

Grade 2, Unit Two: Hungry Ants

In this unit your child will:

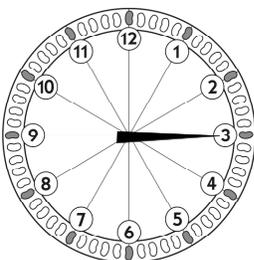
- count by 1's, 2's, 5's, and 10's and use these counting patterns to solve problems
- add and subtract 1- and 2-digit numbers
- solve addition, subtraction, multiplication, and division story problems



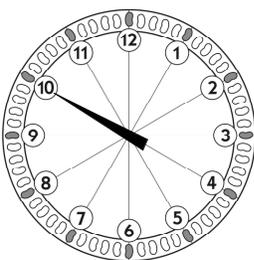
Your child will learn and practice these skills by solving problems like those shown below. Keep this sheet for reference when you're helping with homework.

Problem	Comments																				
<p>Five harvester ants are going to collect seeds. How many seeds can they carry back to the nest altogether if each ant carries 4 seeds?</p> <div style="text-align: center;"> <table style="margin: auto;"> <tr> <td>ant</td> <td>ant</td> <td>ant</td> <td>ant</td> <td>ant</td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>8</td> <td>12</td> <td>16</td> <td>20</td> </tr> </table> </div> <p>They can carry 20 seeds altogether.</p>	ant	ant	ant	ant	ant	1	2	3	4	5						4	8	12	16	20	<p>Possibly by the end of second grade, and definitely in third grade, students will recall that $5 \times 4 = 20$ to solve a problem like this one. For now, students might draw the situation and then use a counting pattern or some combination of addition facts they already know to solve the problem. This student drew the groups of seeds for each ant and then counted by 4's to arrive at a total of 20 seeds. Another student might have counted by 2's, while another might have noticed two groups of 8 seeds, plus another 4 seeds.</p>
ant	ant	ant	ant	ant																	
1	2	3	4	5																	
4	8	12	16	20																	
<p>There are 16 red garden ants on the sidewalk. Seven of them walk into the grass. How many ants are left on the sidewalk?</p> <div style="text-align: center;"> <p style="text-align: center;">9</p> </div> <p>9 ants are left.</p>	<p>Some second graders might simply know that $16 - 7 = 9$. This student doesn't have automatic recall of that subtraction fact, though, so he or she drew a line to represent each of the 16 ants, crossed out the 7 that went into the grass, and counted the 9 ants that remained. If you look closely at the drawing, you'll see that the lines are grouped by 5's, which likely makes the student's counting more efficient.</p>																				

Tell how many minutes the hand has gone past the hour on each clock below. Remember to start at the 12 each time.



15 minutes past the hour



50 minutes past the hour

Second graders can count by 5's to determine how many minutes have passed. Many, especially with more practice, will come to recognize automatically the number of minutes associated with each position on the clock face. As they begin studying multiplication, many students draw on their experiences telling time to recall the multiplication facts for 5.

Frequently Asked Questions about Unit Two

Q: Why does a math unit focus on ants?

A: Students are more engaged when they care about what they are learning and when it is embedded in a context that is interesting to them. Mathematics is certainly an interesting topic in its own right, but young students are especially interested in the creatures that inhabit the world around them. A unit on ants taps into students' innate curiosity, providing a meaningful and interesting context for problem solving with addition, subtraction, multiplication, and division. This early in the school year, students won't have mastery of any of the operations and facts yet; this means it is especially important to embed the problem solving in a familiar and interesting context.

Q: Why are students solving these kinds of problems when they don't know their multiplication and division facts yet, and when some of them don't know how to use the algorithm to add and subtract two-digit numbers?

A: It is important for students to have experiences solving problems with all four operations—addition, subtraction, multiplication, and division—before mastering basic facts, algorithms, and other strategies for calculating. When students solve such problems using drawings, invented strategies, and combinations of familiar facts and counting patterns, they build a strong understanding of the operations, as well as of the relationships among the operations. These understandings help students calculate more efficiently and solve problems more creatively as they progress in their mathematical learning.