Section 3

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet I

1. **Answer: 9** Encourage the child to represent the action of the problem with counters—beans, coins, and so forth—or with a drawing. Your son or daughter will likely show 4 counters first, and put 5 more with them, and count to find 9 altogether. Or the child might show 4 fingers, and "count on" by saying "5, 6, 7, 8, 9. There are 9 in all."

2. **Answer: 6.** The natural way for children to follow the action in this problem is to show 15 balloons, either with counters or by drawing them, and then 9 "go away" or are marked out. They would then find how many were left.

3. **Answer: Any reasonable number between 23 and 38.** First have the child touch 23 with a left-hand finger, and then 38 with a right-hand finger. Tell the child that any number between the left and right hands is a number between 23 and 38. Have the child find several such numbers. A challenge would be to find *all* the numbers between 23 and 38. Be sure to mention that 23 itself, and 38, are not *between* 23 and 38.

4. **Answer:**  Have the child verbally indicate the symbols as they are touched in order, saying something like *up, right, down* as they move from left to right. This pattern has a core of three things that repeat over-and-over again. Saying such words will reinforce that, when the child gets to the question mark, *up* would come next.

5. **Answer: 86** Some children might know to look in the "tens" column first to determine bigger 2-digit numbers. Others might use a number line to help them decide which is larger. If your child doesn't know this already, then have the child bundle some toothpicks or straws into tens and ones, and show that 86 is 8 tens and 6 ones, while 68 is 6 tens and 8 ones. The bundles can then be taken apart, if necessary, to see that 8 tens and 6 ones is the bigger number.

6. **Answer: 9, 12, 13** Your child might start from the smallest number and work up, or start with the largest number they know.

7. **Answer: 81, 82, 83, and 84** The child should choose a whole number or numbers *between* the two numbers. If your child has difficulty, then point out 80 and 85 on a hundreds chart—see "materials" in the introduction to this package.

8. **Answer: 13** This problem involves the concept of *how many more* in one set than another. The child might put out 6 counters to show Spot's bones, and beside them put 6 more counter's for Ruby's as if she had eaten the same amount. But the child must add 7 more to Ruby's pile now, as she ate 7 *more than* Spot. Then the child would count all of Ruby's bones and get 13. Some children will just draw seven more bones beside the 6 that are shown, and "count all" for the answer.

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet II

1. **Answer: 3.** This problem is a "part-to-whole" subtraction problem. Suggest that the student draw a picture or use counters to help. If the action of the problem is shown, the child will show the set of 7 cat toys first, and then a subset of the toys (4 mice) will be identified, and the remaining toys counted.

2. **Answer: Group C.** The problem shows groups of *tens* and *ones*. The *tens* have purposely been mixed with the *ones* for the child to discriminate—this is atypical of textbook presentations, where the *tens* always appear on the left and the *ones* on the right. If your child isn't familiar with *tens* and *ones* in this way, then have the child practice bundling and unbundling toothpicks or straws to match various two-digit numbers.

3. **Answer: Group A has 44 and Group B has 35.** This is more counting of tens and ones. As above, practice of this concept will be useful to the child in first grade.

4. **Answer: 3** Encourage the child to draw the "missing" jellybeans to balance the two sides. This problem is a precursor to solving equations and will later be represented using a number sentence like "7 = 4 + ?" If the child is having trouble understanding the concept of "balancing out", have the child stand with 7 pennies in one hand and three pennies in the other, like a balance scale, and ask "how many more do you need in one hand, to have the same amount in both hands?" If still more help is needed, take the pennies in one hand and line them up next to the pennies in the other hand, so that there will be some "extras" in one hand. That's how many need to be added to the other hand.

5. **Answer: 14; then 40, 45; then 4** The first pattern is counting by two's—have the child say the numbers out loud to see if the pattern is recognized. If not, the child can point with one finger and jump by 2s along a number line, or in the hundreds chart. The child can practice counting by twos by counting the number of socks in a given number of pairs, or the number of eyes for so many people, and so forth. The second pattern involves counting by 5s—this can be practiced out loud also, as nickels are counted, or minutes on a clock face are counted. The last pattern involves counting backward—if the child has trouble, start on the right end and count toward the left. The child can practice counting backward by "counting down" as a microwave oven counts, or a traffic signal that shows how many seconds till the light turns red, or any number of things in the real world.

6. **Answer: 3** Some children might say 2½ paperclips, and that would be fine also. If the child has trouble, have the child line up real paperclips to measure some items around the house, such as a pencil or how far it is around his or her wrist.

7. **Answer: 12** If the child answered "3" for the problem above, then he or she can put together those 3 paperclips four times, getting 12. (If the answer was 2½ above, then the answer to this problem would be 10.)

8. **Answer: The numbers 1 and 5 make 6, as do 2 and 4, and also 3 and 3.** The importance of this problem is for students to recognize that these pairs (1,5), (2,4), and (3,3) all belong to the same *fact family*. The pair (0,6) also belongs to this same fact family, but zero is not a face on a die and so won't come up in this context. If the student has trouble understanding the idea of the problem, have them take a pair of dice and roll them a number of times, counting the total number of pips that come "up" repeatedly. Then the child should get the idea of the problem. (Note: at this point, don't make a distinction between 2 coming up on the first face and 4 on the second, and 4 coming up on the first face and 2 on the second.)

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet III

1. **Answer: 4, 6, 5, and 0. Seahorse is circled.** It will be interesting to see what your child considers "legs", and that's why the word is in quotes for the problem. For example, the child might think a crab has 8 legs, counting the two claws as legs. And the child might think the seahorse has 1 leg, counting its tail as a leg. Any interpretation is considered correct for this problem.

2. **Answer: 13** Encourage the child to check off each square as it is counted, so that the child can keep track. The dog's nose might not be counted as a square, but it is a square since the orientation of a figure is not considered in naming it..

3. **Answer: The circle goes on the left-most girl, and the rectangle on the right-most.** The point of this problem is to have students engage in ordering lengths based on descriptors that compare two lengths at a time. The first sentence says Maria is to the left of Alice in the picture, and that Beth is to the left of Maria. The last sentence says that Juanita is to the left of Beth.

4. **Answer: 12** Encourage your child to use counters or draw a simple picture to solve the problem. The problem is intentionally planned so that the numbers in the problem are not the numbers to add, to teach the child to think critically.

5. **Answer: The Eagles won by 4 goals** Your child probably won't have trouble saying which team won, but "by how many goals" is a different question. Have the child line up 3 counters next to 7 counters, pairing them up and seeing that there are 4 counters under the eagles that are unmatched. Or the student can draw a quick sketch in a similar manner.

6. **Answer: 7** If the child follows the action of the problem with counters, he or she will put out 16 counters to show those balanced on his face, then remove 9 of them to show those that fell off. Then he or she will count what is left. The child might also draw a simple picture in a similar manner. The child might even "count up" from 9 to 16 or "count back" from 16 to 9.

7. **Answer: 8** This problem is similar to #5 above in the way a child might solve it.

8. **Answer: 42 minutes** The child might use an invented strategy to solve the problem, or simply count in an unusual way to put together 27 and 15. The child might use counters, a number line or hundreds chart. This problem doesn't lend itself to using counters as much as it does to using a number line because the concept of time is not a discrete category like the number of apples or bananas on a tree. Your child might prefer to count the minutes on a clock face, which is a circular number line.

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet IV

1. **Answer: 12** If the child follows the action of the problem with counters or a drawing, 5 items will be shown, 7 more, and then all will be counted find how many together. Sophisticated counters might "count on" from 5 to 12, saying "5, **6, 7, 8, 9, 10, 11, 12".** If the child is very astute about counting, he or she will start at the larger of the two numbers—7—and "count on" five more, getting 12 also, but in fewer steps.

2. **Answer: duck** To help a child understand this problem, have the child write beneath each animal how many legs it has. Then have the child ask, for each one in turn—*is this number 3 fewer than 5?* It is 3 fewer than 5 if 3 more can be put with the number, and 5 results.

3. **16** The child can put down 2 counters for both ducks, then 4 counters for the dog, then 8 counters for the spider, and "count all" to get 16. Or they might draw a picture, or count in a more sophisticated way.

4. **Answer: 4 beach balls** This is a *growing pattern* in which the number of beach balls increases by one each time through the pattern. If your child has trouble seeing the pattern, have the child say the words out loud: ball, pail, (pause) ball, ball, pail, (pause) ball, ball, ball, pail, (pause). Sometimes hearing the words verbally will help children notice a pattern.

5. **Answer: 11** For each possible number, ask "Is this more than 7?" How do you know? If it's more than 7, and you put out that many counters, part of the counters, but not the whole set, would be 7. Be sure to notice how the child handles the last number—7 counters. 7 is not *more than* 7.

6. **Answer: Circle** To find the answer to this problem, it might help to get a cup from the kitchen so that the child can visually see what shape is made. The child might struggle without having something visual in front of him or her.

7. **Answer: They had the same amount. They both had 18.** The purpose of the problem is for the child to realize that it doesn't matter the order in which one adds two numbers. This is called the *commutative property*, and is quite useful in computation because you can pick which number to add to the other one. Usually, the smaller number is easier to add to the larger number because it's easier to "count on" in that manner.

8. **Answer: will vary** This activity should be fun to do with your child. The child can put one foot in front of the other to measure in this fashion. The path might have to be adjusted as it goes around furniture, but that's the reality of measuring in the real world. You might also measure in this fashion with your own feet, and ask the child what will happen—Will your number of feet take more or fewer steps to measure across the room? (This concept is a sophisticated one which the child probably won't understand—a longer unit gives a smaller total number of units to span a distance—an *inverse* relationship.)

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet V

1. **Answer: 14** The child can represent the action of the problem by drawing or placing 7 counters out, then 7 more counters, and "counting all." He or she might use a more sophisticated counting method such as "counting on" from 7 to 14—saying "7, **8, 9, 10, 11, 12, 13, 14**".

2. **Answer: 7** The child can represent the action of the problem by drawing or placing 9 counters out, then removing 2 of them, and counting what's left. Or the child might use the drawing provided, which shows 9 fish but 2 of them are swimming in the other direction from the first 7.

3. **Answer: 4, 2, 6, and 4** The problem involves understanding graphical representation of numerical data. Questions *a, b*, and *c* are simply reading data from the graph, but problem *d* involves reading data and then comparing the two numbers 7 and 3, and finding their difference. If the child has trouble with *d*, have the child line up 7 counters next to 3 counters, matching up the 3 counters for hamsters with 3 of the 7 counters for dogs, and then counting how many dog counters are left without a matching hamster.

4. **Answer: 6** To solve the problem, it might help to check off each circle as the child counts it.

5. **Answer: 43, 34** The child should be encouraged to count the *tens* first for each group, then the *ones*. For the first group, for example, he might say *ten, twenty, thirty, forty*; and then count the *ones*, saying *41, 42, 43, 44*. Similarly for the second group.

6. **Answer: 43** Hopefully the child will refer to the pictures in problem 5 and say something like '*43 is bigger because 4 tens and 3 ones has more blocks than 3 tens and 4 ones. See, I can show you*.'

7. **Answer: 77** If you have toothpicks or straws that can be bundled into tens and ones, the child can show both amounts, then push them together to show *joining* the sets, and *count all*. Or the child can simply count the *tens* in both drawings for problem 5, and then the *ones* in both drawings.

8. **Answer: 9** As above, if you have counters that can be bundled, the child can compare the two groups more easily to find their difference. In this case, one of the groups of tens in 43 can be unbundled giving 13 ones, to compare to 4 ones in 34, and the difference in 13 and 4 is 9. The child might simply use the drawing and mark out 3 *tens* in each group, and compare what's left—13 squares and 4 squares.

An interesting site for comparing tens and ones electronically is:

http://nlvm.usu.edu/en/nav/frames_asid_155_g_1_t_1.html?from=category_g_1_t_1.html

The child will enjoy moving the red blocks up to match the blue blocks, and watching them "zap away."

9. **Answer: will vary depending on the child's age.** The point of the problem is for the child to add and then subtract the same number. Point out that when they do so, the result gives the original number. Adding a number and then subtracting that same number is called an *inverse operation*.

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet VI

1. **Answer: 4** Have the child draw a pizza and divide it into 8 slices, as equally as possible. (You might want to demonstrate making a cross through the middle, and then dividing the other sections evenly also.) Then the child can "remove" the eaten pieces, and count what is left.

2. **Answer: 3** The child might start with counters or the drawing provided, and show 9 balloons to start. Then the child might circle the 6 that are left, and ask—"*How many are not in the group that's left? That's how many flew away."*

3. **Answer: The chart shows the number of bugs Ann saw in the garden, 3, 3** The title of the chart always tells what it's about; the tally marks for the ladybug go from 2 to 3, so there are now 3; She saw 7 ants and 3 spiders—if the child has difficulty determining *how many more*, suggest showing 7 counters for the ants and 3 for the spiders, matching up the counters as far as possible, and 4 "ant counters" will be left unmatched.

4. **Answer: 34** The child should draw 3 *tens* and 4 *ones*.

5. **Answer: 34, 46, and 49 should be written in the circles**. If the child can't write the numbers inside the circles, then the numbers can be written on the edge and a line drawn to the circle. If the child has trouble, use the *hundreds chart* shown below and have the child look for patterns in the numbers found.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

6. **Answer: 7** If the child has trouble, have them count from 5 to 10 and notice what number is said after *six,* but before *eight*.

7. **Answer: Milkshake is circled and fries have a square around them.** If the child has trouble comparing these 2-digit numbers that show weights, then have her or him circle the four numbers on a hundreds chart. The numbers get bigger as you move from left to right and from top to bottom.

Suggestions for Helping your Child Find the Answers

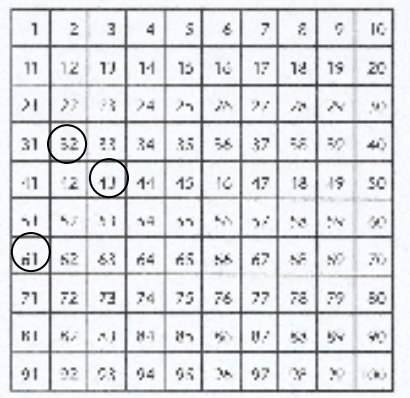
Grade 1, Worksheet VII

1. **Answer: 7** Encourage the child to use counters or use the given picture to show the action of the problem. If counters are used, 4 counters are shown first, then 2 more for the penguins, and then 1 more for the parrot. Sophisticated counters might "count on" from 4 to find the answer. Other children might think of strategies like *I know 4+2 is six, and this is 4+ 2 + 1, so it's going to be 1 more than 6. The answer is 7.*

2. **Answer: 4** If the child uses counters, he or she will start with 3 for the first three kids, then remove 1, then put 2 more counters down, counting all to find 4. A drawing might also be used, with the child making more marks for kids being added, and marking out a symbol for the kid who goes home.

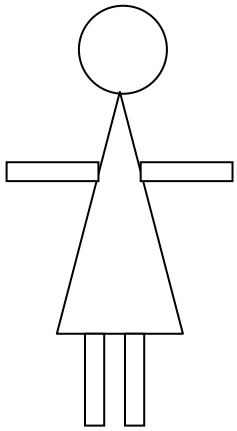
3, 4, 5. **Answers: 10, 10, yes because 6+4 = 10 and 4+6 = 10 in problems 3 and 4** The child will likely solve problems 3 and 4 with counters or with a drawing. The purpose of these three problems together is to show the *commutative property of addition*—the order of the numbers being added doesn't matter. (Don't use "commutative property" language with your child, but do encourage the child to think about whether or not it matters which number is added to the other number—it doesn't matter.) The commutative property is useful in that it's easier to add a smaller number to a larger number, than the reverse.

6. **Answer: 31, 33; 42, 44; 60, 62** If you have straws or toothpicks bundled into *tens* and *ones*, you can show each of the three starting numbers, then remove 1 and add 1 to get the numbers right before and right after the starting number. You might also circle the starting numbers on a hundreds chart, and have the child locate the numbers before and after the circled numbers.



7. **Answer: 6** Again, the child can use counters or a drawing, or even the drawing that goes with the problem. Notice that 3 frogs are already turned in a different direction than the other 6.

8. **Answer: 6 shapes** The purpose of the problem is for the child to compose a geometric figure from common shapes whose names they need to learn—circle, triangle, and rectangle. The figure would look like this one:



If the child is interested, you might have them make other such figures from these shapes, or add facial features, hands, etc., using common shapes.

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet VIII

1. **Answer: 7** Encourage the child to use counters, starting with 2 counters for the original kids playing soccer. Then enough counters can be added to get a total of 9. This may be difficult for your child because of having to keep up with the total number added, and at the same time with the total number of kids. The child might use two colors of counters, with the 2 original kids being one color, and the added kids another color.

2. **Answer: 3** The child will probably use the drawing or make a group of 7 elephants, and a group of 4 jugglers, and match them up, and then count the unmatched elephants. A list of 7 "Es" and 4 "Js" is also an interesting way to proceed with the matching process.

3. **Answer: 5** Using counters, the child will likely start with 5, then add 4 more, then remove 4. He or she could also count the ants on the page and add more of those, then take away some.

4. **Answer: The understanding you are looking for comes from the problem above—adding and then subtracting the same number leaves you with what you started with.** The concept the child will eventually learn is that addition and subtraction are "inverse operations." I.E., subtraction *undoes* addition, and vice-versa.

5. **Answer: 0** The concept to be understood here is what happens when you start with a given number and remove that same amount. You get zero, the *additive identity*. Your child may not have encountered the number 0 yet, but he or she will in first grade. You might show where zero resides on a number line.

6. **Answer: 3, 3; 4, 4; 5, 5** The point of the problem is for the child to meet the words "sides" and "vertices", which will be encountered in first grade. (Note: "vertices" is plural for vertex.") "Sides" refers to the straight line segments that make up a figure, and "vertices" refers to the corners. Be sure the child knows what he or she is counting, and suggest that each item be checked off when counted, to prevent recounting.

7. **Answer: 8** The child might draw a picture for this problem, or might use counters to show the 4 kids and 2 slices for each kid. Any simple list or drawing for this problem is a good place to begin. This problem might lead into counting by 2s by the child, if he or she is interested, saying "*2, 4, 6, 8—there are 8 pieces of pizza*."

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet IX

1. **Answer: Measuring cup, 2; milk carton, 3; tablespoon, 1** Help your child find these items. Ask if he or she were really thirsty and wanted some cold water, which of the containers would he or she choose to drink from. Which container would be best at satisfying their thirst?

2. **Answer: Inside** Have your child point to where the dog would be as you read the word choices. Some children might say the dog is only partially inside the dog house because its head is outside—give them an extra *smiley face* for that response!

3. **Answer: Two starfish** The core of this repeating pattern unit is 2 seashells and 1 starfish. The next picture would be 2 starfish. You might ask your child—What would come after the 2 starfish? Hopefully he or she would say "a seashell." If the child is having difficulty understanding the repeating nature of the pattern, have her or him say the words out loud for each object in turn, starting on the left.

4. **Answer: 10** The child might use counters to show 6 eggs, then 4 counters for the second basket of eggs, push the counters together, and count them all. Or the child might draw a picture of the eggs, hopefully one with simple symbols for the eggs—Xs, boxes, or ovals. (It gets in the way of mathematical problem solving, in the long run, if a child draws detailed pictures of objects like painted eggs.) Your child might just "count on" from 6 to 10 or use some other way of counting, without manipulatives or a drawing.

5. **Answer: 6 faces, 12 edges, 8 vertices** A die is a good model of a cube, and some tissue boxes or other types of boxes might suffice as a model. The important thing is that each face of a cube is a square, so all of the edges of the cube are the same length. To help the child count, put a piece of tape on each face in turn, then on each edge in turn, then on each vertex in turn.

6. **Answer**: **Joan baked 3 more** The child might use counters or use the picture of the 8 cupcakes, together with the picture of the 5 cupcakes. To find out how many more, have the child match up the counters or cupcakes in the drawing, pairing them one-to-one. There will be 3 left unmatched in the larger group—that's *how many more*.

7. **Answer: 6** Again, the child can use counters or a drawing and "act out" this problem. Starting with 9, two would be taken away or marked out, then 1 taken away or marked out, then what is left is counted. Some children might solve it by counting back from 9 to 7, then counting back another time to 6. Or the child might use a different, creative way of counting. Some children might just say "*I know 9 minus 3 is 6*."

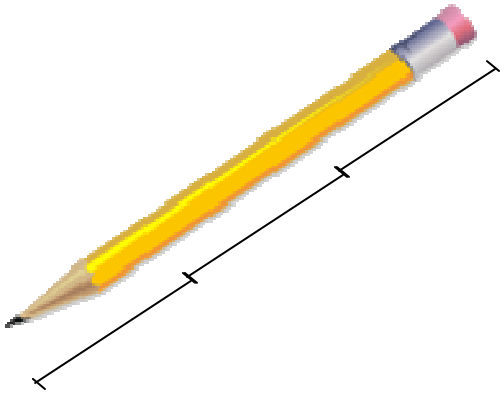
8. **Answer: 46** If you have items that can be bundled into *tens* and *ones*, have the child show each number that way. Then he or she can see that each number has the same number of *tens*, so the largest bundle is the number with the largest number of *ones*.

Suggestions for Helping your Child Find the Answers

Grade 1, Worksheet X

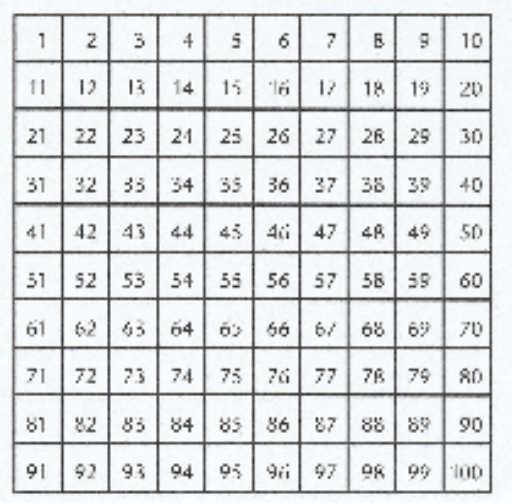
1. **Answer: 5 tens and 3 ones; 5 tens and 4 ones; 6 tens and 2 ones** If you have counters that can be grouped into *tens* and *ones*, have the child make each set. If you don't have such counters, he or she can count the groups of *tens* and record, then the individual *ones* and record that number. Notice on the middle and right-hand pictures, the *tens* aren't all on the left and *ones* on the right—this is so the child will have to discriminate visually.

2. **Answer: About 3 paperclips** Use the paperclip in the picture and have your child try to estimate about how many it would take to be the length of the pencil. Then take a sheet of paper and mark the paperclip's length as a line segment, and move the line segment. The child may not realize that you have to align one end of the pencil, with the end of the line segment.



3. **Answer 7 goals** The child might use counters or draw a picture to show starting with 4 goals, then adding 2 more goals, then 1 more goal, *counting all* to find the total. Be open to other ways the child may find the answer.

4. **Answer 67, 31, 24** Discuss how numbers may come *before, between,* and *after* another number. Give the child some simple examples before looking at the ones in this problem. You may need to use a homemade *hundreds-chart* like the one at the top of the next page.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

5. **Answer: 11** The child can use counters to show starting with 7, then adding another group of 4, then counting to find the total. Or he or she may draw a simple diagram or count in an unusual way.

6. **Answer: 56** If you have counters that can be bundled into *tens* and *ones*, have the child show each number in turn, then put the two piles of counters together and count the total. Or the child might simply count the pictured piles as one pile.

7. **Answer: 3 fire trucks were left** Counters may again be used, starting with 8 and removing 5 to follow the action of the problem. The child might simply use the diagram provided, marking out the trucks that leave and counting the unmarked trucks. Or the child might *count back* without using a model, saying "*....8, **7, 6, 5, 4, 3**. The answer is 3."*

8. **Answer: 8** This problem is more difficult than previous subtraction problems because the starting number and the end result are given—the child needs to find out how many more are needed to get to that end result. The child will probably start with 2 counters (or the 2 sand castles shown in the picture) and add on enough till they have 10 altogether. This problem will later be solved by subtraction as a *missing addend* problem (2 + ___ = 10), but don't try to get the child to subtract at this point. It suffices for the child to understand the meaning of the problem, and count to find the answer.

Thank You!