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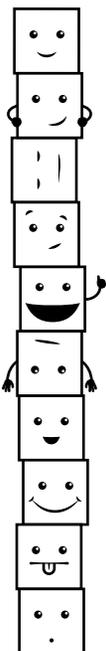
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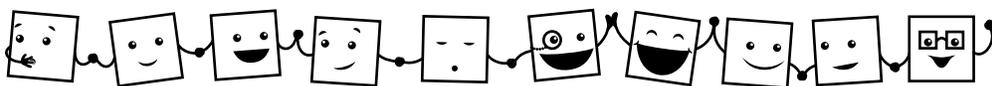
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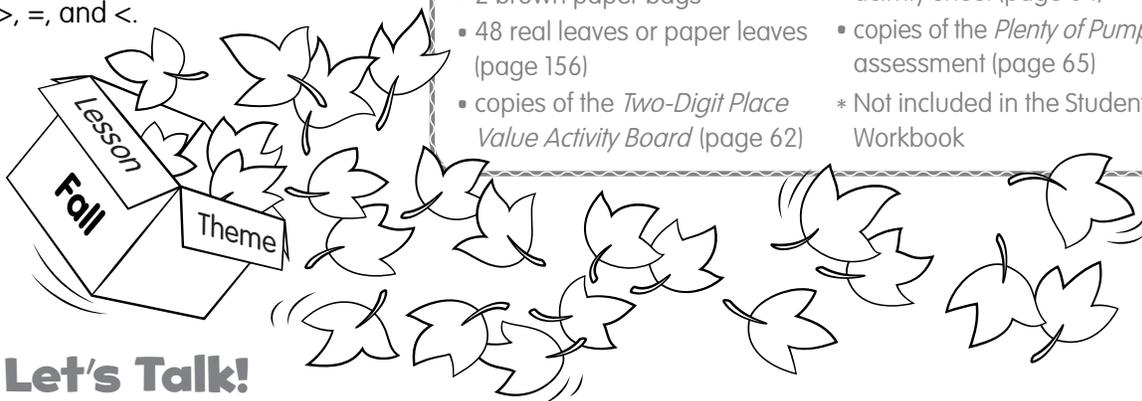




Two-Digit Place Value

Content Goals

- Students will understand that 10 is a bundle of ten ones called a “ten.”
- Students will compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.



Manipulatives

- base-ten magnetic manipulatives (*teacher only*)
- yellow unit cubes (*10 per student*)
- green rods (*20 per student*)

Materials

- fall items such as pumpkins, fall leaves, and pinecones
- yarn or string
- 2 brown paper bags
- 48 real leaves or paper leaves (page 156)
- copies of the *Two-Digit Place Value Activity Board* (page 62)
- copies of the *Eager Eaters* sheet (page 63)*
- copies of the *Lots of Leaves* activity sheet (page 64)
- copies of the *Plenty of Pumpkins* assessment (page 65)
- * Not included in the Student Workbook

Let's Talk!

Note: Prior to the start of the lesson, place 12 leaves in one paper bag labeled *Chip* and 36 leaves in the other paper bag marked *Dale*. If you would prefer not to collect real leaves, you may use the leaf template on page 156.

Step 1: Get students talking about the fall season. Place items such as a handful of fall leaves, a few small pumpkins, and some pinecones on a table. Allow students to touch and analyze the objects.

Step 2: Ask students to describe what they see. Ask them what they think of when they see these items. Talk about some of the things that happen in the fall such as going back to school, leaves changing colors, weather getting cooler, Halloween, Thanksgiving, etc.

Step 3: Using the yarn, make two equal-sized circles (each about 24 inches in diameter) on the floor. Place one bag of leaves in each circle. Say, “Let’s see who has collected the most leaves this fall season, Chip or Dale?” Dump the leaves in the circles (leave the bag in each circle as well to serve as labels). Ask students if they can tell just by looking, not counting, who collected more leaves. (*Dale*) Ask students, “But, how can we find out for sure who collected the most leaves?” Explain that you would need to count both sets of leaves and compare the numbers. The person with the greater number would have more leaves. Ask students, “But how would we know which number is greater?”

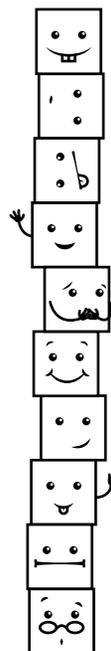
Step 4: Ask students the essential question. Write it on the board. Explain that place value helps us understand numbers. It can help us know which numbers are greater, less, or the same. Tell the class they are going to use special tools to help them better understand place value and the meanings of numbers.

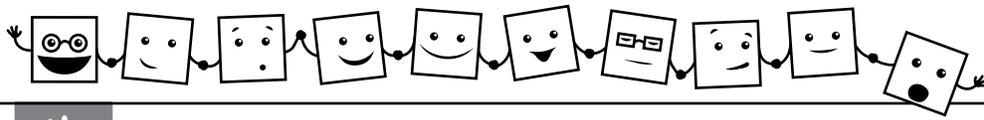
Essential Question

How does knowing place value help us understand numbers?

Rules Reminder

Remind students that they must follow the rules when working with manipulatives. Read the rules aloud before distributing the manipulatives. (See page 153.)



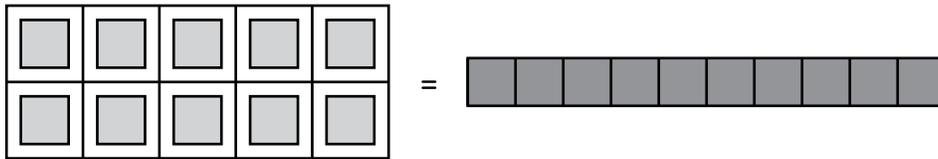


All Together Now!

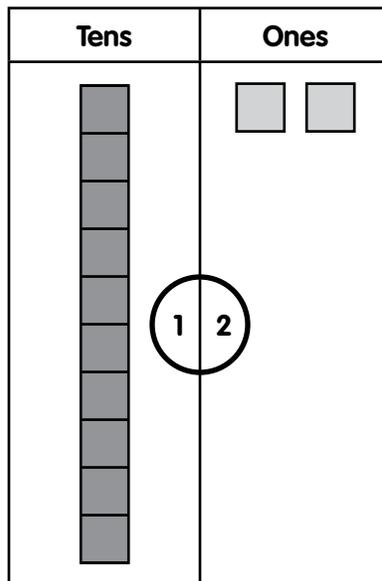
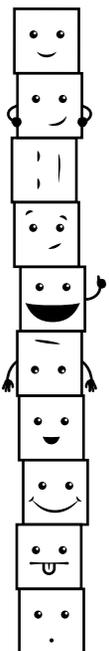
Step 1: Distribute copies of the *Two-Digit Place Value Activity Board* (page 62) to students. Give each student 10 yellow cubes and 20 green rods. Have students place the cubes and rods above their activity boards. Tell students not to touch them again until you tell them to do so.

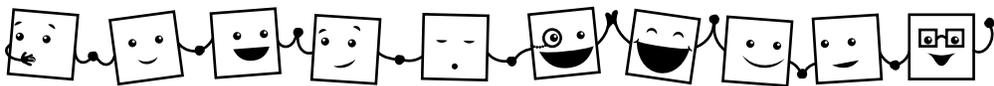
Step 2: Draw the number line from the activity board on the classroom board. Ask students, "Where are numbers 1–9 on the line?" Remind them that the little lines between the big lines represent ones. The big lines represent tens. Count the first 20 lines aloud as a class.

Step 3: Draw a ten frame on the board followed by an equal sign. Using the magnetic manipulatives, place a yellow cube in each square on the ten frame. Ask, "How many yellow cubes are on the board? How do you know?" (*Ten because the ten frame is full.*) Point to the equal sign to the right of the ten frame. Ask students if they remember what the sign is and what it means. Remind them that it shows that the number of objects on both sides of it are the same, or equal. Ask students, "Do we have a tool that equals a bundle or group of ten ones?" Students should suggest the green rod. Place the green rod after the equal sign.



Step 4: Draw the place value chart from the activity board on the classroom board. Using the magnetic manipulatives, place two yellow cubes from the ten frame into the ones column on the chart. Have students do the same on their activity boards. Point to the ones column and ask students, "How many yellow cubes are in the ones column?" When students say two, write the numeral 2 on the board in the ones column. Then, place one green rod in the tens column. Have students do the same. Point to the tens column and ask students, "How many tens are in the tens column?" When students say *one*, write the numeral 1 on the board in the tens column. Circle the 1 and 2 and ask, "What number is this?" When students say 12, point to the green rod and say "ten" and then point and count the two yellow cubes, "11, 12." Find 12 on the number line and circle it. Have students clear their activity boards.

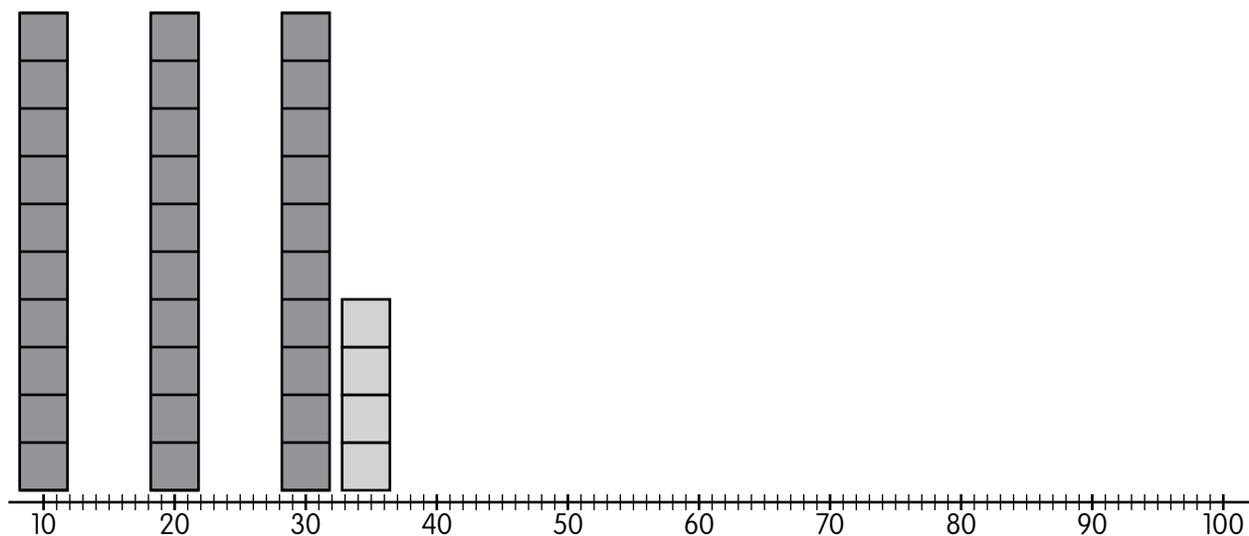




All Together Now! (cont.)



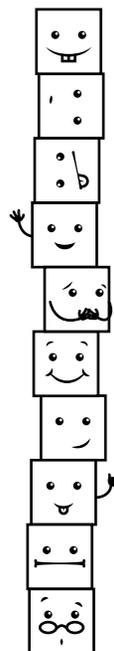
Step 5: Say, "Now let's make the number 34 together using our tools. First, let's count to the number 34 using the number line." Count aloud with students when you get to 10 on the number line, stop and place a green rod above the ten using the magnetic manipulatives. Have students do the same on their activity boards. Continue counting. When you get to 20, place a green rod above the 20. When you get to 30, place a green rod above the 30. Then, after you count to 34 ask students, "How can we show the four ones?" Place four yellow cubes next to the last green rod. Circle 34 on the number line.

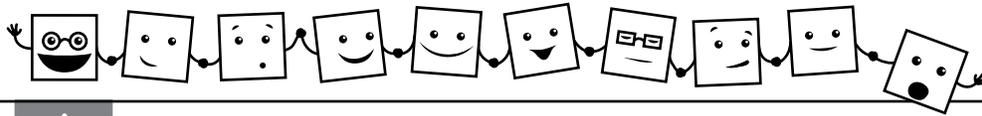


Step 6: Move the magnetic manipulatives that are showing 34 to the place value chart. Have students do the same on their activity boards. Ask students, "How many tens do we have?" Write a 3 in the tens column. Ask students, "How many ones do we have?" Write a 4 in the ones column. Circle the number 34. Count the rods aloud, "10, 20, 30" and then the cubes "31, 32, 33, 34."

Step 7: Say, "We have made two numbers using our tools. We made the number 12 and the number 34." Write 12 and 34 on the board with some space between them. "What's the meaning of these numbers? Which is the bigger number? Which is the smaller number? Let's use place value to help us find out!"

Step 8: Students already have 34 on their activity boards. Have them make the number 12 again but this time above their activity boards. Have them place one green rod above the tens column and two yellow cubes above the ones column. Explain to students that the number that has more green rods, or more tens, will always be the bigger number. "Which number, 12 or 34, has more tens?" Ask students to count the green rods for each number. Because three is *more than* one, 34 is the bigger number. Show students the two circled numbers on the number line to further clarify. Explain that the number farthest down the number line will always be the bigger number.





All Together Now! (cont.)

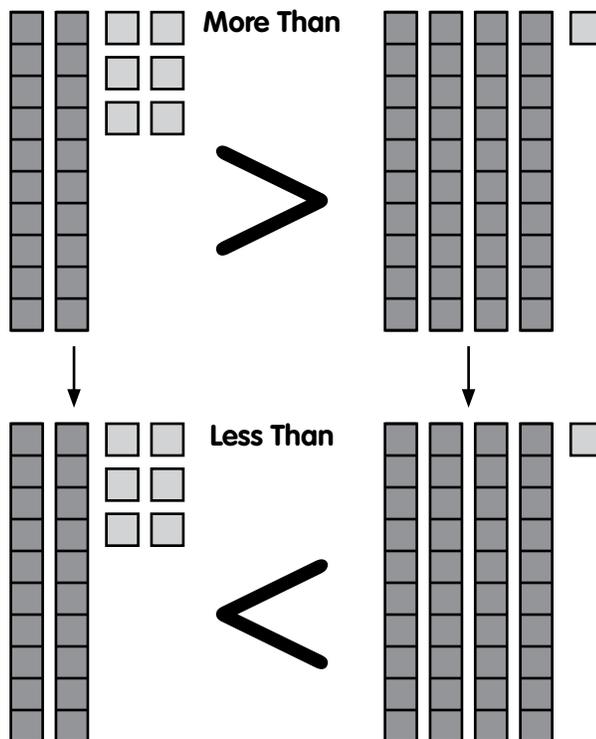
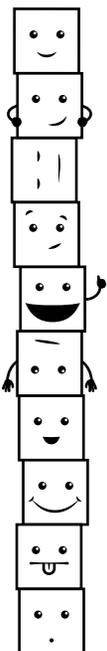
Step 9: Have students keep 34 displayed on their activity boards. Instruct them to add two more green rods to the tens column above their boards. (Now they have the numbers 32 and 34 displayed.) Ask students, "What do we do if both numbers have the same amount of tens? How do we know which is the greater number?"

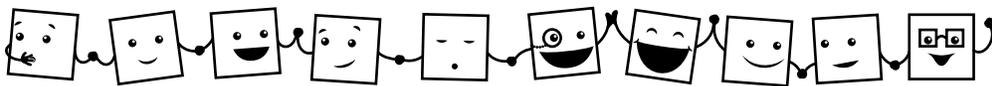
Step 10: Explain to students that when the tens column shows the same number, we look to the ones column. Say, "Which number has more ones? There are four ones and two ones. Four is more than two. So, 34 is more than 32; it is the greater number."

Step 11: Distribute copies of the *Eager Eaters* sheet (page 63) to students. This sheet is not included in the Student Workbook. Tell students that the Eager Eater always wants to eat the greater number. It wants the number that has *more* to eat. Go over the more than and less than signs. Review the equal sign and be sure students understand it is used when two numbers are exactly the same.

Step 12: Using the magnetic manipulatives, make the number 41 on the place value chart. Have students do the same. Then, make the number 26 above the chart. Have students do the same. Tell students, "We are going to compare the numbers 41 and 26 to see which number is greater, or more than, the other."

Step 13: Draw the Eager Eater on the board facing both ways to match the sheet. Then, move the number 41 to the right of the *more than* sign. Have students do the same, moving the tools to the *Eager Eaters* sheet. Then, move 26 to the left. Have students move the second set of tools to the left on their sheets. Ask students, "Is the Eager Eater eating the greater number? Look at the green rods. Will he eat more tens if he munches the number 26 or will he eat more tens if he munches the number 41?" Students should understand that he is about to eat the wrong number. Move the magnetic manipulatives to the "less than" row. Have students do the same on their sheets. Ask, "Now is the Eager Eater eating the bigger number?" Write the following on the board: $26 < 41$. Circle the two numbers on the number line and point them out for the class. If students are struggling, repeat Steps 12 and 13 with a few different sets of numbers.





Teamwork Time!

Step 1: Review the *Working as a Team* rules sheet (page 154) with students. Place students in small groups. Have students place their tools above their activity boards.

Step 2: Tell students, "Use your tools and your activity board to make the number 72 with your group." Allow groups time to make the number. Then, ask a student volunteer to make the number on the board using the magnetic manipulatives. Ask the class, "How many tens are there?" (7) Ask, "How many ones are there?" (2)

Step 3: Say, "Let's make another number above your activity boards. Use your tools to make the number 39 above your boards." Again, allow groups time to make the number and then have a student volunteer create the number on the classroom board with the magnetic manipulatives.

Step 4: Write the following on the board: $72 \square 39$. Ask students, "What sign should we use here? (Point to the square.) Should we use the more than sign (draw $>$ on the board), the less than sign (draw $<$ on the board), or the equal sign (draw $=$ on the board). Work with your group to find the answer. Use your *Eager Eater* sheets and number lines to help you." Allow groups time to find the correct sign ($>$). Ask a volunteer to write the sign on the board.

Step 5: Repeat Steps 3 and 4 with the numbers 22 and 47.



You Can Do It!

Step 1: Distribute copies of the *Lots of Leaves* activity sheet (page 64) to students. Have students use their tools, activity boards, and *Eager Eater* sheets to help them solve the problems. Read the directions for each section of the activity sheet aloud. Have students complete the activity sheet independently.

Step 2: When students have finished, go over the answers as a class using the magnetic manipulatives to show how to solve the problems. Discuss as a class different methods students can use to help them solve problems if they do not have manipulatives. Visualizing and drawing on scratch paper can be helpful.



Show What You Know!

Distribute copies of the *Plenty of Pumpkins* assessment (page 65) to students. Tell students they can use their manipulatives with this sheet, visualize, or draw on scratch paper, if needed. Read the directions aloud for each section.

Put It in Words!

Read the prompt aloud.

Pretend you cut open a pumpkin. You scooped out all the seeds. You counted 42 seeds. Your friend's pumpkin had 36 seeds. Whose pumpkin had more seeds?

Have a class discussion about how to find the answer. Then, have students write the following sentences in their math journals. Ask them to draw pictures in their journals to show what they learned.

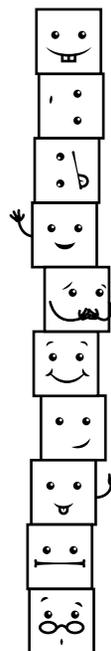
I know place value.

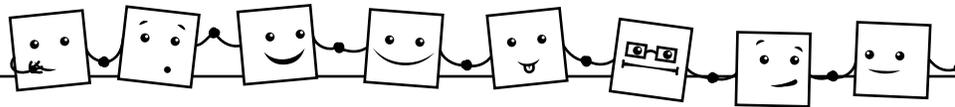
42 is 4 tens and 2 ones.

36 is 3 tens and 6 ones.

42 is more than 36. $42 > 36$

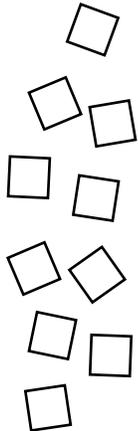
36 is less than 42. $36 < 42$

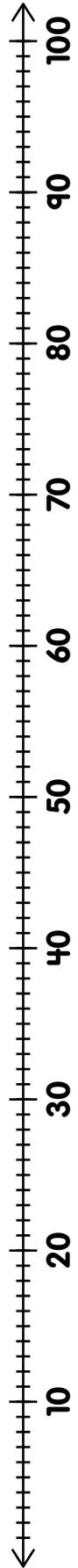


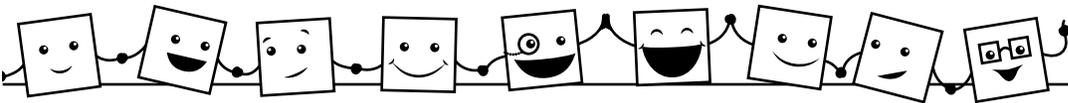


Name: _____

Two-Digit Place Value Activity Board

<p>Tens</p> 	<p>Ones</p> 

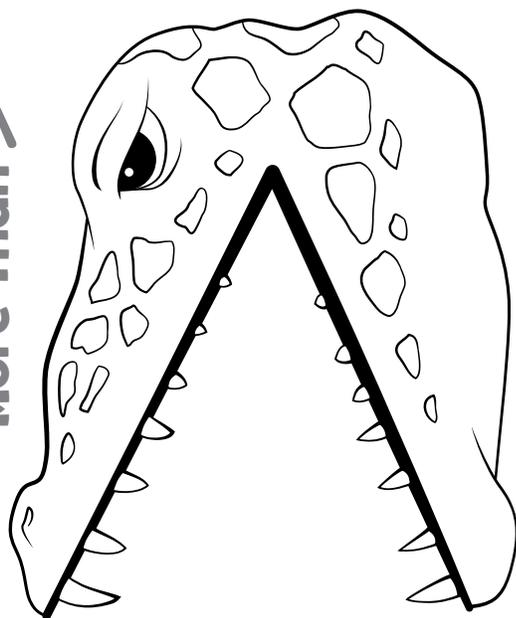




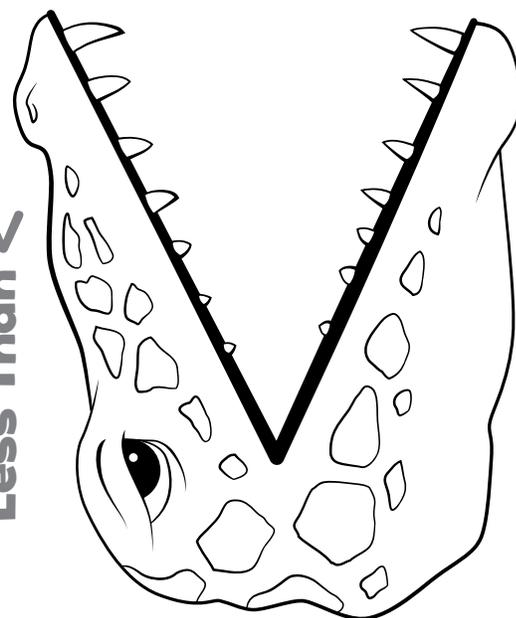
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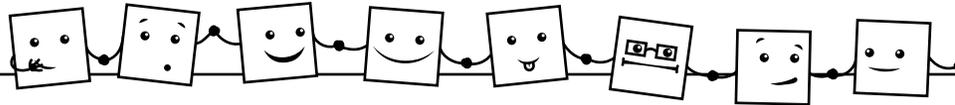
Eager Eaters

More Than >



Less Than <

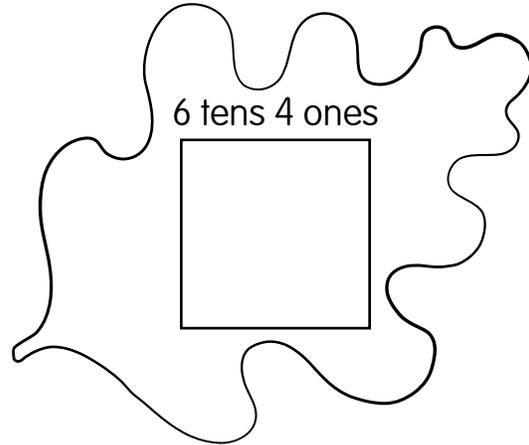
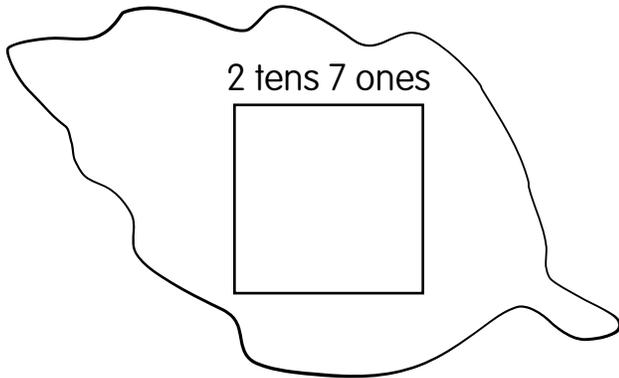




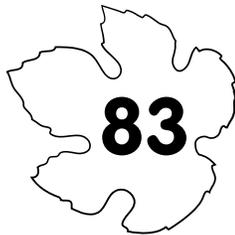
Name: _____

Lots of Leaves

Directions: Write the number in the square.



.....
Directions: How many tens and ones are in each number?



tens

ones

tens

ones

.....
Directions: Draw the correct sign in the squares.

<	>	=
---	---	---

42

17

52

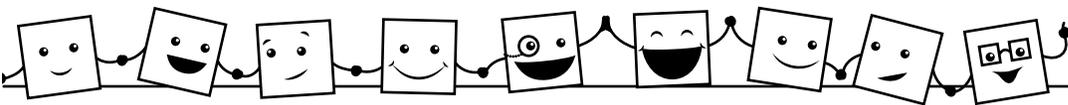
75

99

92

10

10



Name: _____

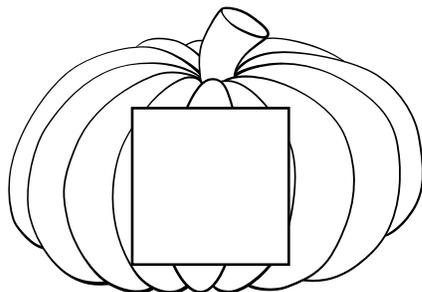
Plenty of Pumpkins

Directions: How many tens and ones are in the number?



= tens ones

.....
Directions: Write the number in the square.



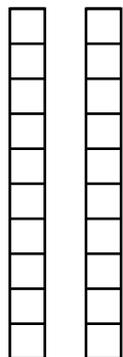
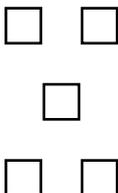
= **7** tens **4** ones

.....
Directions: Draw the correct sign in the squares: <, >, =

15 12 45 50

.....

Directions: How many tens and ones are in the place value chart? Write the numbers in the squares.

Tens	Ones
	

tens ones