

Mathematics Assessment Supplement

Student Worksheets, Teacher Instructions, and Answer Keys

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Counting

Counting Concrete Objects

Teacher Directions

This activity assesses:

1. The student's understanding that the last number named when counting objects tells the number of objects.
2. The student's ability to count accurately.
3. The student's understanding that the number of objects doesn't depend on their physical arrangement.

Procedure:

Place eight pennies (or plastic animals, counting blocks, etc.) on the table in a straight line.

Ask the student: *How many pennies are there?*

If the student answers correctly:

Say: *Good. Now I'm going to move them around so they're all mixed up*

While the student watches, rearrange the pennies into a random pattern.

Ask: *How many pennies are there now?*

If the student answers in correctly:

Say: *Let's count together.*

Touch the pennies as you count aloud and encourage student to count with you.

Say: *Let's do another one.*

Add another penny to the line.

Say: *How many pennies are there?*

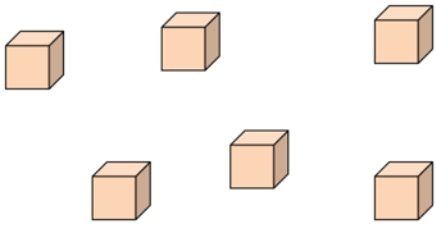
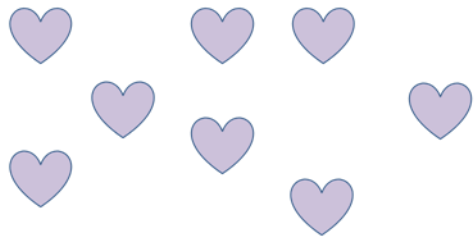
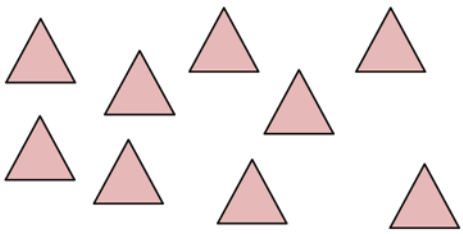

If necessary, repeat until you're able to answer "yes" to all of these questions:

Does the student understand that the last number named when counting tells the number of objects?	Yes	No
Does the student count accurately and efficiently?	Yes	No
Does the student understand that the number of objects isn't affected by arrangement?	Yes	No

Counting

Counting Objects on Paper

Student Worksheet

 <p>How many? _____</p>	 <p>How many? _____</p>
 <p>How many? _____</p>	 <p>How many? _____</p>

Counting

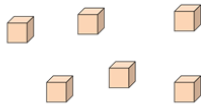

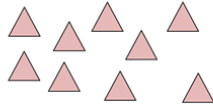

Counting Objects on Paper

Teacher Directions

Procedure:

Place a copy of the Student Worksheet in front of the student.

Student Worksheet

 <p>How many? _____</p>	 <p>How many? _____</p>
 <p>How many? _____</p>	 <p>How many? _____</p>

Tell the student: *Count the number of objects in each box and write the number in the blank.*

Watch the student work independently on the worksheet.

If the student asks for help or doesn't respond:

Say: *Let's do one together.*

Point to each object as you count aloud.

Ask: *How many?*

If the student answers correctly:

Say: *Good, write the number in the blank.*

Provide help if necessary.

Say: *Now, you do the next one.*

Give the student the opportunity to work independently, but provide help if necessary.

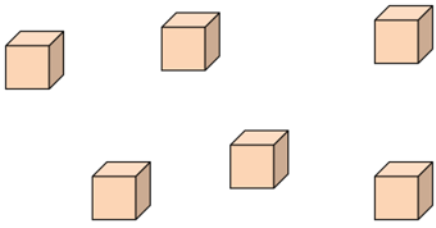
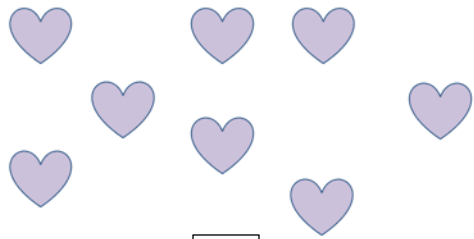
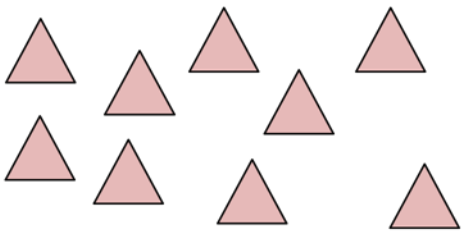

If necessary, repeat until you're able to answer "yes" to this question:

Does the student count correctly when working independently?	Yes	No
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Counting

Counting Objects on Paper

Answer Key

 <p>How many? <u>6</u></p>	 <p>How many? <u>8</u></p>
 <p>How many? <u>9</u></p>	 <p>How many? <u>13</u></p>

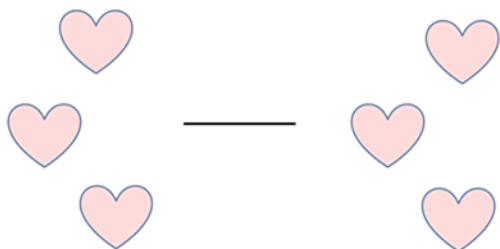
Counting

Comparing Numbers to 20

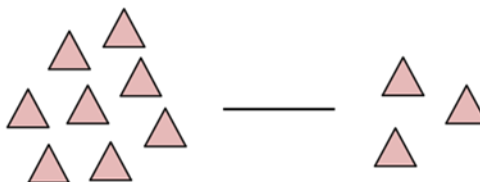
Student Worksheet

< > =

Write <, >, or = in the blank.



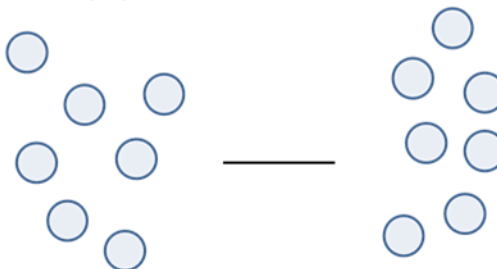
Write <, >, or = in the blank.



Write <, >, or = in the blank.



Write <, >, or = in the blank.



Write <, >, or = in the blank.

3 ____ 2

Write <, >, or = in the blank.

7 ____ 7

Write <, >, or = in the blank.

13 ____ 11

Write <, >, or = in the blank.

14 ____ 18

Counting

Comparing Numbers to 20

Teacher Directions

This activity assesses:









1. The student's ability to count accurately.
2. The student's understanding of the concepts of greater than, less than, and equal.
3. The student's understanding of the greater than, less than, and equal symbols.

Procedure:

Place a copy of the Student Worksheet in front of the student.

Student Worksheet

< > =

Write <, >, or = in the blank.  — 	Write <, >, or = in the blank.  — 
Write <, >, or = in the blank.  — 	Write <, >, or = in the blank.  — 
Write <, >, or = in the blank. 3 — 2	Write <, >, or = in the blank. 7 — 7

Point to the < (greater than), > (less than), and = (equal) symbols at the top of the worksheet.

Tell the student: *Write the correct symbol in each blank.*

Watch as the student work independently on the worksheet.

If the student asks for help or doesn't respond:

Ask: *How many on this side?* (Point to the left side, and let the student respond. Provide help if necessary. For the sets of shapes, write the number below the set.)

Ask: *How many on this side?* (Point to the right side, and let the student respond. Provide help if necessary. For the sets of shapes, write the number below the set.)

Ask: *Which side has more?*

If the student can't answer the question, then you may wish to end the session.

If the student answers correctly:

Ask: *Which of these symbols goes in the blank?* (Point to the symbols at the top?)

If the student doesn't know or answers incorrectly:

Say: *I'll write it.* (Write the correct symbol in the blank.) *Now you try the next one.*

Let the student work independently. If the student continues to need help, you may choose to end the session if you can answer the questions below.

If necessary, repeat until you're able to answer "yes" to these questions:

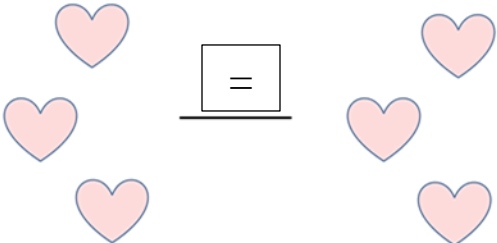
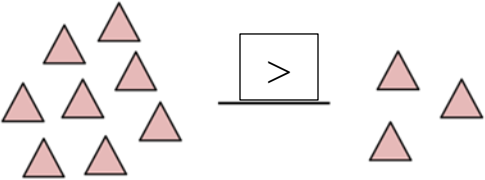
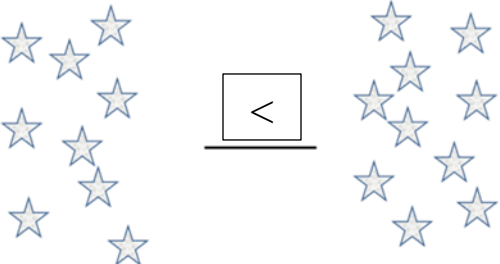
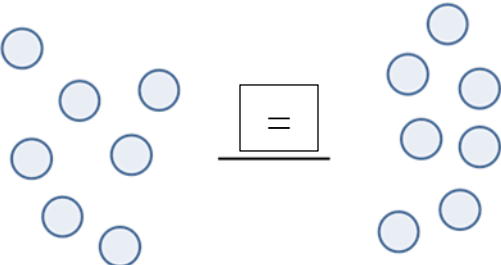
Is the student able to count accurately?	Yes	No
Does the student understand the concepts of greater than, less than, and equal to?	Yes	No
Does the student use the symbols greater than ($>$), less than ($<$), and equal to correctly?	Yes	No
Is the student able to use the greater than ($>$), less than ($<$), and equal to symbols independently?	Yes	No

Counting

Comparing Numbers to 20

Answer Key

< > =

<p>Write <, >, or = in the blank.</p>  <p><u>=</u></p>	<p>Write <, >, or = in the blank.</p>  <p><u>></u></p>
<p>Write <, >, or = in the blank.</p>  <p><u><</u></p>	<p>Write <, >, or = in the blank.</p>  <p><u>=</u></p>
<p>Write <, >, or = in the blank.</p> <p>3 <u>></u> 2</p>	<p>Write <, >, or = in the blank.</p> <p>7 <u>=</u> 7</p>
<p>Write <, >, or = in the blank.</p> <p>13 <u>></u> 11</p>	<p>Write <, >, or = in the blank.</p> <p>14 <u><</u> 18</p>

Counting

Assessing Student Mastery

Teacher Questions

To assess a student's mastery of counting, answer the following questions. Repeat lessons and activities as needed until you can answer "yes" to each question.

Counting Concrete Objects

Does the student understand that the last number named when counting tells the number of objects?	Yes	No
Does the student count accurately and efficiently?	Yes	No
Does the student understand that the number of objects isn't affected by arrangement?	Yes	No

Counting Objects on Paper

Does the student count correctly when working independently?	Yes	No
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Comparing Numbers to 20

Is the student able to count accurately?	Yes	No
Does the student understand the concepts of greater than, less than, and equal to?	Yes	No
Does the student use the symbols greater than ($>$), less than ($<$), and equal to correctly?	Yes	No
Is the student able to use the greater than ($>$), less than ($<$), and equal to symbols independently?	Yes	No

Basic Facts
Addition and Subtraction Concepts

Student Worksheet - Addition

$$3 + 2 = \underline{\quad}$$

$$3 + 2 = \underline{\quad}$$

$$2 + 4 = \underline{\quad}$$

$$2 + 4 = \underline{\quad}$$

Basic Facts
Addition and Subtraction Concepts

Student Worksheet - Subtraction

$$4 - 1 = \underline{\quad}$$

$$4 - 1 = \underline{\quad}$$

$$5 - 3 = \underline{\quad}$$

$$5 - 3 = \underline{\quad}$$

Basic Facts

Addition and Subtraction Facts Concepts

Teacher Directions

In this activity, you are assessing:

1. The student's understanding of the representation of addition and subtraction facts.
2. The student's ability to answer addition facts using manipulatives.

Procedure:

Place a copy of the Student Worksheet - Addition in front of the student and place a set of 10 pennies (or other manipulatives such as plastic animals or cubes) beside the worksheet.

<small>3 + 2 = _____</small>				
3	+	2	=	_____

<small>2 + 4 = _____</small>				
2	+	4	=	_____

Point to first problem ($3 + 2$).

Say: *This problem says 3 plus 2. Use the pennies to show what the problem means and to find the answer. Write the answer in the blank.*

Watch as the student works.

If the student understands the task and answers correctly:

Say: *Good job. Now do the next one.*

If the student correctly answers the second problem:

Say: *Good job. Now let's try something different.*

Move on to Student Worksheet – Subtraction.

If the student asks for help or doesn't respond:

Say: *The 3 tells us to start with three pennies. Point to the 3, then place three pennies in the box under the number 3.*

Say: *The 2 tells us that we need to add two more pennies. Point to the 2, then place two pennies in the box under the number 3.*

Say: *The plus sign tells us we need to add them together. Point to the + sign.*

Say: *Now we can count to get the answer. (Count.) The answer is 5, so we write a 5 in the blank.*

Say: *Now try the next one by yourself.*

If the student correctly works the second problem, move on to subtraction. If the student has difficulty with the second problem, work through the problem together then end the assessment.

If the student has correctly worked at least one of the addition problems, place a copy of the Student Worksheet – Subtraction in front of the student and place a set of 10 pennies (or other manipulatives such as plastic animals or cubes) beside the worksheet.

$4 - 1 = \underline{\quad}$				
4	-	1	=	$\underline{\quad}$

$5 - 3 = \underline{\quad}$				
5	-	3	=	$\underline{\quad}$

Point to first problem (4-1).

Say: *This problem says 4 minus 1. Use the pennies to show what the problem means and to find the answer. Write the answer in the blank.*

Watch as the student works. If the student understands the task and answers correctly:

Say: *Good job. Now do the next one.*

If the student asks for help or doesn't respond:

Say: *The 4 tells us to start with four pennies. Point to the 4, then place four pennies in the box under the number 4.*

Say: *The minus sign tells us that we need to take something away. Point to the minus sign.*

Say: *The 1 tells us we need to take away one penny. Point to the 1.*

Say: *I'm taking away one penny. Slide one penny from the set of four outside of the bottom of the box below the 1.*

Say: *Now we can count how many are left to get the answer. (Count.) The answer is 3, so we write a 3 in the blank.*

Say: *Now try the next one by yourself.*

If the student has difficulty with the second problem, work through the problem together then end the assessment.

If necessary, repeat until you're able to answer "yes" to these questions:

Can the student represent addition and subtraction facts using manipulatives?	Yes	No
Can the student use manipulatives to find the correct answer?	Yes	No

Basic Facts
Addition and Subtraction Concepts

Answer Key - Addition

$$3 + 2 = 5$$

$$2 + 4 = 6$$

Answer Key - Subtraction

$$4 - 1 = 3$$

$$5 - 3 = 2$$

Basic Facts
Addition and Subtraction Facts Fluency

Student Worksheet

-----Addition Facts-----

$$\begin{array}{r} 2 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 1 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 0 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$$

-----Subtraction Facts-----

$$\begin{array}{r} 5 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ - 0 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline \end{array}$$

Basic Facts

Addition and Subtraction Facts Fluency

Teacher Directions

This activity assesses:

1. The student's fluency in addition and subtraction basic facts.
2. The student's strategy in answering addition and subtraction basic facts.

Procedure:

Place a copy of the Student Worksheet in front of the student.

Say: *Here are some addition problems. I want you to work as many as you can in 30 seconds. Work carefully but quickly. Ready?*

Trigger a stop watch or timer and give the student 30 seconds to work. Note how the student solves the problems, for example, by counting on fingers, making marks on paper, or retrieving the answer from memory. When the time is up:

Say: Okay, good job! Now, let's try the subtraction problems. Work carefully and quickly. Ready?

Again, give the student 30 seconds work and observe how the student solves the problems. When the time is up:

Say: *Okay, good job! Thanks for working hard!*

If necessary, repeat until you're able to answer "yes" to these questions:

How many addition problems did student answer correctly?		
Does the student use an efficient strategy to get the answers to addition problems? Describe:	Yes	No
How many subtraction problems did student answer correctly?		
Does the student use an efficient strategy to get the answers to subtraction problems? Describe:	Yes	No

Basic Facts
Addition and Subtraction Facts Fluency

Answer Key

----- Addition Facts -----

$$\begin{array}{r} 2 \\ + 3 \\ \hline \boxed{5} \end{array}$$

$$\begin{array}{r} 6 \\ + 4 \\ \hline \boxed{10} \end{array}$$

$$\begin{array}{r} 7 \\ + 7 \\ \hline \boxed{14} \end{array}$$

$$\begin{array}{r} 5 \\ + 1 \\ \hline \boxed{6} \end{array}$$

$$\begin{array}{r} 3 \\ + 8 \\ \hline \boxed{11} \end{array}$$

$$\begin{array}{r} 5 \\ + 4 \\ \hline \boxed{9} \end{array}$$

$$\begin{array}{r} 6 \\ + 0 \\ \hline \boxed{6} \end{array}$$

$$\begin{array}{r} 9 \\ + 4 \\ \hline \boxed{13} \end{array}$$

$$\begin{array}{r} 1 \\ + 5 \\ \hline \boxed{6} \end{array}$$

$$\begin{array}{r} 3 \\ + 3 \\ \hline \boxed{6} \end{array}$$

----- Subtraction Facts -----

$$\begin{array}{r} 5 \\ - 4 \\ \hline \boxed{1} \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline \boxed{7} \end{array}$$

$$\begin{array}{r} 12 \\ - 9 \\ \hline \boxed{3} \end{array}$$

$$\begin{array}{r} 4 \\ - 1 \\ \hline \boxed{3} \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline \boxed{4} \end{array}$$

$$\begin{array}{r} 13 \\ - 6 \\ \hline \boxed{7} \end{array}$$

$$\begin{array}{r} 11 \\ - 2 \\ \hline \boxed{9} \end{array}$$

$$\begin{array}{r} 7 \\ - 0 \\ \hline \boxed{7} \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline \boxed{4} \end{array}$$

$$\begin{array}{r} 6 \\ - 4 \\ \hline \boxed{2} \end{array}$$

Basic Facts

Multiplication and Division Facts Concepts and Fluency

Student Worksheet

----- Multiplication Facts -----

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline \end{array}$$

----- Division Facts -----

$$12 \div 6 = \underline{\quad}$$

$$25 \div 5 = \underline{\quad}$$

$$16 \div 2 = \underline{\quad}$$

$$42 \div 7 = \underline{\quad}$$

$$36 \div 9 = \underline{\quad}$$

$$32 \div 4 = \underline{\quad}$$

$$9 \div 3 = \underline{\quad}$$

$$56 \div 8 = \underline{\quad}$$

$$48 \div 6 = \underline{\quad}$$

Basic Facts

Multiplication and Division Facts Fluency

Teacher Directions

This activity assesses:

1. The student's understanding of multiplication and division.
2. The student's fluency in multiplication and division basic facts.

Procedure:

Place a copy of the Student Worksheet in front of the student.

Say: *Here are some multiplication problems. The multiplication sign (point) tells us that we're supposed to multiply. Work as many as you can in 30 seconds. Work carefully but quickly. Ready?*

Trigger a stop watch or timer and give the student 30 seconds to work. Observe the student as he or she works. If the student doesn't understand what's expected, or asks for help, you can discontinue the session. When the time is up:

Say: *Okay, good job! Now, let's try the division problems. The division sign (point) tells us that we're supposed to divide. Work carefully and quickly. Ready?*

Again, give the student 30 seconds work and observe the student. If the student doesn't understand what's expected or asks for help, you can discontinue the testing. When the time is up:

Say: *Okay, good job! Thanks for working hard!*

If necessary, repeat until you're able to answer "yes" to these questions:

How many multiplication problems did student answer correctly?		
Did the student appear to understand what was expected for multiplication facts?	Yes	No
How many division problems did student answer correctly?		
Did the student appear to understand what was expected for division facts?	Yes	No

Basic Facts

Multiplication and Division Facts Concepts and Fluency

Answer Key

----- Multiplication Facts -----

$$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8 \\ \times 2 \\ \hline 16 \end{array}$$

$$\begin{array}{r} 3 \\ \times 6 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 7 \\ \times 3 \\ \hline 21 \end{array}$$

$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 6 \\ \times 7 \\ \hline 42 \end{array}$$

$$\begin{array}{r} 2 \\ \times 0 \\ \hline 0 \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline 20 \end{array}$$

$$\begin{array}{r} 1 \\ \times 5 \\ \hline 5 \end{array}$$

$$\begin{array}{r} 4 \\ \times 8 \\ \hline 32 \end{array}$$

----- Division Facts -----

$$12 \div 6 = \underline{2}$$

$$25 \div 5 = \underline{5}$$

$$16 \div 2 = \underline{8}$$

$$42 \div 7 = \underline{6}$$

$$36 \div 9 = \underline{4}$$

$$32 \div 4 = \underline{8}$$

$$9 \div 3 = \underline{3}$$

$$56 \div 8 = \underline{7}$$

$$48 \div 6 = \underline{8}$$

Basic Facts

Assessing Student Mastery

Teacher Questions

To assess a student's mastery of basic facts, answer the following questions. Repeat lessons and activities as needed until you can answer "yes" to each question and the student is able to solve addition and subtraction problems with fluency and accuracy.

Basic Facts Addition and Subtraction Concepts

Can the student represent addition and subtraction facts using manipulatives?	Yes	No
Can the student use manipulatives to find the correct answer?	Yes	No

Basic Facts Addition and Subtraction Fluency


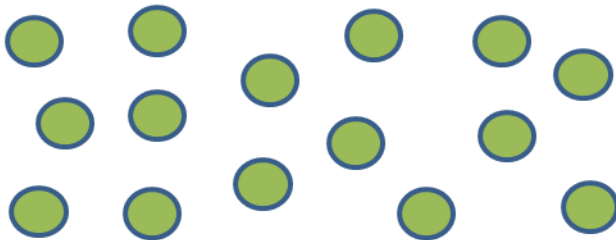
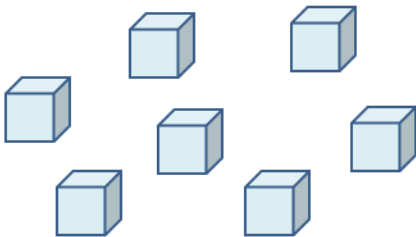
How many addition problems did student answer correctly?		
Does the student use an efficient strategy to get the answers to addition problems? Describe:	Yes	No
How many subtraction problems did student answer correctly?		
Does the student use an efficient strategy to get the answers to subtraction problems? Describe:	Yes	No

Multiplication and Division Facts Concepts and Fluency

How many multiplication problems did student answer correctly?		
Did the student appear to understand what was expected for multiplication facts?	Yes	No
How many division problems did student answer correctly?		
Did the student appear to understand what was expected for division facts?	Yes	No

Place Value Concepts
Representing 1- and 2-Digit Numbers

Student Worksheet

Number	Count	Tens	Ones
13			
15			
6			




Place Value Concepts

Representing 1- and 2-digit numbers

Teacher Directions

This activity assesses:

1. The student's understanding of place value in numbers 1 to 19.
2. The student's ability to decompose numbers 1 to 19 into tens and ones.

Number	Count	Tens	Ones
13			
15			
6			

Procedure:

Place a copy of the Student Worksheet in front of the student.

Say: *Here is a number and a set with that number of objects. (Point.) Here are two boxes that say “Tens” and “Ones.” For each number, write the number of tens and the number of ones in these boxes. (Point.)*

Watch as the student works independently.

If the student doesn't respond or asks for help:

Say: *Let's do one together. The number is 13. (Point.) First, let's see how many tens. I'm going to draw a circle around one group of ten. (Count the 10 objects, then draw a circle around them.) Can I make another group of ten? No, I can't. So we have 1 ten. (Write 1 in the tens box.) How many do we have left? (Count the remaining 3 objects.) We have 3. (Write a 3 in the ones box.) OK? Now you try the next one.*


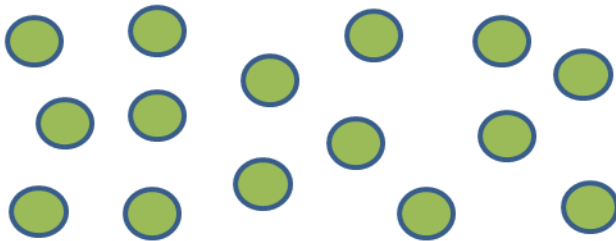
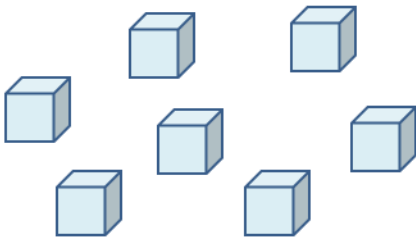
If the student can't do the second problem or doesn't respond, discontinue the activity.

If necessary, repeat until you're able to answer “yes” to these questions:

Does the student appear to understand place value using ones and tens?	Yes	No
Is the student able to do this exercise independently and accurately?	Yes	No

Place Value Concepts
Representing 1- and 2-Digit Numbers

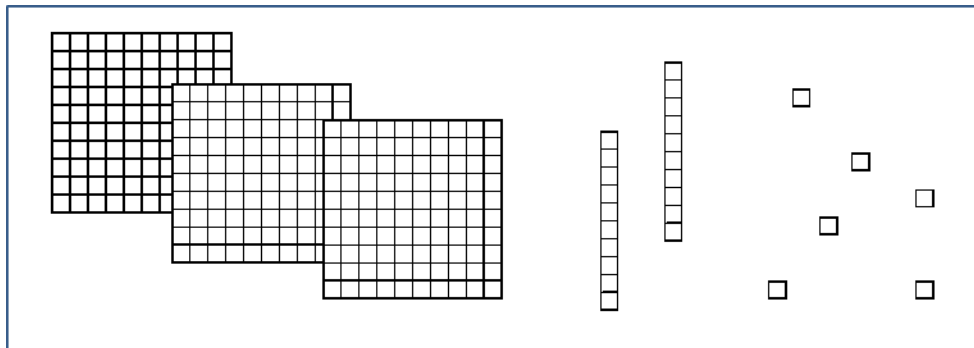
Answer Key

Number	Count	Tens	Ones
13		1	3
15		1	5
6		0	6

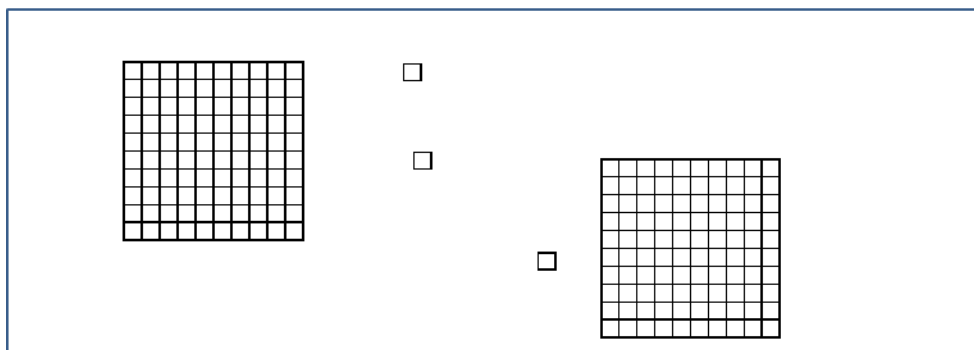
Place Value Concepts

Representing 3-Digit Numbers

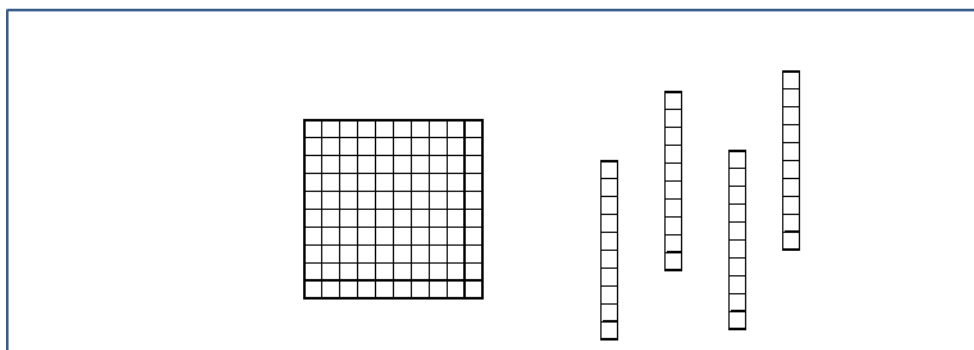
Student Worksheet – Page 1



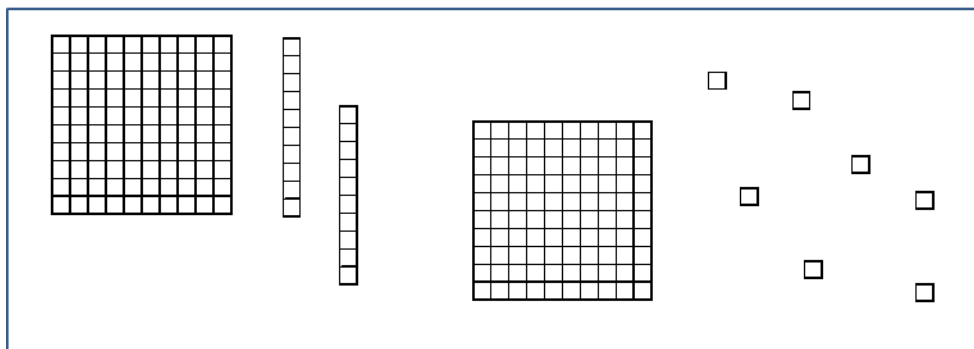
= _____



= _____



= _____



= _____

Place Value Concepts
Representing 3-Digit Numbers

Student Worksheet – Page 2

734 = ____ hundreds ____ tens ____ ones

503 = ____ hundreds ____ tens ____ ones

800 = ____ hundreds ____ tens ____ ones

93 = ____ hundreds ____ tens ____ ones

210 = ____ hundreds ____ tens ____ ones

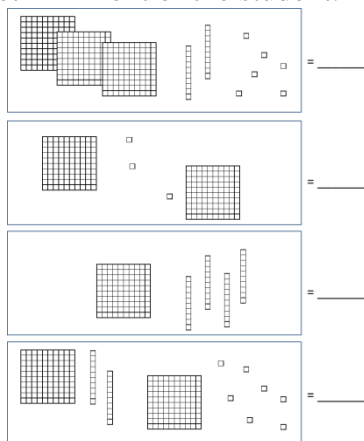
Place Value Concepts Representing 3-Digit Numbers

Teacher Directions

This activity assesses:

1. The student's understanding of place value in numbers to 999.
2. The student's ability to construct numbers to 999 given hundreds, tens, and ones.
3. The student's ability to decompose numbers to 999 into hundreds, tens, and ones.

Place a copy of Student Worksheet-1 in front of the student.



Say: *Each of these boxes represents a number. Inside the box are hundreds, tens, and ones. (Point.) Look at them carefully and then write the number in the blank.*

Observe while the student works independently.

If the student doesn't respond or asks for help:

Say: *Let's do one together. I see three hundreds (point and count), two tens (point and count), and six ones (point and count). Three hundreds, two tens, and six ones makes 326, so I write 326 in the blank. (Write 326 in the blank.) Now you do the rest.*

If the student can't do the second problem, doesn't respond, or struggles:

Say: *That's okay, let's try something different. Remove Student Worksheet-1.*

Now, place a copy of Student Worksheet-2 in front of the student.

734 = ___ hundreds ___ tens ___ ones

503 = ___ hundreds ___ tens ___ ones

800 = ___ hundreds ___ tens ___ ones

93 = ___ hundreds ___ tens ___ ones

210 = ___ hundreds ___ tens ___ ones

Say: *Look at each number. Then in the blanks, write the number of hundreds, tens, and ones in that number. (Point to the number and the blanks.)*

Observe as the student works independently.

If the student doesn't respond or asks for help:

Say: *Let's do one together. The number is 734. 734 has seven hundreds (write In blank), three tens (write in blank), and four ones (write in blank). Now you do the rest.*

If the student can't do the second problem, doesn't respond, or struggles:

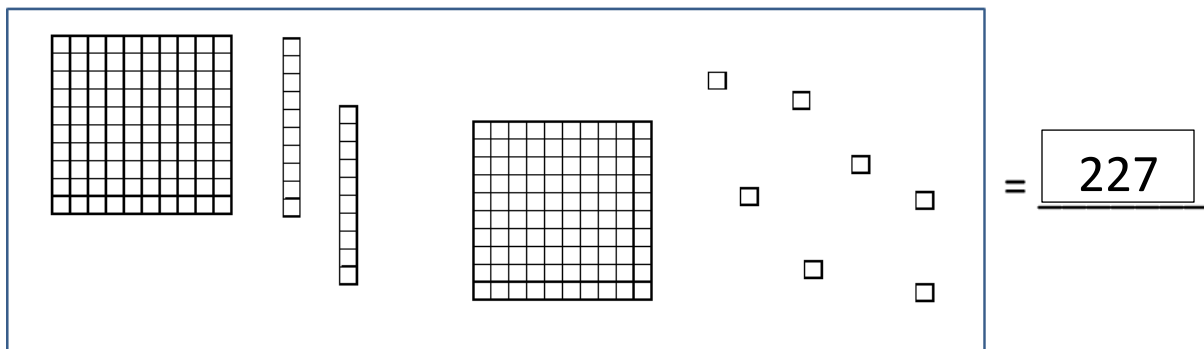
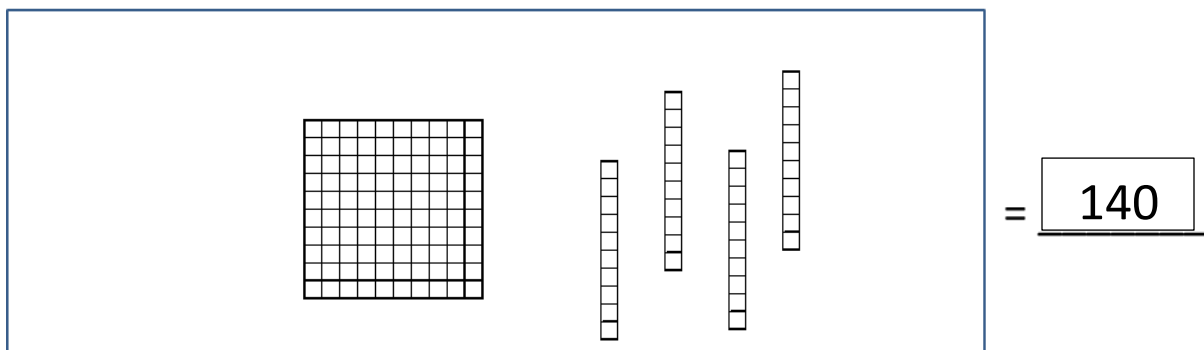
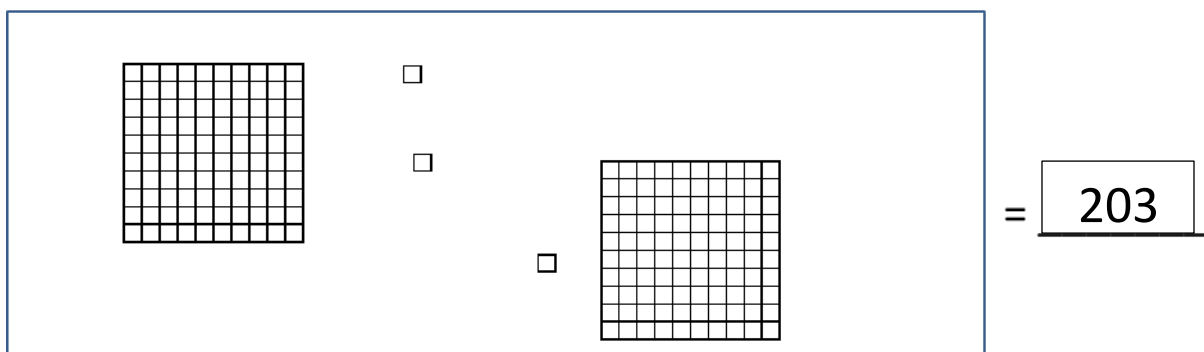
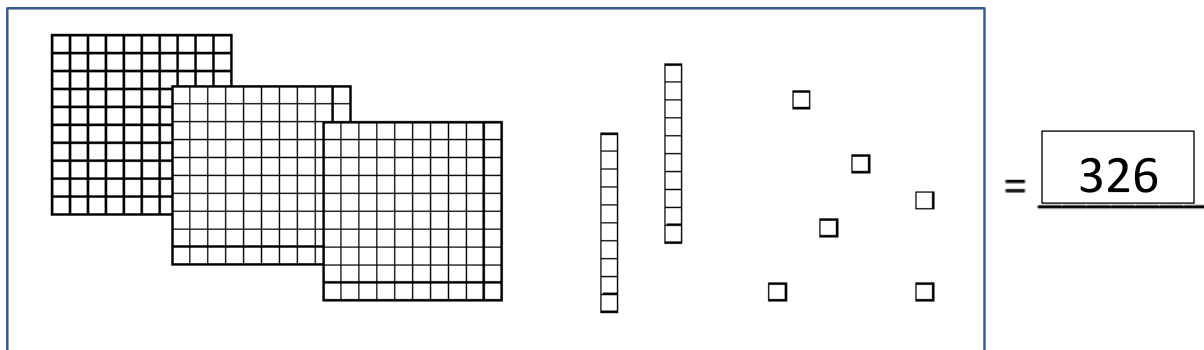
Say: *That's okay. That's enough for now. Remove Student Worksheet-2.*

If necessary, repeat until you're able to answer "yes" to these questions:

Does the student appear to understand place value using hundreds, tens, and ones?	Yes	No
Is the student able to complete this exercise independently and accurately?	Yes	No

Place Value Concepts
Representing 3-Digit Numbers

Answer Key – Page 1



Place Value Concepts
Representing 3-Digit Numbers

Answer Key – Page 2

734 = 7 hundreds 3 tens 4 ones

503 = 5 hundreds 0 tens 3 ones

800 = 8 hundreds 0 tens 0 ones

93 = 0 hundreds 9 tens 3 ones

210 = 2 hundreds 1 tens 0 ones

Place Value Concepts

Assessing Student Mastery

Teacher Questions

To assess a student's mastery of place value concepts, answer the following questions. Repeat lessons and activities as needed until you can answer "yes" to each question.

Representing 1- and 2- Digit Numbers

Does the student appear to understand place value using ones and tens?	Yes	No
Is the student able to do this exercise independently and accurately?	Yes	No

Representing 3- Digit Numbers

Does the student appear to understand place value using hundreds, tens, and ones?	Yes	No
Is the student able to complete this exercise independently and accurately?	Yes	No

Whole Number Computation
Addition and Subtraction

Student Worksheet

Add.

$$\begin{array}{r} 54 \\ + 18 \\ \hline \end{array}$$

$$\begin{array}{r} 382 \\ + 75 \\ \hline \end{array}$$

$$\begin{array}{r} 472 \\ + 159 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 73 \\ - 47 \\ \hline \end{array}$$

$$\begin{array}{r} 445 \\ - 28 \\ \hline \end{array}$$

$$\begin{array}{r} 563 \\ - 277 \\ \hline \end{array}$$

Whole Number Computation

Addition and Subtraction

Teacher Directions

This activity assesses:

1. The student's understanding and ability to add numbers to 999 with regrouping.
2. The student's understanding and ability to subtract numbers to 999 with regrouping.

Place a copy of the student worksheet in front of student.

Student Worksheet

Add.

$$\begin{array}{r} 54 \\ + 18 \\ \hline \end{array} \quad \begin{array}{r} 382 \\ + 75 \\ \hline \end{array} \quad \begin{array}{r} 472 \\ + 159 \\ \hline \end{array}$$

Subtract.

$$\begin{array}{r} 73 \\ - 47 \\ \hline \end{array} \quad \begin{array}{r} 445 \\ - 28 \\ \hline \end{array} \quad \begin{array}{r} 563 \\ - 277 \\ \hline \end{array}$$

Say: *First, let's look at these problems. (Point to the top row.) The plus sign tells us that they're addition problems. We're supposed to add. (Point to the addition sign.) I'll give you a few minutes to work them.*

In this activity, you're observing the process. As long as the student is working productively, allow him or her to continue. If the student becomes frustrated, doesn't respond, asks for help, or obviously struggles, you may discontinue the activity.

When the student has finished or you have decided to discontinue:

Say: *Now, let's look at these problems. (Point to the bottom row.) The minus sign tells us that they're subtraction problems. We're supposed to subtract. (Point to the subtraction sign.) I'll give you a few minutes to work them.*

Allow the student to work as long as he or she is productive. When the student has finished or is clearly struggling, discontinue the activity.

Say: Good job! That's enough for now.

How many addition problems did student answer independently and correctly?	
How many subtraction problems did student answer independently and correctly?	

Whole Number Computation
Addition and Subtraction

Answer Key

Add.

$$\begin{array}{r} 54 \\ + 18 \\ \hline \boxed{72} \end{array}$$

$$\begin{array}{r} 382 \\ + 75 \\ \hline \boxed{457} \end{array}$$

$$\begin{array}{r} 472 \\ + 159 \\ \hline \boxed{631} \end{array}$$

Subtract.

$$\begin{array}{r} 73 \\ - 47 \\ \hline \boxed{26} \end{array}$$

$$\begin{array}{r} 445 \\ - 28 \\ \hline \boxed{417} \end{array}$$

$$\begin{array}{r} 563 \\ - 277 \\ \hline \boxed{286} \end{array}$$

Whole Number Computation
Multiplication and Division

Student Worksheet

Multiply.

$$\begin{array}{r} 134 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 256 \\ \times 3 \\ \hline \end{array}$$

Divide.

$$3 \overline{)138}$$

$$5 \overline{)215}$$

Whole Number Computation

Multiplication and Division

Teacher Directions

This activity assesses:

1. The student's understanding and ability to multiply multi-digit numbers with regrouping.
2. The student's understanding and ability to divide multi-digit numbers with regrouping.

Place a copy of the student worksheet in front of student.

Student Worksheet

Multiply.

$$\begin{array}{r} 134 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 256 \\ \times 3 \\ \hline \end{array}$$

Divide.

$$3 \overline{)138}$$

$$5 \overline{)215}$$

Say: *First, let's look at these problems. (Point to the top row.) The multiplication sign tells us that they're multiplication problems. We're supposed to multiply. (Point to the multiplication sign.) I'll give you a few minutes to work them.*

In this activity, you're observing the process. As long as the student is working productively, allow him or her to continue. If the student becomes frustrated, doesn't respond, asks for help, or obviously struggles, you may discontinue the activity.

When the student has finished or you have decided to discontinue:

Say: *Now, let's look at these problems. (Point to bottom row.) The division sign tells us that they're division problems. We're supposed to divide. (Point to division sign.) I'll give you a few minutes to work them.*

Allow the student to work as long as he or she is productive. When the student has finished or is clearly struggling, discontinue the activity.

Say: Good job! That's enough for now.

How many multiplication problems did student answer independently and correctly?	
How many division problems did student answer independently and correctly?	

Whole Number Computation
Multiplication and Division

Answer Key

Multiply.

$$\begin{array}{r} 134 \\ \times 4 \\ \hline \end{array}$$

536

$$\begin{array}{r} 256 \\ \times 3 \\ \hline \end{array}$$

768

Divide.

46

$$3 \overline{)138}$$

43

$$5 \overline{)215}$$

Whole Number Computation

Assessing Student Mastery

Teacher Questions

To assess a student's mastery of whole number computation, answer the following questions. Repeat activities and drills as needed until the student is able to answer problems independently and correctly.

Whole Number Computation Addition and Subtraction

How many addition problems did student answer independently and correctly?	
How many subtraction problems did student answer independently and correctly?	

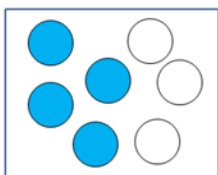
Whole Number Computation Multiplication and Division

How many multiplication problems did student answer independently and correctly?	
How many division problems did student answer independently and correctly?	

Fractions as Numbers

Student Worksheet

Write the fraction for the shaded part.







Write <, >, or = in each blank.

$$\frac{5}{8}$$

$$\frac{3}{8}$$

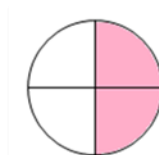
$$\frac{3}{6}$$

$$\frac{1}{2}$$

$$\frac{1}{2}$$

$$\frac{1}{6}$$

Draw a line to the fraction that is equivalent to this one.



Fractions as Numbers

Teacher Directions

This activity assesses:

1. The student's understanding of fractional parts of a whole and of groups.
2. The student's understanding of the magnitude of fractions.
3. The student's understanding of the equivalence of fractions.

Place a copy of the student worksheet in front of student.

Write the fraction for the shaded part.



Write <, >, or = in each blank.

$$\frac{5}{8} \quad \frac{3}{8} \quad \frac{3}{6} \quad \frac{1}{2} \quad \frac{1}{2} \quad \frac{1}{6}$$

Draw a line to the fraction that is equivalent to this one.



Say: *This activity has three parts. In the first part (point), write the fraction for the shaded part of each figure.*

If the student doesn't respond, doesn't know what to do, or asks for help:

Say: *That's okay. Let's look at the next part. (Point.) There are three problems. Each problem shows two fractions with a blank between them. Look at the fractions carefully then write a greater than, less than, or equal sign in each blank.*

If the student doesn't respond, doesn't know what to do, or asks for help:

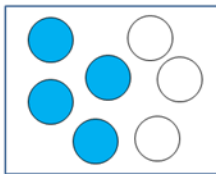
Say: *Don't worry about it. We'll work on it another time.*

How many fractions did student write correctly in the first part?		
How many fraction comparison problems did the student answer correctly?		
Did the student correctly answer the fractions equivalence problem?	Yes	No

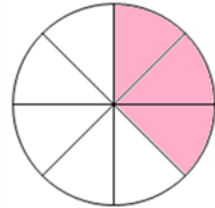
Fractions as Numbers

Answer Key

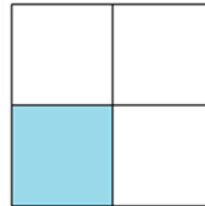
Write the fraction for the shaded part.



$$\frac{4}{7}$$



$$\frac{3}{8}$$



$$\frac{1}{4}$$

Write $<$, $>$, or $=$ in each blank.

$$\frac{5}{8}$$

$$>$$

$$\frac{3}{8}$$

$$\frac{3}{6}$$

$$=$$

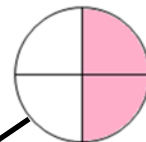
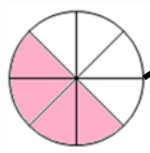
$$\frac{1}{2}$$

$$\frac{1}{2}$$

$$>$$

$$\frac{1}{6}$$

Draw a line to the fraction that is equivalent to this one.



Computation of Fractions

Student Worksheet

Write the number in the box that makes the fractions equal.

$$\frac{1}{2} = \frac{\boxed{}}{4}$$

$$\frac{3}{4} = \frac{\boxed{}}{12}$$

Add or subtract.

$$\frac{1}{6} + \frac{1}{6} =$$

$$\frac{5}{8} + \frac{2}{8} =$$

$$\frac{3}{5} - \frac{2}{5} =$$

Add or subtract.

$$\frac{1}{2} + \frac{1}{4} =$$

$$\frac{5}{8} - \frac{1}{2} =$$

Add or subtract.

$$\frac{1}{2} + \frac{1}{3} =$$

$$\frac{3}{4} - \frac{1}{5} =$$

Computation of Fractions

Teacher Directions

This activity assesses:

1. The student's understanding of creating equivalent fractions.
2. The student's understanding of computation of fractions with like denominators.
3. The student's understanding of computation of fractions with unlike denominators.

Place a copy of the student worksheet in front of student.

Write the number in the box that makes the fractions equal.

$$\frac{1}{2} = \frac{\boxed{}}{4} \qquad \frac{3}{4} = \frac{\boxed{}}{12}$$

Add or subtract.

$$\frac{1}{6} + \frac{1}{6} = \qquad \frac{5}{8} + \frac{2}{8} = \qquad \frac{3}{5} - \frac{2}{5} =$$

Add or subtract.

$$\frac{1}{2} + \frac{1}{4} = \qquad \frac{5}{8} - \frac{1}{2} =$$

Add or subtract.

$$\frac{1}{2} + \frac{1}{3} = \qquad \frac{3}{4} - \frac{1}{5} =$$

Say: *This activity has four parts. In the first part, there are two problems. Each problem has one complete fraction and another fraction that is missing the numerator. (Point.) Complete the fraction by writing the number in the box that makes that fraction equal to the first one.*

Give the student time to work. If the student doesn't respond or asks for help:

Say: *That's all right. Let's look at the next part.*

Say: *The rest of the problems are adding or subtracting fractions. Some are addition and some are subtraction so be sure to look at the sign! When you finish with one part, go ahead to the next part.*

Watch as the student works. When he or she is no longer working productively, ask if he or she is finished.

How many fractions did student write correctly in the first part?	
How many fractions did student write correctly in the second part?	
How many fractions did student write correctly in the third part?	
How many fractions did student write correctly in the fourth part?	

Computation of Fractions

Answer Key

Write the number in the box that makes the fractions equal.

$$\frac{1}{2} = \frac{\boxed{2}}{4}$$

$$\frac{3}{4} = \frac{\boxed{9}}{12}$$

Add or subtract.

$$\frac{1}{6} + \frac{1}{6} = \boxed{\frac{1}{3}}$$

$$\frac{5}{8} + \frac{2}{8} = \boxed{\frac{7}{8}}$$

$$\frac{3}{5} - \frac{2}{5} = \boxed{\frac{1}{5}}$$

Add or subtract.

$$\frac{1}{2} + \frac{1}{4} = \boxed{\frac{3}{4}}$$

$$\frac{5}{8} - \frac{1}{2} = \boxed{\frac{1}{8}}$$

Add or subtract.

$$\frac{1}{2} + \frac{1}{3} = \boxed{\frac{5}{6}}$$

$$\frac{3}{4} - \frac{1}{5} = \boxed{\frac{11}{20}}$$

Fractions as Numbers

Assessing Student Mastery

Teacher Questions

To assess a student's mastery of fractions as numbers, answer the following questions. Repeat lessons and activities, as needed, until you are able to answer "yes" for each question and the student is able to answer fraction questions accurately and independently.

Fractions as Numbers

How many fractions did student write correctly in the first part?		
How many fraction comparison problems did the student answer correctly?		
Did the student correctly answer the fractions equivalence problem?	Yes	No

Computation of Fractions

How many fractions did student write correctly in the first part?	
How many fractions did student write correctly in the second part?	
How many fractions did student write correctly in the third part?	
How many fractions did student write correctly in the fourth part?	