

The following pages have been designed with you in mind. Flip through this book to find exciting, hands-on ideas for introducing Dear Teachers, and reinforcing addition skills with a pocket chart! (LER 2206) Pocket Chart Math – Addition has been developed to provide creative teaching ideas and reproducible activities to support the use of a pocket chart. Suggested activities are designed to attract all types of learners. They encourage listening, speaking, observing and manipulating number, symbol, word, and picture cards to teach children to recognize addition mathematical symbols, add one and two-digit numbers, solve simple word problems, and much more. This book contains 136 ready-to-use cards to aid you as you teach addition. The cards display numbers, symbols, pictures, or words to use within each lesson, and are color-coded for handy organization. A Cards-At-A-Glance chart shows what is pictured on each card, and is located in the back of the book for easy reference. Also included is a Reading List to help you build a classroom library filled

This book quickly becomes a compact storage file! Tear out the with children's literature about addition. sheets of cards along the perforated lines. Laminate the cards for extra durability, cut them, and store them in the pocket provided on

the back cover of the book. As you use them, tear out the blackline master pages for photocopying, then use the folder pocket on the inside front cover for storage.

Pocket Chart Math Addition

Introduction Strategies

1. Help your students develop number sense, by filling your classroom with numbers, mathematical operation symbols (+, -, <, >,=), and sets of things to count. Make reference to counting and adding in daily conversation, as you call students' attention to the number of children who are wearing a certain color, buying school lunch, or riding the bus.

2. Provide students with real-life examples of addition ("If those three boys are wearing boots, and these two girls are wearing boots, how many students are wearing

boots in our classroom?") Invite them to ask their

parents or grandparents how they use addition each day, and post a list of these uses in your classroom.

- 3. Talk about the ways we use addition and places where addition is used, and visit some of these places. Banks, grocery stores, the post office, and hardware stores are all places where addition is a helpful "tool" to have. A quick field trip to a local business and a chat with some of the workers about the importance of addition can be a great starting point for lessons on that subject.
- 4. Do an informal assessment of each student's addition ability level by presenting him or her with a short pre-test. (Or simply ask students to perform simple adding tasks using counters, as you observe their techniques and accuracy. For example, say, "I have three counters, and you have two counters. If we put our counters together, how many do we have in total?") This may help you structure your lessons according to the ability levels of the students in your classroom.

Notes about the book:

- **1.** All of the addition activities in this book are written using small, simple numbers. To boost the difficulty level of the exercises, substitute more challenging numbers.
- 2. Three sets of the numeral cards (0-9) included in this book have the same numeral printed on the front and back side, so a situation does not arise causing you to need the number that appears on both the front and the back side of a card. A fourth and fifth set of number cards are printed with different numbers on the front and back of each card, so be aware that you may find it easier to do most activities with the first three sets of number cards, but can use the fourth and fifth sets to supplement the number cards as much as possible.

LEARNING RESOURCES[®]

Teaching Notes: Number Review and Addition Terminology

Cards needed: (red 🔆)

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Presenting the concept:

Place the bug counting cards showing sets of 1-10 bugs in random order in the pocket chart, leaving space near each bug card for a number card. Place number cards 1-10 on a flat surface near the pocket chart. Ask student volunteers to come to the chart, count the bugs on one of the cards, and find the number card that matches the number of bugs he or she counted. That student should then place the number card in the pocket chart near the bug card he or she counted, and say the number aloud.

Repeat this activity for the numbers 11-20 by slightly modifying the parameters. Use all of the bug picture cards to form groups of 11-20 bugs. For example, to represent a group of 11 bugs, place the card with ten bugs on it next to a card with one bug on it. Ask a student to count the bugs and locate the correct number cards (1 and 1) to represent the number of bugs they have counted. The student should then place the number cards next to each other to form the number 11 near the bug cards, and say the number aloud.

Extending the activity:

Preface your lesson by explaining that *addition* means putting numbers together. Place the + symbol card in the pocket chart, and ask students to describe what they see (many of them may recognize this mathematical sign). Explain that the + is called a *plus sign*, and place the *plus* word card in the chart near the +. Tell students that when we add two numbers together, we place the + between the two numbers we are adding. Demonstrate this concept by placing number cards on either side of the + (for example, 1 + 2). Say the words: "one plus two," to represent the numbers you have displayed in the pocket chart. Explain that the numbers 1 and 2 are called *addends*.

In a different spot in the pocket chart, place the =. Explain that it is called an *equals sign*, and place the *equals* card and the *is* and *equal to* cards near the =. Tell students that the words *equals* or *is equal to* can be used interchangeably, and mean the same thing. Place the = behind the number sentence you created earlier (1 + 2 =), and read the sentence to the students: "one plus two equals." Can anyone fill in the answer? Explain that the answer (3) is called the *sum*. Build additional number sentences for the students to practice reading aloud.

Note to teachers: Because many of your students may be non-readers, you may need to read the instructions on each activity sheet aloud and explain the activities clearly.



Name

Activity 1

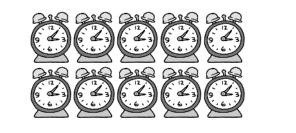
Counting Clocks

Directions: Count each group of clocks and write the number on the line.

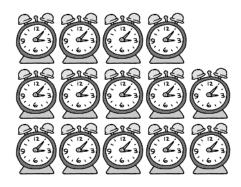




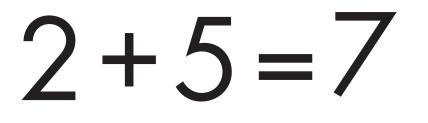






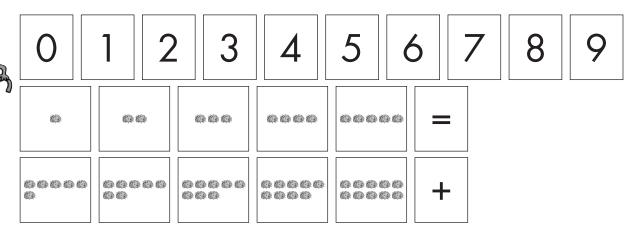


Look at the number sentence below. Read it aloud to a partner. Circle the equals sign. Draw a line under the plus sign.



Teaching Notes: Horizontal Addition

Cards needed: (orange 🔆)



Presenting the concept:

Using the number and operations cards, build a simple addition problem horizontally in the pocket chart (3 + 1 = 4 will work nicely). Leave plenty of space between the cards. Above the numbers, place the appropriate bug cards (three bugs, one bug, and four bugs). Ask a student volunteer to read the number sentence aloud ("three plus one equals four") pointing to the numbers and symbols as he or she reads them. Draw the students' attention to the bug cards, which serve as a pictorial representation of the numbers being added (addends) and the sum of the two numbers. Ask students to count the bugs with you. Count three bugs, then one bug, and then count all of the bugs together (four bugs). Explain that you just added three bugs to one bug to equal four bugs! Repeat this activity with other simple number sentences such as:

1 + 2 = 3	0 + 2 = 2	2 + 2 = 4
3 + 2 = 5	4 + 0 = 4	2 + 3 = 5

Note: This is a good time to help students understand the Identity Property and the Commutative Property. The Identity Property states that for addition, a + 0 = a; 0 + a = a. The Commutative Property states that two addends can be written in any order to achieve the same sum (a + b = b + a).

Extending the activity:

Build a series of number sentences in the pocket chart, using the number and operations cards. Leave the answer blank, and invite students to read the number sentence and add each pair of addends to figure out each sum. You may wish to start with a selection of the following problems, but note that all of the problems cannot be built simultaneously, due to limited quantities of number and operations cards.

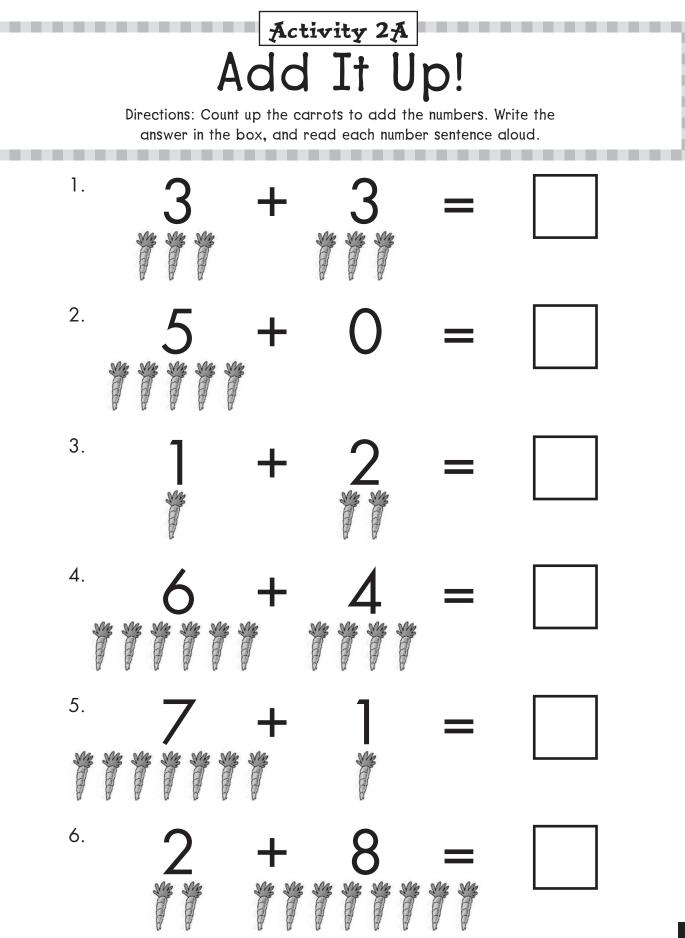
1 + 3 = 4	8 + 0 = 8	3 + 3 = 6	2 + 7 = 9	0 + 2 = 2
5 + 5 = 10	1 + 4 = 5	1 + 6 = 7	6 + 2 = 8	0 + 9 = 9

Note: Invite students to use a number line or the bug counting cards to compute the sums, if you wish. Giving each student a set of counters (such as buttons, pennies, or checkers) may be helpful, too, so he or she can physically represent each addend, then calculate the sum.

If you feel students are ready, try problems such as $2 + __ = 5$, and ask them to determine the missing addend. This is a more advanced skill, so hold off until all students are ready for it.



Name



N	ame
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12			tivity 2B
L	Directions: Add the num	nbers in each	- Up, Too! number sentence. Write the answer on the line, d. Use counters to help you add, if you need to.
1.	0 + 3 =		^{11.} 6+6=
2.	5+2=		^{12.} 9 + 5 =
3.	4 + 1 =		^{13.} $10 + 0 =$
4.	2+2=		^{14.} 13 + 2 =
5.	1+6=		^{15.} 17 + 1 =
6.	3 + 7 =		^{16.} 11 + 6 =
7.	5 + 0 =		^{17.} 0 + 12 =
8.	8 + 1 =		^{18.} $7 + 4 =$
9.	4+5=		^{19.} 8 + 7 =
10.	5+3=		^{20.} $16 + 1 =$

Teaching Notes: Vertical Addition

Cards needed: (yellow 🔆)

0	1	1 2 3		4	+
5	6	7	8	9	

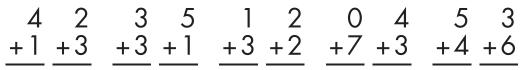
Presenting the concept:

Begin by creating an "equals bar" (the horizontal line that separates the addends from the sum in a vertical addition problem). Using a recipe card or piece of poster board, cut narrow rectangles in two sizes: 0.5" x 5.5" and 0.5" x 8.5". The longer cards will be used as the "equals bar" in two-digit vertical addition problems, and the shorter bar will be used with single-digit vertical addition problems. Color your equals bars so they are visible in the pocket chart.

Because vertical addition problems do not read from left to right, it may be more difficult for children to "read" the problems as number sentences, as they did with the horizontal problems. Build a simple vertical addition problem in the pocket chart, positioning an equals bar under the second addend (in the same pocket). Explain that the equals bar is the same as the equals sign or the words "is equal to" or "equals." Show students where to put their answer (under the equals bar) in a vertical addition problem.

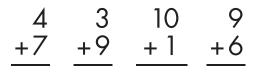
Extending the activity:

One set at a time, build pairs of vertical addition problems with the same sums in the pocket chart, side by side, based on the following list.



Ask students to solve the problems and place the correct answer card into the chart. Call students' attention to the Identity and Commutative Properties in the examples where these principles are illustrated. As a follow-up to this activity (and for extra practice) invite students to post their own addition problems in the pocket chart for their classmates to solve.

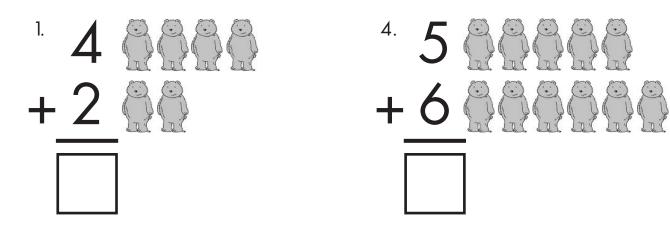
Note: Gauge your students' readiness, and introduce single-digit addends with a sum that is greater than 10. Use the same methods described above, but substitute your longer equals bar. Some starter equations include:

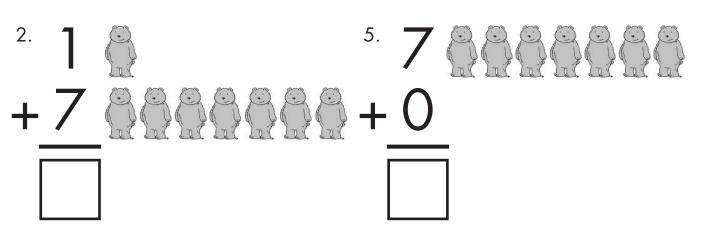


Name

Up and Down Adding

Directions: Count up the bears to add the numbers. Write the answer in the box.





 $\begin{array}{c} 3 \\ + 5 \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ + 2 \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ + 2 \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ + 2 \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \hline \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \end{array} \\ \begin{array}{c} 6 \\ - 2 \\ \hline \end{array} \\ \end{array} \\ \end{array}$

Name

More Up and Down Adding

Directions: Add up the numbers in each addition problem. Write the answer in the box. Use counters to help you add, if you need to.

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¹ 1	^{2.} 5	^{3.} 1	^{4.} 3
+ 7	+ 4	+ 5	+ 6
^{5.} 2	6. 3	^{7.} 3	^{8.} 0
+ 2	+ 7	+ 3	+ 1
9. 0	^{10.} 2	^{11.} 6	^{12.} 5
+ 6	+ 4	+ 1	+ 2
^{13.} 9	^{14.} 8	^{15.} 8	^{16.} 2
+ 2	+ 0	+ 5	+ 6

Teaching Notes: Advanced Addition

Cards needed: (green 🔆)

0	1	2	3	4	+	
5	6	7	8	9	=	

Presenting the concept:

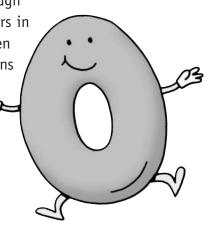
After students have mastered adding two numbers, ask them to add three numbers! Post an addition problem in the pocket chart horizontally. (4 + 2 + 1 = 7 is a qood)one to start with.) Explain that one strategy for adding three numbers is to add the first two numbers together, and then add the third number to the sum of the first two numbers. For example, with the equation listed above, students would add 4 and 2 to get 6, and then add 1 to 6 for a total of 7. Build sample three-addend vertical addition problems, and ask students to add the numbers and place the correct answer card underneath the equals bar. Depending on the addends you choose for your sample problems, you can use the bug counting cards (or actual counters) to help students add the three numbers.

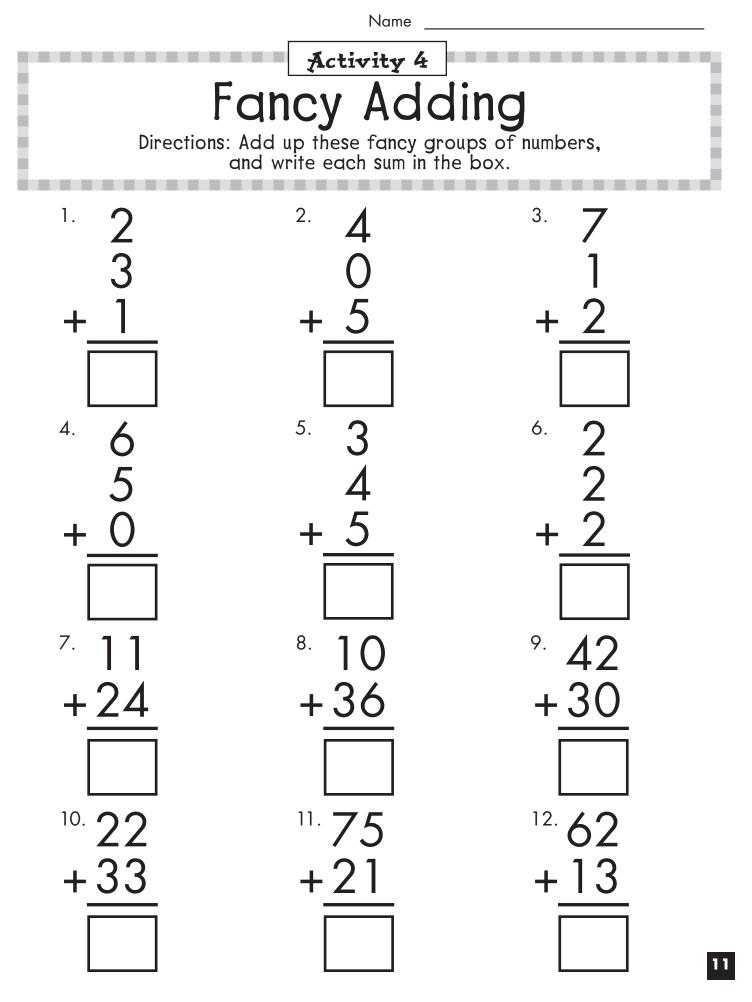
Extending the activity:

Addition with two-digit addends is a more advanced skill, but you may find that some students are ready for it. The numeral cards in this book and your classroom pocket chart are perfect for two-digit addition, especially without "carrying." (Carrying is a more advanced skill, and may not be well-illustrated using a pocket chart.) Post vertical addition problems and work through several of them as a class, explaining that the numbers in the ones column are added first and the sum is written

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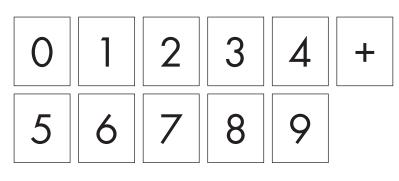
below the equals bar, and then the numbers in the tens column are added and the sum is written below the equals bar.





Teaching Notes: Addition Story Problems

Cards needed: (blue 🔆)



Presenting the concept:

Apply addition to real-life situations by gathering up the following items and displaying them on a table or countertop where all the students can see them:

- 4 blue crayons or markers • 2 red crayons or markers
 - 3 bananas (or pears)
- 5 red checkers or circular buttons • 8 marbles
- 1 red apple • 3 round balls (baseballs or basketballs would work well)

Get students used to the format of story problems by asking questions about the items they see on display.

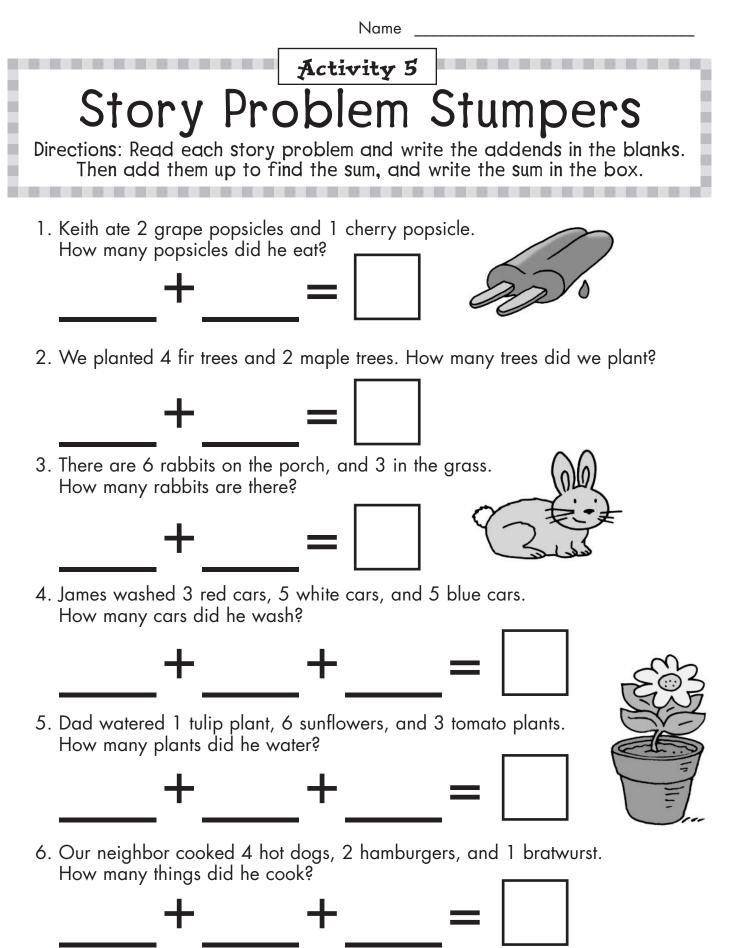
- 1. How many of the items have a round shape?
- (5 red checkers or buttons + 1 red apple + 8 marbles + 3 balls = 17 round items)
- 2. How many of the items are red? (2 red crayons + 5 red checkers or buttons + 1 red apple = 8 red items)
- 3. How many items can be eaten? (1 apple + 3 bananas [or pears] = 4 items that can be eaten)
- 4. How many items can be used to write with? (4 blue crayons + 2 red crayons = 6 items that can be used for writing)
- 5. How many items are yellow? (3 bananas [or pears] + 0 other items = 3 yellow items).

Try to encourage students to look past the most obvious distinguishing features (for example, color) to think of other ways the different kinds of items can be grouped together.

Extending the activity:

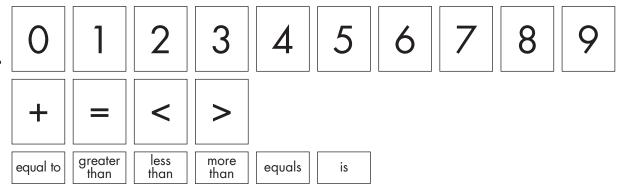
Read the following simple addition story problems, one at a time, and invite students to build corresponding vertical addition equations using the number and operations cards and the pocket chart. (Note: The problems get progressively more difficult.) You could also ask students to illustrate each story problem to help them visualize it more effectively. (For example, for problem 1 below, students could draw 2 goldfish in a bowl, and 2 more in a bag ready to be added to the bowl.)

- 1. Grant has 2 goldfish in a bowl. His Dad brought him 2 more from the pet store. How many goldfish does Grant have now? (4)
- 2. Moose the dog has 6 bones in his doghouse. Sam gives him 1 more bone. How many bones does Moose have now? (7)
- 3. Mrs. Garcia ate 4 cookies after lunch, and 6 cookies after dinner. How many cookies did she eat that day? (10)
- 4. There were 7 tigers and 8 elephants riding in the huge zoo truck. How many animals were in the truck? (15)
- 5. There are 9 plums and 10 pineapples in the shopping cart. How many pieces of fruit are in the cart? (19)
- 6. The driver of the blue car honked the horn 2 times during the parade, 7 times in the traffic jam, and 3 times at the squirrel in the road. How many times did the driver honk the horn? (12)
- 7. Dan hit 6 white golf balls, 1 blue golf ball, and 4 yellow golf balls. How many golf balls did Dan hit? (11)
- 8. John and Sarah baked 3 cherry pies, 2 apple pies, and 0 pumpkin pies. How many pies did John and Sarah bake? (5)



Teaching Notes: Greater Than, Less Than, and Equal To

Cards needed: (purple 🔆)



Presenting the concept:

By first grade, many students understand that numbers can be greater than or less than each other (5 > 4). This knowledge can be applied to addition problems, too. Begin by reviewing (or introducing) the symbols of inequality: greater than (>) and less than (<). Place the < and > cards in the pocket chart, and the corresponding word cards (greater than and less than) near the symbols. Also place the *more than* card near the greater than cards, and explain that it is another way of saying greater than. Explain that numbers that are greater than come **after** in counting, and numbers are less than come **before** in counting. Also remind students that the point of the greater than or less than symbol always points to the smaller number.

Post a sample number comparison in the chart, such as 2 < 4. Ask students to read the expression ("two is less than four"). Then post a greater than number comparison in the chart, such as 6 > 3. Ask students to read that expression, too ("six is greater than [or more than] three"). Finally, place an expression of equality in the chart, and ask students to read it (4 = 4; "four is equal to [or equals] four"). Post additional inequality sentences in the chart, and ask students to read them aloud.

Extending the activity:

Build a simple vertical addition problem using the number and operations cards, on the left side of the pocket chart. Then build another one on the right side of the pocket chart. Leave space in the middle of the chart. Ask two students to come to the chart to add the addends of their problem and post the correct sum card in the chart. After the two students have completed their problem, ask the class to compare the two sums. Are they equal to each other? Which one is smaller? Which one is larger? Ask a third student volunteer to place the <, >, or = between the two sums to represent the relationship of the two numbers. Place new addition problems on the left and right sides of the chart, and repeat the activity. Advance into two-digit addition problems or three-addend addition problems, if you feel your class is up to the challenge.



Name

Activity 6 Using <, >, and = Follow the directions below to complete this sheet.

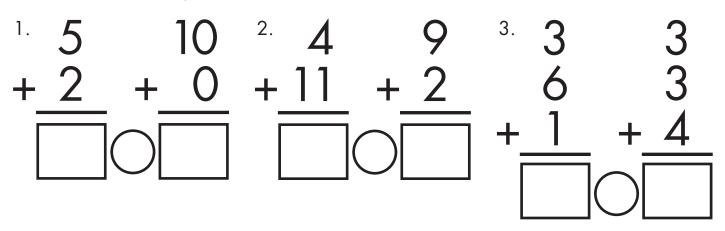
Directions: Draw a line between each term and its symbol.

plus	>
equal to	+
greater than	<
less than	=

Directions: Place a <, >, or + in the circle between the two numbers.



Directions: Do the addition problems, write each sum in its box, and place a <, >, or + in the circle between the two sums.





Reading List

12 Ways to Get to 11 Eve Merriam Simon & Schuster Books for Young Readers, NY: 1993

100 Days of School Trudy Harris Milbrook Press, Brookfield, CT: 1999

Animals on Board Stuart J. Murphy HarperCollins Publishers, NY: 1998

A Collection for Kate Barbara DeRubertis Kane Press, NY: 1999

How Many Birds? Don L. Curry Capstone Curriculum Pub., Mankato, MN: 2000

Mission—Addition Loreen Leedy Holiday House, NY: 1997

More Bugs? Less Bugs? Don L. Curry Capstone Curriculum Pub., Mankato, MN: 2000

One More Bunny: Adding From Ten to One Rick Walton Lothrop, Lee, & Shepard Books, NY: 2000

Quack and Count Keith Baker Harcourt Brace, San Diego, CA: 1999

Scoop! Fishbowl Fun, Simple Addition Monica Weiss Troll Associates, Manwah, NJ: 1992

Sea Sums Joy N. Hume Hyperion Books for Children, NY: 1996

Ten Toads and Eleven Lizards Cass Hollander Modern Curriculum Press, Cleveland, OH: 1994

	Cards-At-A-Glance Cards are shown as front-to-back pairs.											
1	1		6	6		3	7		>		+	
2	2		7	7		3	7		>		+	
3	3		8	8		6	=		>		+	
4	4		9	9		6	=		88888 88	0	60-60-	
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6	6		2	2		5	=		\$\$ \$\$ \$\$ \$\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	ø	50 60 60 60 60	
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1	1		9	9		<	+		62+62+62+63	þ	හා හා හා හා හා හා හා හා භා	
2	2		1	9		<	+		plus equals		less	
3	3		1	9		<	+		more than		is qual to	
4	4		2	8		>	+			L	·	
5	5		2	8		>	+					