

First Grade Common Core Lesson Plans for Place Value

<http://maccss.ncdipi.wikispaces.net/file/view/1stGradeUnit.pdf>

Understanding Place Value Lesson Plan

Mathematical Goals

By the end of the lesson students will:

- Identify a two-digit number based on the amount of tens and ones
- Create a representation of a two-digit number using ten frame cards

Common Core State Standards

Understand Place Value.

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.

- a. 10 can be thought of as a bundle of ten ones – call a “ten”.
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

Emphasized Standards for Mathematical Practice

2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
7. Look for make use of structure.

Prior Knowledge Needed

Know number names and the count sequence
Position of numeral within a number changes its value
Tens and Ones

Vocabulary value, tens, ones

Materials ten frame cards, Who has, I have cards

Resources Technology Link:

http://nlvm.usu.edu/en/nav/frames_asid_152_g_1_t_1.html?from=grade_g_1.html

Tasks in the Lesson

Engage 10-12 minutes

Quick Images

Pass out ten frame cards to the students.

Depending on your students' abilities your picture may be:

Level 1: Only 1 ten frame that is partially filled (1-9 dots)

Level 2: Only completed ten frames: 30, 40, 50 dots

Level 3: Both completed ten frames and 1 partially filled ten frame (up to 99 dots)

Show the image for students to see for 5 seconds.

Give students 20 seconds to begin to make the picture using their own cards.

Show the image again for 5 seconds.

Allow the students to complete their representation.

When discussing students' work, suggested questions include:

- How many tens and/or ones were in my picture?
- How many total dots do we have?
- What strategy did you to make your picture?

Explore 12-15 minutes

Quick Images with Partners

Students will continue the Quick Image activity with their partners. Differentiate your students by telling them which levels they should be playing.

As students are working, observe:

- Can students accurately identify the number of tens and/or ones?
- Can students accurately identify the total number of dots?

Explain 10-12 minutes

Discussing Quick Images

After the game has been played discuss the game with the students.

Suggested Questions:

- What strategy did you use when you played the game?
- What was a difficult part of the game?

If time permits, give them another picture to copy.

Ask: • What strategy did you use?

- Do you feel faster at copying my picture compared to the beginning of today?

I Have Who Has

Distribute the I Have Who Has Cards (attached) to the students. Depending on the number of students that you have, you may need to give 2 cards to some students.

Students should also have their math journal out to record numbers.

Pick a student to start. They will read their “who has...” question

Students will record the number in their math journal.

The student in the class that has the number responds by saying, “I have __. Who has __?”

This continues until all cards have been used.

To increase student engagement you can play this game in smaller groups. In order to do this, every group would have their own set of cards, and children would have multiple cards.

Evaluation of Students

Formative assessment is happening continually during the lesson by observing how quickly the children recognize the numbers with tens and ones.

Plans for Individual Differences

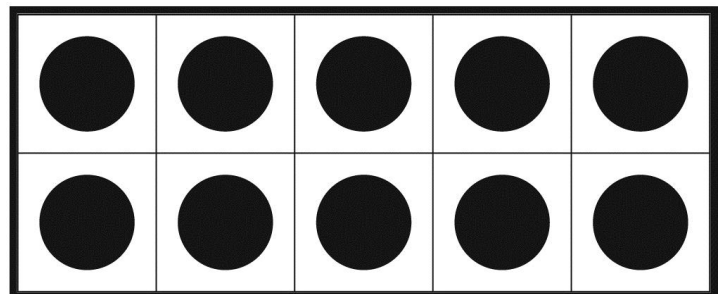
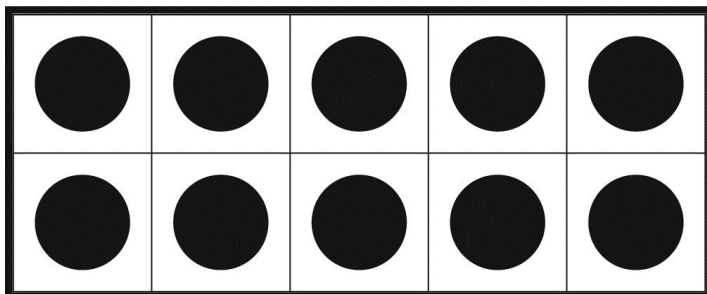
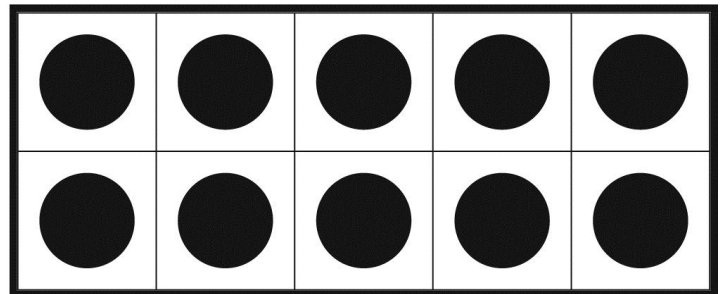
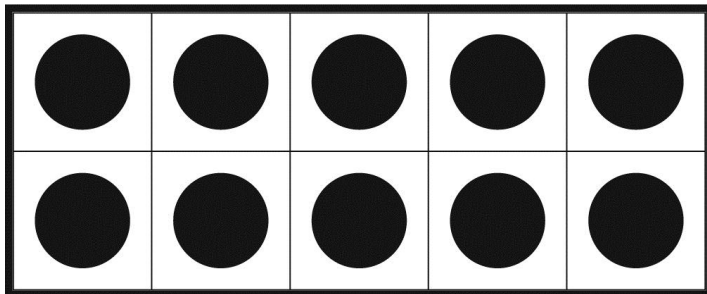
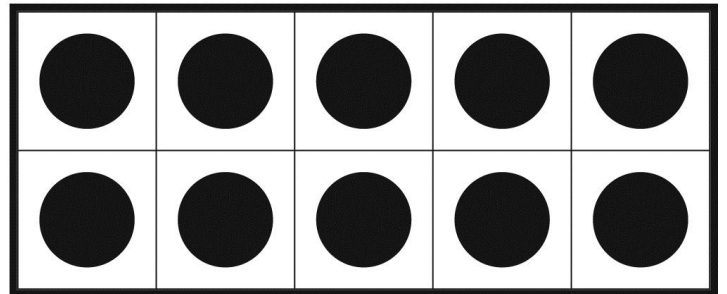
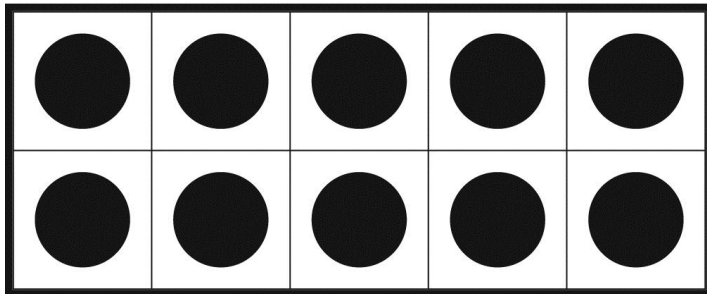
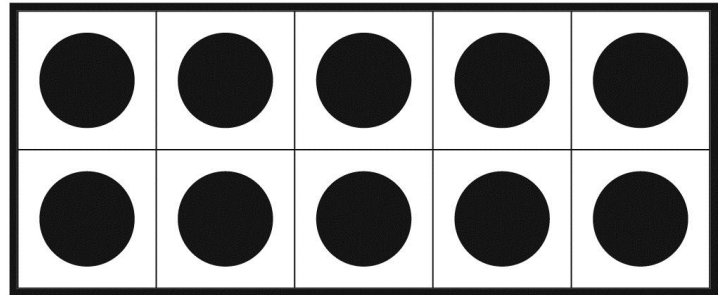
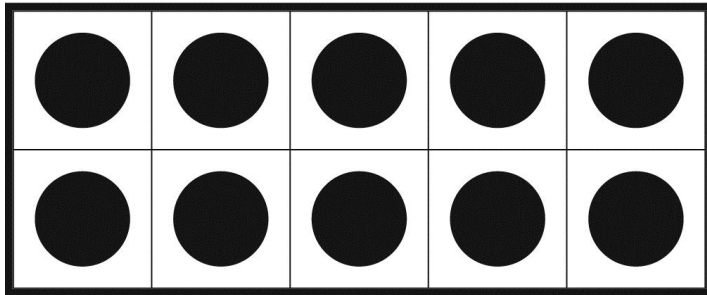
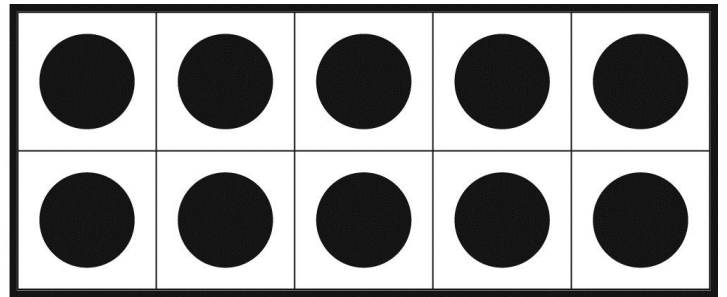
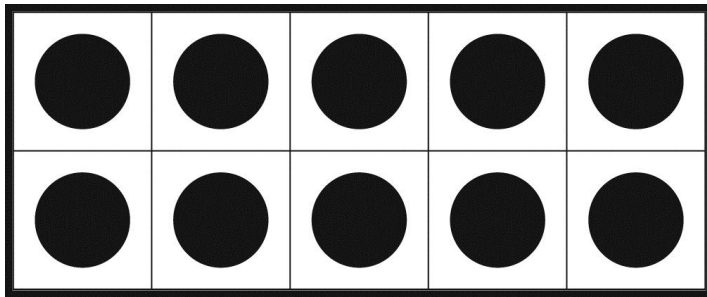
Intervention: Pair students with the “Who has, I have” game cards. Drawing small illustrations of the tens and ones on the “I have” side of the cards may help children recognize the number.

Extension: Children may write an “I have, Who has” game with larger numbers during math center/or during Writing Workshop.

Ten Frame

Ten Frame

				●						●
					●	●	●	●	●	●
								●	●	
				●	●			●	●	●
								●	●	●
								●	●	●
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●	●	●	●	●		●	●	●	●	●
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I have 17.	I have 61.
I have 94.	I have 86.
I have 40.	I have 38.
I have 81.	I have 16.
I have 82.	I have 39.

I have 21.	I have 55.
I have 59.	I have 72.
I have 11.	I have 41.
I have 62.	I have 74.
I have 26.	I have 0.

I have 73.	I have 87 .
I have 50.	I have 30.
I have 10.	I have 1.
I have 28.	I have 21.
I have 16.	I have 59.

Who has 6 tens 1 one?	Who has 3 tens 8 ones?
Who has 4 tens 0 ones?	Who has 1 ten 7 ones?
Who has 1 ten 6 ones?	Who has 8 tens 1 one?
Who has 3 tens 9 ones?	Who has 8 tens 2 ones?
Who has 8 tens 6 ones?	Who has 2 tens 1 one?

Who has 5 tens 9 ones?	Who has 5 tens 5 ones?
Who has 0 tens 0 ones?	Who has 4 tens 1 one?
Who has 1 ten 1 one?	Who has 7 tens 2 ones?
Who has 6 tens 2 ones?	Who has 7 tens 3 ones?
Who has 1 ten 6 ones?	Who has 9 tens 4 ones?

Who has 2 tens 6 ones?	Who has 5 tens 0 ones?
Who has 1 ten 0 ones?	Who has 0 tens 1 one?
Who has 7 tens 4 ones?	Who has 5 tens 9 ones?
Who has 8 tens 7 ones?	Who has 3 tens 0 ones?
Who has 2 tens 8 ones?	Who has 2 tens 1 one?

Two-digit Compare Lesson Plan

Overview and Background Information

Mathematical Goals

By the end of the lesson students will:

- Represent two-digit numbers
- Compare two-digit numbers

Common Core State Standards

Understand Place Value.

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.

- a. 10 can be thought of as a bundle of ten ones – call a “ten”.
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.3. Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, $<$.

Emphasized Standards for Mathematical Practices

Reason abstractly and quantitatively.

Construct viable arguments and critique the reasoning of others.

Model with mathematics.

Use appropriate tools strategically.

Attend to precision.

Look for make use of structure.

Prior Knowledge Needed

Experiences building two-digit numbers

Vocabulary Tens, ones, more, less

Materials number cards (0-9), ten-sided dice

Tasks in the Lesson

Explore 15-20 minutes

Two-Digit Compare with Ten Frames

Directions:

- Provide each student with a set of ten frame cards and counters.
- Students will use the ten frame cards to represent tens and counters to represent ones on a blank ten frame.
- Students will write down the number in their math journal.
- Whoever has the highest number wins a point.

As you observe ask students:

- How many tens do we have?
- How many ones do we have?
- How many dots do we have on all of the ten frames?

If students are struggling encourage them to skip count by 10s before adding on the 1s.

Explain 5-10 minutes

Bring the class together to have a discussion about the game.

Suggested questions:

- What happened during the game?
- What strategy did you use to find your number?
- How does the game help you with place value?

If time permits, have two students play a round in front of the class.

As they complete the round ask:

- What strategy did they use to find your number?
- How do we know which number is larger?
- Does the number of tens or the number of ones determine which number is larger?

Elaborate 10 minutes

Generate two digits for the class. Have the students use the ten frame cards to make a two-digit number. Students should write about the number of tens and ones in their math journal. As students are working observe to see if they can correctly make a two-digit number.

Resources Technology Link:

http://nlvm.usu.edu/en/nav/frames_asid_152_g_1_t_1.html?from=grade_g_1.html

Evaluation of Students

Formative: Check through questioning and observing/listening to students while playing the game. Do the students quickly determine the number represented on the red/blue ten-frame cubes? Do they wait and watch the other students before answering? Do they count by tens and then ones? Do they know 3 groups of ten is 30 (or other combinations) without counting (10, 20, 30)?

Summative: Students math journal work can be collected as a summative assessment.

Plans for Individual Differences

Intervention: Working with a partner and/or cooperative learning groups will help struggling students. The game boards can include only the numbers 1-30 and individual sheets with the numbers/tens can be added as students are comfortable with the numbers.

Extension: Have the student make a two-digit number and then write either the three numbers that come after or come before that number.

Get to 100! Lesson Plan

Overview and Background Information

Mathematical Goals

By the end of the lesson students will:

- Gain an understanding of the place values for ones and tens
- Recognize the patterns on a hundreds board
- Encourage mental computation.

Common Core State Standards Understand Place Value.

1.NBT.2 Understand that the two digits of a two-digit number represent amounts of tens and ones.

- a. 10 can be thought of as a bundle of ten ones – call a “ten”.
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.3 Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, $<$.

Emphasized Standards for Mathematical Practice

2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for make use of structure.

Prior Knowledge Needed

Experiences reading and building two-digit numbers.

Vocabulary tens, ones, less, more, place

Materials ten frame cards, hundreds boards, snap cubes, Place Value Mysteries sheet

Tasks in the Lesson

Engage 15-20 minutes

Tens and Ones

Say a number and have the students represent the number with Ten Frame Cards or another groupable manipulatives (snapping cubes). Also have the students mark the number on the hundred boards.

Ask students:

- What is the number represented?
- How many tens are in this number?
- How many ones are in this number?

Continue by asking the students what one more would be and how they would represent it.

Have the students represent the number and mark the number on the hundred boards.

Suggested questions:

- How do you know you have marked the correct number?
- What would ten more be?
- How did you find out what ten more would be?
- On your hundreds board what pattern do you see as you move your finger from one number to the right?

- On your hundreds board what pattern do you see as you move down the board?

Explore 20-25 minutes

Get 100!

Have children draw the game boards on paper or white wipe off boards. The game board is a two-column chart. Label the left column “10s” and the right column “1s.”

Model how to play with your students.

The goal is to get as close to the number 100 without going over.

The game can be played individually, in pairs or teams.

Roll the dice six times.

The students write the number that is rolled in either the 10s or 1s column

They do the same for the second number and onto their total.

This continues for 6 rounds.

Provide students with a hundreds board or popping cubes to help them with this game.

The winner is the player that is closest to 100 without going over! Model playing a round.

After playing one round ask students:

What should we think about before determining whether to put numbers in the tens or ones column?

Allow students to play this game for a few rounds. Make sure that they record their numbers. Students should have access to a hundreds chart and game pieces or snapping cubes the entire time.

As students are playing observe:

Are students able to accurately count on to a number? How do students use the hundreds board or cubes to support their work?

What explanations do students give about why they placed a number in a specific column?

Explain 10 minutes

After the game has been played, discuss the game and various strategies with the class.

Suggested questions:

- What happened during the game?
- What strategies did you use in the placement of the numbers in the 10s or 1s columns?

If time permits, play a round or two of the game with students and have them tell you where to place the numbers. As you play, ask students to explain their reasoning about where they want to place numbers.

Elaborate 10-12 minutes

Mystery Numbers

Students would mark numbers on hundred boards to help them find the mystery number.

Students will explain orally or in writing how they would find the mystery numbers.

Here is an example:

I am between 20 and 40. I have 3 tens. The sum of my digits is 7. Who am I?

See the attached sheet with more examples.

Evaluation of Students

Formative: Observe the students during the game. Do they quickly determine if the number needs to be placed in the 10s or 1s columns? Do they wait and watch the other students before writing a number?

Summative: Students’ work during Mystery Numbers can be used as a summative assessment.

Plans for Individual Differences

Intervention: During the time that groupable manipulatives are used, the teacher or student peer may help students who need help with finding the total and/or representing the numbers. At the bottom of the game boards are 10's, students that need to mark the 10s while playing to help them understand the amount they are calculating can be done. The number 100 may be changed to a lower number.

Extension: The groupable manipulatives may not need to be used for students that are working at a higher level and can do the mental computation. Students may write place value mysteries of their own.

Examples of Place Value Mysteries

<p>Place Value Mysteries I am between 20 and 50. I have 4 tens. The sum of my digits is 7. Who am I?</p>	<p>Place Value Mysteries I am between 30 and 50. I have 3 tens. The sum of my digits is 9. Who am I?</p>
<p>Place Value Mysteries I am between 60 and 90. I have 7 tens. I am larger than 75. I have a 9. Who am I?</p>	<p>Place Value Mysteries I am between 60 and 90. I have 8 tens. I am larger than 81. I have a 6. Who am I?</p>
<p>Place Value Mysteries I am between 0 and 40. I am larger than 25. I am smaller than 35. I have a 0. Who am I?</p>	<p>Place Value Mysteries I am between 30 and 70. I am larger than 52. I am smaller than 59. I am larger than 57. Who am I?</p>

Hundred Board									
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

Hundred Board Template

1

Mathwire.com

NBT Task 3c

Domain	Number and Operations in Base Ten	
Cluster	Use place value understanding and properties of operations to add and subtract.	
Standard(s)	<p>1.NBT.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.</p> <p>1.NBT.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.</p> <p><i>Add to- Result Unknown</i></p>	
Materials	SF, Cubes or counters, ten frames, pencil	
Task	Provide materials to the student. Read the problem to the student: <i>67 ants crawled on the picnic table. 30 more ants came. How many ants are on the picnic table now? Show your thinking with pictures, numbers, or words.</i>	
Continuum of Understanding		
Developing Understanding	<ul style="list-style-type: none"> Solves the problem incorrectly. Solves the problem correctly, but relies on counting all or counting on. Solves the problem correctly, but does not show strategies with pictures, numbers, or words. 	<p><u>Strategy(ies) Used:</u></p> <input type="checkbox"/> Counting All <input type="checkbox"/> Counting On <input type="checkbox"/> Makes Tens <input type="checkbox"/> 10 more than/less than <input type="checkbox"/> Basic Facts <input type="checkbox"/> Creates easier or known sums <input type="checkbox"/> Doubles <input type="checkbox"/> Doubles +/- 1, 2 <input type="checkbox"/> Other:
Complete Understanding	<ul style="list-style-type: none"> Clearly explains the correct answer, showing use of strategies other than counting on or counting by ones. 	

Standards for Mathematical Practice	
1. Makes sense and perseveres in solving problems.	4. Models with mathematics.
2. Reasons abstractly and quantitatively.	6. Attends to precision.
3. Constructs viable arguments and critiques the reasoning of others.	

NBT Task 5a	
Domain	Number and Operations in Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard(s)	1.NBT.6 Subtract multiples of 10 (from 10-90) from multiples of 10 (from 10-90), using concrete models or drawings, and strategies based on place value, properties of operations, and/or relationship between addition and subtraction; explain the reasoning used.
Materials	SF, cubes or counters, ten frames, pencil
Task	Provide materials to the student. Read the problem to the student: <i>The clown had 70 balloons. He gave away 30 balloons. How many balloons does the clown have now?</i>

Show your thinking with pictures, words, or numbers.

Continuum of Understanding		
Developing Understanding	<ul style="list-style-type: none"> Solves the problem incorrectly. Solves the problem correctly, but relies on counting all or counting on. Solves the problem correctly, but does not show strategies with pictures, numbers, or words. 	<u>Strategy(is) Used:</u> <input type="checkbox"/> Counting All <input type="checkbox"/> Counting On <input type="checkbox"/> Makes Tens <input type="checkbox"/> Basic Facts <input type="checkbox"/> Creates easier or known sums <input type="checkbox"/> Doubles <input type="checkbox"/> Doubles +/- 1, 2 <input type="checkbox"/> Other:
Complete Understanding	<ul style="list-style-type: none"> Clearly explains the correct answer, showing use of strategies other than counting on or counting by ones. 	

Standards for Mathematical Practice	
1. Makes sense and perseveres in solving problems.	6. Attends to precision.
2. Reasons abstractly and quantitatively.	
4. Models with mathematics.	

NBT Task 5b	
Domain	Number and Operations in Base Ten
Cluster	Use place value understanding and properties of operations to add and subtract.
Standard(s)	1.NBT.6 Subtract multiples of 10 (from 10-90) from multiples of 10 (from 10-90), using concrete models or drawings, and strategies based on place value, properties of operations, and/or relationship between addition and subtraction; explain the reasoning used.
Materials	SF, cubes or counters, ten frames, pencil
Task	Provide materials to the student. Read the problem to the student: <i>There were 40 cherries in the jar. The teacher ate 20. How many cherries are now in the jar? Show your thinking with pictures, words, or numbers.</i>

Continuum of Understanding		
Developing Understanding	<ul style="list-style-type: none"> Solves the problem incorrectly. Solves the problem correctly, but relies on counting all or counting on. Solves the problem correctly, but does not show strategies with pictures, numbers, or words. 	<u>Strategy(ies) Used:</u> <input type="checkbox"/> Counting All <input type="checkbox"/> Counting On <input type="checkbox"/> Makes Tens <input type="checkbox"/> Basic Facts <input type="checkbox"/> Creates easier or known sums <input type="checkbox"/> Doubles
Complete Understanding	<ul style="list-style-type: none"> Clearly explains the correct answer, showing use of strategies other than counting on or counting by ones. 	

-
- Doubles +/- 1, 2
-
-
- Other:

Standards for Mathematical Practice

1. Makes sense and perseveres in solving problems.
2. Reasons abstractly and quantitatively.
4. Models with mathematics.
6. Attends to precision.

Name _____ Date _____



Read the tens and ones. Print the correct number on the line.

5 tens and 2 ones = 52

8 tens and 5 ones = _____

9 tens and 0 ones = _____

7 tens and 8 ones = _____

6 tens and 5 ones = _____

3 tens and 2 ones = _____

1 ten and 2 ones = _____

4 tens and 6 ones = _____

4 tens and 8 ones = _____

5 tens and 6 ones = _____

3 tens and 0 ones = _____

8 tens and 1 ones = _____

5 tens and 4 ones = _____

5 tens and 8 ones = _____

7 tens and 1 ones = _____

3 tens and 0 ones = _____