cents or 9 cents?</b>
Playing the <i>Attribute Spinner Game</i>  <i>(Teacher's Guide to Activities, page 297)</i>	<b>GMP 8.2</b> Use properties, rules, and shortcuts to solve problems.  <i>See also:</i> <b>GMP 6.1, GMP 6.2, GMP 8.3</b>	Can you look at someone's block and tell what he or she spun on each spinner?  How does the game change if you play with more or fewer spinners?

<b>Activity 6-8 Coin Exchanges</b>		
<p>Making Coin Exchanges</p> <p><i>(Teacher's Guide to Activities, pages 298 and 299)</i></p>	<p><b>GMP 1.4</b> Solve your problem in more than one way.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.5, GMP 1.6, GMP 2.1, GMP 3.1, GMP 4.1, GMP 6.3</b></p>	<p>Can you make your exchange a different way?</p> <p>How many different ways could you exchange for a dime?</p>
<p>Playing <i>Guess My Number</i> and Counting Backward</p> <p><i>(Teacher's Guide to Activities, page 299)</i></p>	<p><b>GMP 3.2</b> Work to make sense of others' mathematical thinking.</p> <p><i>See also:</i>  <b>GMP 1.4, GMP 2.1, GMP 2.2, GMP 3.1, GMP 6.1</b></p>	<p>What questions could you ask to figure out my number?</p> <p><b>Why is listening carefully important in math?</b></p>
<b>Activity 6-9 Comparison Number Stories</b>		
<p>Telling Comparison Stories</p> <p><i>(Teacher's Guide to Activities, pages 300 and 301)</i></p>	<p><b>GMP 1.4</b> Solve your problem in more than one way.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 2.2, GMP 5.2, GMP 6.3</b></p>	<p>How do the counters help us solve these comparison stories?</p> <p><b>How else might you solve comparison number stories?</b></p>
<p>Measuring in Different Ways</p> <p><i>(Teacher's Guide to Activities, page 301)</i></p>	<p><b>GMP 5.1</b> Choose appropriate tools for your problem.</p> <p><i>See also:</i>  <b>GMP 1.4, GMP 4.1, GMP 5.2, GMP 5.3, GMP 6.1, GMP 6.3</b></p>	<p>What other tool could you use to measure your object?</p> <p><b>How might you decide which tool to use to measure a particular object?</b></p>
<b>Activity 6-10 Count by 2s</b>		
<p>Counting by 2s</p> <p><i>(Teacher's Guide to Activities, pages 302 and 303)</i></p>	<p><b>GMP 7.1</b> Find, extend, analyze, and create patterns.</p> <p><i>See also:</i>  <b>GMP 4.1, GMP 8.1</b></p>	<p>What patterns do you notice when we count by 2s?*</p> <p>How are these patterns like counting by 5s (or 10s)? How are they different?</p>

<p>Estimating Nickels or Dimes</p> <p><i>(Teacher’s Guide to Activities, page 303)</i></p>	<p><b>GMP 6.2</b> Use the level of precision you need for your problem.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.5, GMP 4.1, GMP 6.2, GMP 8.3</b></p>	<p>Why do we say “pretty close” instead of “exactly right” when we describe our estimates?</p> <p><b>When might it be useful to estimate?</b></p>
<b>Activity 6-11 Divide Groups in Half</b>		
<p>Dividing a Group into Halves</p> <p><i>(Teacher’s Guide to Activities, pages 304 and 305)</i></p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 2.2, GMP 6.1, GMP 6.3</b></p>	<p>When have you heard people use the word <i>half</i>?*</p> <p><b>When might you want or need to divide a group or collection exactly in half?</b></p>
<p>Playing <i>Teen Frame</i> and <i>Top-It</i></p> <p><i>(Teacher’s Guide to Activities, page 305)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i>  <b>GMP 1.6, GMP 2.2, GMP 7.1, GMP 7.2</b></p>	<p>How can you write the number in your teen frame using the number model <math>10 + \underline{\quad}</math>?</p> <p>What do you notice about your number models?</p>
<b>Activity 6-12 Read My Mind Game</b>		
<p>Playing <i>Read My Mind</i></p> <p><i>(Teacher’s Guide to Activities, page 306)</i></p>	<p><b>GMP 3.2</b> Work to make sense of others’ mathematical thinking.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.3, GMP 1.5, GMP 6.1, GMP 8.2, GMP 8.3</b></p>	<p>What attributes can you ask about to figure out the mystery block?</p> <p>Why is it important to listen carefully to all of the answers during this game?</p>
<p>Playing <i>Monster Squeeze</i></p> <p><i>(Teacher’s Guide to Activities, page 307)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.3, GMP 1.5, GMP 3.2, GMP 8.3</b></p>	<p>Is it easier or harder to play <i>Monster Squeeze</i> without the monsters? Why?</p> <p>How are <i>Read My Mind</i> and <i>Monster Squeeze</i> similar? How are they different?</p>

<b>Activity 6-13 Tools for Measuring Time</b>		
<p>Timing Activities</p> <p><i>(Teacher's Guide to Activities, pages 308 and 309)</i></p>	<p><b>GMP 5.1</b> Choose appropriate tools for your problem.</p> <p><i>See also:</i> <b>GMP 4.1, GMP 5.2, GMP 5.3, GMP 6.2, GMP 6.3</b></p>	<p>When might we want to use tools like clocks or stopwatches instead of counting?</p> <p><b>What other tools do you know about that keep track of time?</b></p>
<p>Playing <i>Number-Grid Search</i></p> <p><i>(Teacher's Guide to Activities, page 309)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i> <b>GMP 3.2, GMP 8.1, GMP 8.2, GMP 8.3</b></p>	<p>Are the numbers on the Number Grid always in the same places?</p> <p>What helps you find numbers quickly on the Number Grid?</p>
<b>Activity 6-14 Skip Count with Calculators</b>		
<p>Skip Counting with Calculators</p> <p><i>(Teacher's Guide to Activities, pages 310 and 311)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 2.2, GMP 5.2, GMP 7.1, GMP 8.2</b></p>	<p>Why do you think this (+2) makes the calculator skip count by 2s?*</p> <p>How do you think you could make the calculator skip count by 5s (or 10s)?</p>
<p>Making Coin Patterns</p> <p><i>(Teacher's Guide to Activities, page 311)</i></p>	<p><b>GMP 7.1</b> Find, extend, analyze, and create patterns.</p> <p><i>See also:</i> <b>GMP 1.4, GMP 3.2</b></p>	<p>What pattern(s) do you see with these coins? How could you continue the pattern?</p> <p>How else could we use coins to make patterns?</p>
<b>Activity 6-15 Symbolic Representations of Patterns</b>		
<p>Representing a Pattern</p> <p><i>(Teacher's Guide to Activities, pages 312 and 313)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.2, GMP 7.1</b></p>	<p>How did you use symbols to show your pattern?</p> <p><b>Why (or when) might it be useful to represent patterns with symbols?</b></p>

Flipping a Coin  <i>(Teacher's Guide to Activities, page 313)</i>	<b>GMP 4.1</b> Apply mathematical ideas to real-world situations.  <i>See also:</i> <b>GMP 2.1, GMP 6.1, GMP 8.3</b>	Why is a coin toss a fair way to decide between two things?*
<b>Activity 6-16 Division of Whole Objects into Halves</b>		
Dividing a Whole into Halves  <i>(Teacher's Guide to Activities, page 314)</i>	<b>GMP 1.2</b> Make a plan for solving your problem.  <i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 2.2, GMP 3.2, GMP 4.1, GMP 6.1, GMP 6.3</b>	Why might you want to draw a dividing line before you actually break the cracker?  <b>When else have you had to make a plan to help you solve a problem?</b>
Writing Number Models for Number Stories  <i>(Teacher's Guide to Activities, page 315)</i>	<b>GMP 1.1</b> Work to make sense of your problem.  <i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 2.2, GMP 3.1, GMP 6.3, GMP 8.2, GMP 8.3</b>	When you listen to a number story, how do you decide how to solve it?  Does it help you to think about it as joining or taking away? Why or why not?

\*denotes a question that is currently in the *Everyday Mathematics* materials.

# Grade K Section 7

Activity	<i>Everyday Mathematics</i> Goal for Mathematical Practice	Guiding Questions
<b>Activity 7-1 Money Cube Game</b>		
Playing <i>Money Cube</i>  <i>(Teacher's Guide to Activities, page 330)</i>	<b>GMP 1.4</b> Solve your problem in more than one way.  <i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 1.6, GMP 4.1, GMP 6.3</b>	Can you make your exchange a different way?  <b>How many different ways could you exchange for a nickel? A dime?</b>
Counting to the Number of the Day  <i>(Teacher's Guide to Activities, page 331)</i>	<b>GMP 7.1</b> Find, extend, analyze, and create patterns.  <i>See also:</i> <b>GMP 1.4, GMP 6.3</b>	Can we get to the last number on the Growing Number Line when we count by 2s? Why or why not?  What will happen when we count by 2s tomorrow?
<b>Activity 7-2 Class Collections</b>		
Collecting Objects  <i>(Teacher's Guide to Activities, pages 332–334)</i>	<b>GMP 1.4</b> Solve your problem in more than one way.  <i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.3</b>	What are some different ways we can count the items in our collection?  What are some different ways we can show or keep track of how many items we have collected?
Writing Number Models for Number Stories  <i>(Teacher's Guide to Activities, page 334)</i>	<b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.  <i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 4.1, GMP 4.2</b>	How does your number model “match” the number story?  <b>Can you retell the number story using the number model you wrote?</b>



<b>Activity 7-3 Class Number Story Book</b>		
<p>Creating Number Stories</p> <p><i>(Teacher's Guide to Activities, pages 336–338)</i></p>	<p><b>GMP 3.2</b> Work to make sense of others' mathematical thinking.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 1.4, GMP 1.5, GMP 2.1, GMP 2.2, GMP 4.1, GMP 4.2, GMP 5.1, GMP 6.1</b></p>	<p>Look at a classmate's paper. Can you retell the number story from what you see?</p> <p>Show your number story to a partner. Ask your partner to explain his or her strategy for solving your number story. Then switch roles.</p>
<p>Playing Shape Games</p> <p><i>(Teacher's Guide to Activities, page 338)</i></p>	<p><b>GMP 8.2</b> Use properties, rules, and shortcuts to solve problems.</p> <p><i>See also:</i>  <b>GMP 4.1, GMP 6.1, GMP 7.2, GMP 8.1, GMP 8.3</b></p>	<p>How could you tell if I was thinking of a 2-dimensional or 3-dimensional shape?</p> <p>Were some shapes/objects harder to figure out than others? Why or why not?</p>
<b>Activity 7-4 Marshmallow and Toothpick Shapes</b>		
<p>Making Geometric Shapes</p> <p><i>(Teacher's Guide to Activities, page 340)</i></p>	<p><b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 7.2, GMP 8.3</b></p>	<p>How would you describe your shape to someone who could not see it?</p> <p>What 2-dimensional shapes did you use to make your structure?</p>
<p>Dividing Groups in Half</p> <p><i>(Teacher's Guide to Activities, page 341)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 6.1, GMP 6.3</b></p>	<p>How did you divide the set of marshmallows in half? How do you know it is in halves?</p> <p><b>Why is it helpful to explain how you solved a problem?</b></p>

<b>Activity 7-5 Introduction of the Quarter</b>		
<p>Exploring the Quarter</p> <p><i>(Teacher's Guide to Activities, pages 342 and 343)</i></p>	<p><b>GMP 1.4</b> Solve your problem in more than one way.</p> <p><i>See also:</i> <b>GMP 1.5, GMP 1.6, GMP 7.2, GMP 8.1, GMP 8.2, GMP 8.3</b></p>	<p>What are different ways we could count all our quarters?</p> <p><b>How many different ways could you trade for a quarter?</b></p>
<p>Graphing Sums of Dice Rolls</p> <p><i>(Teacher's Guide to Activities, page 343)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.2, GMP 6.1, GMP 6.3, GMP 7.2</b></p>	<p>How many different ways can you roll 2 die to get 2? 7? 10?</p> <p>Which number did/do you think would be rolled most (or least) often? Why?</p>
<b>Activity 7-6 Dice Addition and Subtraction Games</b>		
<p>Playing Dice Addition and Subtraction Games</p> <p><i>(Teacher's Guide to Activities, pages 344 and 345)</i></p>	<p><b>GMP 6.3</b> Be accurate when you count, measure, and calculate.</p> <p><i>See also:</i> <b>GMP 5.1, GMP 5.2</b></p>	<p>How do you find the sums (or differences)?</p> <p><b>When else is it important to add and subtract accurately?</b></p>
<p>Creating Number Stories</p> <p><i>(Teacher's Guide to Activities, page 345)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 3.2, GMP 4.1, GMP 4.2, GMP 5.1, GMP 5.2, GMP 6.1</b></p>	<p>How did you solve your partner's number story?</p> <p><b>Why does that strategy work?</b></p>
<b>Activity 7-7 Late-in-the-Year Counting</b>		
<p>Counting Forward and Backward from Higher Numbers</p> <p><i>(Teacher's Guide to Activities, pages 346 and 347)</i></p>	<p><b>GMP 6.3</b> Be accurate when you count, measure, and calculate.</p> <p><i>See also:</i> <b>GMP 5.1, GMP 7.1, GMP 7.2</b></p>	<p>What is the highest number you feel comfortable counting to?</p> <p><b>What kinds of things (e.g., tools, patterns, etc.) help you when you count so you don't make mistakes?</b></p>

Counting the Class Collection  ( <i>Teacher's Guide to Activities</i> , page 347)	<b>GMP 1.4</b> Solve your problem in more than one way.  <i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.3</b>	What are some different ways to count our collection?  <b>Why might it be helpful to count in more than one way?</b>
<b>Activity 7-8 10s and 1s with Craft Sticks</b>		
Bundling Sticks  ( <i>Teacher's Guide to Activities</i> , pages 348 and 349)	<b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.  <i>See also:</i> <b>GMP 1.6, GMP 7.2</b>	After we bundle, do we have the same number of sticks as we had before?*" <p>Why is it easier to have them in bundles of 10s?*</p>
Playing <i>Number-Grid Search</i>  ( <i>Teacher's Guide to Activities</i> , page 349)	<b>GMP 7.2</b> Use patterns and structures to solve problems.  <i>See also:</i> <b>GMP 3.2, GMP 6.1, GMP 8.1, GMP 8.2, GMP 8.3</b>	How can the Searcher (or the Guide) use the patterns on the number grid to make a good guess (or give good clues)?  <b>What are other ways we can use patterns on the number grid?</b>
<b>Activity 7-9 Name Collections with Craft Sticks</b>		
Exploring Equivalent Names for Numbers  ( <i>Teacher's Guide to Activities</i> , pages 350 and 351)	<b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.  <i>See also:</i> <b>GMP 1.6, GMP 2.2</b>	How many different ways can you show _____ (choose a number)?  <b>When else have we shown (or named) numbers in different ways?</b>
Working with Attribute Blocks ( <i>Teacher's Guide to Activities</i> , page 351)	<b>GMP 8.3</b> Reflect on your thinking before, during, and after you solve a problem.  <i>See also:</i> <b>GMP 3.2, GMP 8.2</b>	When you make attribute trains, how do you figure out what block can go next on the train?  When someone puts a block on the train, how do you check to see if it "fits"?

<b>Activity 7-10 Number Scrolls</b>		
<p>Making Number Scrolls</p> <p><i>(Teacher's Guide to Activities, page 352)</i></p>	<p><b>GMP 7.2</b> Use patterns and structures to solve problems.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 5.3, GMP 6.3, GMP 7.1, GMP 8.1, GMP 8.2</b></p>	<p><b>What patterns do you see on the Class Number Grid?*</b></p> <p>How can you use the patterns in the first 100 numbers to help you continue your number scroll past 100?</p>
<p>Estimating Quarters</p> <p><i>(Teacher's Guide to Activities, page 353)</i></p>	<p><b>GMP 1.5</b> Check whether your solution makes sense.</p> <p><i>See also:</i>  <b>GMP 1.2, GMP 1.4, GMP 1.6, GMP 6.2, GMP 8.3</b></p>	<p>Pause after counting about half of the quarters in the jar and ask: Does your estimate make sense? Would you like to change your estimate? Why or why not?</p> <p><b>When else do you check whether your answers make sense? Why is this important?</b></p>
<b>Activity 7-11 Decade Count</b>		
<p>Recording Decades While Counting</p> <p><i>(Teacher's Guide to Activities, pages 354 and 355)</i></p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 7.2, GMP 8.1, GMP 8.2</b></p>	<p>What does the 8 stand for in the number 83 (or another pair of numbers)?</p> <p>How is 8 different from 80?</p>
<p>Playing Dice Addition and Subtraction Games</p> <p><i>(Teacher's Guide to Activities, page 355)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i>  <b>GMP 2.1, GMP 5.1</b></p>	<p>Does it matter in what order you add (or subtract) the numbers on the dice? Why or why not?</p> <p><b>How are addition and subtraction different?</b></p>

<b>Activity 7-12 Plus or Minus Game</b>		
<p>Playing the <i>Plus or Minus Game</i></p> <p>(<i>Teacher's Guide to Activities</i>, page 356)</p>	<p><b>GMP 2.2</b> Explain the meanings of the numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects you and others use.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 6.3</b></p>	<p>How does the number of counters on the board change when you roll a + (or a - ) number?</p> <p>Would you rather roll + numbers or - numbers? Why?</p>
<p>Counting the Class Collection</p> <p>(<i>Teacher's Guide to Activities</i>, page 357)</p>	<p><b>GMP 1.2</b> Make a plan for solving your problem.</p> <p><i>See also:</i> <b>GMP 1.3, GMP 1.4, GMP 1.5, GMP 6.3, GMP 7.2, GMP 8.1, GMP 8.2</b></p>	<p>Who has an idea or plan for how we might count everything in our collection? How many different ways could we try?</p> <p><b>When else have you had to make a plan to solve a problem?</b></p>
<b>Activity 7-13 Double Digits with Dice</b>		
<p>Comparing 2-Digit Numbers</p> <p>(<i>Teacher's Guide to Activities</i>, pages 358 and 359)</p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.2, GMP 3.1, GMP 5.1, GMP 5.2, GMP 7.2, GMP 8.1, GMP 8.2</b></p>	<p>How can you use the craft sticks to show whether 52 or 25 (or another pair of numbers) is larger?</p> <p>How could you use the number line or number grid to show which number is larger? <b>Would that work for any two numbers?</b></p>
<p>Playing <i>Money Cube</i></p> <p>(<i>Teacher's Guide to Activities</i>, page 359)</p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i> <b>GMP 1.2, GMP 1.5, GMP 1.6, GMP 3.1, GMP 6.3</b></p>	<p>Have you ever exchanged coins in real life?</p> <p>If you were going to the candy store to buy a 50-cent candy bar, would you rather use pennies or dimes? Why?</p>

<b>Activity 7-14 Numbers in Sequence</b>		
<p>Ordering Numbers</p> <p><i>(Teacher’s Guide to Activities, page 360)</i></p>	<p><b>GMP 1.5</b> Check whether your solution makes sense.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 2.2, GMP 3.1, GMP 5.1, GMP 7.2, GMP 8.1, GMP 8.2, GMP 8.3</b></p>	<p>How could you check whether you put the numbers in the right order? Is there a tool that might help you?</p> <p>How could you help a classmate if you noticed that his/her numbers were not in order?</p>
<p>Graphing Lengths of Names and Discussing Probability</p> <p><i>(Teacher’s Guide to Activities, page 361)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2, GMP 4.1, GMP 6.1</b></p>	<p>Am I more likely to pick a name with 3 letters or one with 5 letters? Is it certain, unlikely, or impossible that I will pick a name with 1 letter? 8 letters?* Why?</p> <p><b>How does the graph help you answer these questions?</b></p>
<b>Activity 7-15 “What’s My Rule?” with Patterns</b>		
<p>Comparing Patterns</p> <p><i>(Teacher’s Guide to Activities, pages 362 and 363)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.6, GMP 2.1, GMP 3.1, GMP 3.2, GMP 7.1, GMP 7.2, GMP 8.2, GMP 8.3</b></p>	<p>These patterns have something in common.* What is it?</p> <p>Can you use your cubes to make a similar pattern with colors—a pattern that follows the same rule? How did you figure out what to do?*</p>

<p>Making Name Collections</p> <p><i>(Teacher's Guide to Activities, page 363)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.4, GMP 1.6, GMP 2.2</b></p>	<p>How many combinations can we make with 10 sticks?</p> <p><b>How can we show combinations with pictures? With number sentences?</b></p>
<p><b>Activity 7-16 Bead String Name Collections</b></p>		
<p>Making Name Collections</p> <p><i>(Teacher's Guide to Activities, pages 364 and 365)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 3.1, GMP 6.1</b></p>	<p>How are the bead strings like number sentences?</p> <p>How are the bead strings like dominoes, dice, or other representations we might put in name collection boxes?</p>
<p>Playing <i>Monster Squeeze</i></p> <p><i>(Teacher's Guide to Activities, page 365)</i></p>	<p><b>GMP 8.3</b> Reflect on your thinking before, during, and after you solve a problem.</p> <p><i>See also:</i> <b>GMP 1.3, GMP 1.4, GMP 5.1, GMP 8.3</b></p>	<p>Have you gotten better at playing <i>Monster Squeeze</i> since the beginning of kindergarten? How?</p> <p>Have you learned any strategies that make the game go faster?</p>

\*denotes a question that is currently in the *Everyday Mathematics* materials.

# Grade K Section 8

Activity	<i>Everyday Mathematics</i> Goal for Mathematical Practice	Guiding Questions
<b>Activity 8-1 Ones, Tens, Hundreds Game</b>		
Playing the <i>Ones, Tens, Hundreds Game</i>  <i>(Teacher's Guide to Activities, pages 380 and 381)</i>	<b>GMP 7.2</b> Use patterns and structures to solve problems.  <i>See also:</i> <b>GMP 2.1, GMP 6.3</b>	How many craft sticks would we have if we had 10 bundles of 10?* How could we find out?*  What counting pattern could we use?
Counting the Class Collection  <i>(Teacher's Guide to Activities, page 381)</i>	<b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.  <i>See also:</i> <b>GMP 1.2, GMP 1.4, GMP 1.5, GMP 1.6, GMP 6.3, GMP 8.2</b>	How can we organize our collection to make counting easier?  <b>Why does it work to organize and count by 10s and 1s than to count just by 1s? Should we get the same answer? Which method is easier (or faster)?</b>
<b>Activity 8-2 How Long Is an Hour?</b>		
Marking Hours  <i>(Teacher's Guide to Activities, page 382)</i>	<b>GMP 4.1</b> Apply mathematical ideas to real-world situations.  <i>See also:</i> <b>GMP 1.6, GMP 2.2</b>	What is something you would like to do for an hour?  <b>What other units of time do you know?</b>
Graphing Favorite Math Games  <i>(Teacher's Guide to Activities, page 383)</i>	<b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.  <i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1</b>	What can we find out from this graph?  How could we use this graph to help us decide which games to keep playing for the rest of the year?



<b>Activity 8-3 The Hour-Hand Clock</b>		
<p>Making an Hour-Hand Clock</p> <p><i>(Teacher’s Guide to Activities, pages 384 and 385)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 4.1, GMP 6.1, GMP 6.2, GMP 6.3</b></p>	<p>Where is the hour hand when the time is <i>just before</i> 5 o’clock (or another hour)? <i>Just after</i> 5? <i>Halfway between</i> 5 and 6 o’clock?</p> <p>What mistakes could someone make when showing the hour on a clock?</p>
<p>Making Shapes and Structures</p> <p><i>(Teacher’s Guide to Activities, page 386)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.1, GMP 2.2, GMP 6.1</b></p>	<p>Does your shape change when you turn (rotate) it or flip it over? Is it still the same shape?</p> <p><b>Why doesn’t a shape change when it is flipped or rotated?</b></p>
<b>Activity 8-4 High Roller Game</b>		
<p>Playing <i>High Roller</i></p> <p><i>(Teacher’s Guide to Activities, pages 388 and 389)</i></p>	<p><b>GMP 8.1</b> Use patterns and structures to create and explain rules and shortcuts.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 6.3, GMP 8.2</b></p>	<p>If you count all the dots on both die, do you get the same total as when you count on from the higher number? Why?</p> <p><b>Why is it useful to know the counting on strategy?</b></p>
<p>Fishing for Children: “What’s My Rule?”</p> <p><i>(Teacher’s Guide to Activities, page 389)</i></p>	<p><b>GMP 1.1</b> Work to make sense of your problem.</p> <p><i>See also:</i> <b>GMP 1.5, GMP 7.1, GMP 7.2, GMP 8.1, GMP 8.2</b></p>	<p>What do you have to do before you can guess the fishing rule?</p> <p>What advice would you give someone to help them play the game?</p>
<b>Activity 8-5 Introduction to Function Machines</b>		
<p>Introducing the Function Machine</p> <p><i>(Teacher’s Guide to Activities, page 390)</i></p>	<p><b>GMP 8.2</b> Use properties, rules, and shortcuts to solve problems.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 3.1, GMP 5.1, GMP 6.3, GMP 8.1, GMP 8.3</b></p>	<p>What do you notice about the <i>in</i> and <i>out</i> numbers for the “add 1” (or “take away 1”) rule?</p> <p><b>Why do you think it’s called a “rule”?</b></p>

<p>Reviewing Coins</p> <p><i>(Teacher's Guide to Activities, page 391)</i></p>	<p><b>GMP 3.2</b> Work to make sense of others' mathematical thinking.</p> <p><i>See also:</i> <b>GMP 2.2, GMP 6.1, GMP 8.2</b></p>	<p>How did you know which coin I was describing? Which clue(s) helped you the most?</p> <p>What questions could you ask me to figure out which coin I want you to find?</p>
<p><b>Activity 8-6 Number Gymnastics Game</b></p>		
<p>Playing <i>Number Gymnastics</i></p> <p><i>(Teacher's Guide to Activities, pages 392 and 393)</i></p>	<p><b>GMP 6.1</b> Communicate your mathematical thinking clearly and precisely.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 3.2, GMP 5.1</b></p>	<p>What happens to a number when you reverse the digits?</p> <p>What happens during this game if the clues aren't clear?</p>
<p>Studying Weather and Temperature Data</p> <p><i>(Teacher's Guide to Activities, page 393)</i></p>	<p><b>GMP 4.2</b> Use mathematical models such as graphs, drawings, tables, symbols, numbers, and diagrams to solve problems.</p> <p><i>See also:</i> <b>GMP 4.1</b></p>	<p>Write a question about the weather graphs for someone else to answer.*</p> <p><b>Why are graphs helpful for showing weather and temperature data?</b></p>
<p><b>Activity 8-7 Introduction of the \$1 Bill</b></p>		
<p>Exploring the \$1 Bill</p> <p><i>(Teacher's Guide to Activities, page 394)</i></p>	<p><b>GMP 4.1</b> Apply mathematical ideas to real-world situations.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 7.2</b></p>	<p>What can you buy with \$1?*</p> <p>What could we buy with all of our dollars put together?*</p>
<p>Reviewing Function Machines</p> <p><i>(Teacher's Guide to Activities, page 395)</i></p>	<p><b>GMP 8.2</b> Use properties, rules, and shortcuts to solve problems.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.5, GMP 2.1, GMP 2.2, GMP 8.1, GMP 8.3</b></p>	<p>How did you know what <i>out</i> numbers to write in your partner's function machine?</p> <p><b>Could you solve a function machine problem if you didn't know the rule?</b></p>

<b>Activity 8-8 One-Dollar Game</b>		
<p>Playing the <i>One-Dollar Game</i></p> <p>(<i>Teacher's Guide to Activities</i>, page 396)</p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i> <b>GMP 1.2, GMP 1.6, GMP 6.3, GMP 7.2, GMP 8.1, GMP 8.2</b></p>	<p>What should you do when you get 10 pennies? Why can you trade 10 pennies for one dime?</p> <p>What should you do when you get 10 dimes? Why can you trade 10 dimes for one dollar?</p>
<p>Making Name Collections</p> <p>(<i>Teacher's Guide to Activities</i>, page 397)</p>	<p><b>GMP 3.2</b> Work to make sense of others' mathematical thinking.</p> <p><i>See also:</i> <b>GMP 1.4, GMP 2.1, GMP 2.2</b></p>	<p>Share your name collection box with a classmate(s). What names did he/she think of that you could add to your box?</p> <p>What names can you share with him/her?</p>
<b>Activity 8-9 Name Collection Posters</b>		
<p>Making Name Collection Posters</p> <p>(<i>Teacher's Guide to Activities</i>, pages 398 and 399)</p>	<p><b>GMP 1.3</b> Try different approaches when your problem is hard.</p> <p><i>See also:</i> <b>GMP 1.4, GMP 1.5, GMP 2.1, GMP 2.2, GMP 3.2, GMP 6.1</b></p>	<p>What could you do if you are having trouble thinking of more names for your number?</p> <p><b>What do you do when problems are hard in other situations?</b></p>
<p>Number Scrolling</p> <p>(<i>Teacher's Guide to Activities</i>, page 399)</p>	<p><b>GMP 1.5</b> Check whether your solution makes sense.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 6.3, GMP 7.1, GMP 7.2</b></p>	<p>How can you tell if you made a mistake on your number scroll?</p> <p>How can you use patterns to find and fix mistakes on your scroll?</p>
<b>Activity 8-10 "What's My Rule?" with Numbers</b>		
<p>Solving "What's My Rule?" with Numbers</p> <p>(<i>Teacher's Guide to Activities</i>, pages 400 and 401)</p>	<p><b>GMP 1.3</b> Try different approaches when your problem is hard.</p> <p><i>See also:</i> <b>GMP 1.1, GMP 1.2, GMP 1.4, GMP 1.5, GMP 2.1, GMP 2.2, GMP 3.2, GMP 8.1, GMP 8.2, GMP 8.3</b></p>	<p>What is one way you tried to figure out the rule? Did anyone try a different way to figure out the rule?</p> <p><b>Why is it good to try more than one way to solve hard problems?</b></p>

<p>Using the Hour-Hand Clock</p> <p><i>(Teacher’s Guide to Activities, page 401)</i></p>	<p><b>GMP 6.2</b> Use the level of precision you need for your problem.</p> <p><i>See also:</i> <b>GMP 4.1, GMP 5.2, GMP 5.3</b></p>	<p>How do you show the difference between <i>a little before 10 o’clock</i> and <i>a little past 10 o’clock</i> on your clock?</p> <p>Between <i>half past 10 o’clock</i> and <i>exactly 10 o’clock</i>?</p> <p><b>Why do we talk about approximate times like <i>a little before 10</i> or <i>half past 10</i>?</b></p>
<b>Activity 8-11 Hour-Hand, Minute-Hand Story</b>		
<p>Telling the “Hour-Hand, Minute-Hand Story”</p> <p><i>(Teacher’s Guide to Activities, pages 402 and 403)</i></p>	<p><b>GMP 5.2</b> Use mathematical tools correctly and efficiently.</p> <p><i>See also:</i> <b>GMP 4.1</b></p>	<p>How did you set your paper clock to match the time on the classroom clock?</p> <p>What are some differences between the hour hand and the minute hand?</p>
<p>Playing Dice Addition and Subtraction Games</p> <p><i>(Teacher’s Guide to Activities, page 403)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i> <b>GMP 1.6, GMP 2.2</b></p>	<p>What number sentence could you write to show what happened on your turn?</p> <p><b>Could you make up a number story to match your number sentence?</b></p>
<b>Activity 8-12 Time Match Game</b>		
<p>Playing <i>Time Match</i></p> <p><i>(Teacher’s Guide to Activities, pages 404 and 405)</i></p>	<p><b>GMP 1.6</b> Connect mathematical ideas and representations to one another.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 4.1, GMP 5.2</b></p>	<p>Does anyone know what the o’clock times look like on a digital clock? What is the same about them?*</p> <p>How else are analog and digital clocks similar and different?</p>
<p>Dividing Wholes into Halves</p> <p><i>(Teacher’s Guide to Activities, page 405)</i></p>	<p><b>GMP 6.2</b> Use the level of precision you need for your problem.</p> <p><i>See also:</i> <b>GMP 2.1, GMP 2.2, GMP 6.3</b></p>	<p>Does a line down the center of a shape always divide it into equal halves? Why or why not?</p> <p><b>Why are some shapes easier to divide in half than others?</b></p>

<b>Activity 8-13 Missing Number Problems</b>		
<p>Solving Missing Number Pocket Problems</p> <p><i>(Teacher's Guide to Activities, pages 406 and 407)</i></p>	<p><b>GMP 3.1</b> Explain both what to do and why it works.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 1.3, GMP 1.4, GMP 1.5, GMP 1.6, GMP 2.1, GMP 2.2</b></p>	<p>Did I add or subtract objects? How do you know?*</p> <p>How many did I add (or subtract)? How did you figure it out?*</p>
<p>Playing <i>I Spy</i>: Shapes and Patterns</p> <p><i>(Teacher's Guide to Activities, page 407)</i></p>	<p><b>GMP 1.3</b> Try different approaches when your problem is hard.</p> <p><i>See also:</i>  <b>GMP 1.5, GMP 4.1, GMP 7.1, GMP 7.2, GMP 8.2, GMP 8.3</b></p>	<p>What could you do if you're having trouble figuring out the shape?</p> <p><b>Why is it important to keep trying and not give up?</b></p>
<b>Activity 8-14 Number Stories with Calculators</b>		
<p>Telling Number Stories with Calculators</p> <p><i>(Teacher's Guide to Activities, pages 408 and 409)</i></p>	<p><b>GMP 5.3</b> Estimate and use what you know to check the answers you find using tools.</p> <p><i>See also:</i>  <b>GMP 1.1, GMP 1.2, GMP 1.4, GMP 1.5, GMP 2.1, GMP 5.2</b></p>	<p><b>How could you check the answers you get with a calculator?</b></p> <p>Before you add or subtract on your calculator, can you do the problem mentally (in your head)? Did you get the same answer on your calculator? Why or why not?</p>
<p>Playing <i>Number Gymnastics</i> with Slates</p> <p><i>(Teacher's Guide to Activities, page 409)</i></p>	<p><b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.</p> <p><i>See also:</i>  <b>GMP 2.2, GMP 6.1, GMP 6.3</b></p>	<p>Why is it helpful to write each new number while playing <i>Number Gymnastics</i>?</p> <p><b>When else do you need to write 2-digit numbers?</b></p>

<b>Activity 8-15 Pan Balance with Uniform Weights</b>		
Weighing Objects  <i>(Teacher's Guide to Activities, pages 410 and 411)</i>	<b>GMP 5.3</b> Estimate and use what you know to check the answers you find using tools.  <i>See also:</i> <b>GMP 2.2, GMP 3.1, SMP 4.1, GMP 5.2, GMP 6.3</b>	Ask children to estimate how many of the weights they think it will take to balance the object.*  Why do we make estimates before weighing an object?
Practicing Number Writing  <i>(Teacher's Guide to Activities, page 412)</i>	<b>GMP 2.1</b> Represent problems and situations mathematically with numbers, words, pictures, symbols, gestures, tables, graphs, and concrete objects.  <i>See also:</i> <b>GMP 2.2</b>	What new ways have you learned to represent the numbers?  <b>How has writing numbers changed for you since the beginning of Kindergarten?</b>
<b>Activity 8-16 Introduction of the \$10 Bill</b>		
Exploring the \$10 Bill  <i>(Teacher's Guide to Activities, pages 414 and 415)</i>	<b>GMP 7.2</b> Use patterns and structures to solve problems.  <i>See also:</i> <b>GMP 1.6, GMP 4.1, GMP 6.1, GMP 6.3</b>	<b>Do \$1 and \$10 bills remind you of any coins? In what way?</b>  How many \$10 bills can be exchanged for a \$100 bill? Why do you think so? What number patterns might help you figure this out?
Measuring in Different Ways  <i>(Teacher's Guide to Activities, page 415)</i>	<b>GMP 5.2</b> Use mathematical tools correctly and efficiently.  <i>See also:</i> <b>GMP 1.5, GMP 2.1, GMP 2.2, GMP 3.1, GMP 5.1</b>	How do you know whether you have measured something correctly? How could you check your measurements?  <b>Are some measuring tools harder (or easier) to use? Why?</b>

\*denotes a question that is currently in the *Everyday Mathematics* materials.