

UNDERSTANDING PLACE VALUE



In this learning plan, students develop an understanding of place value by examining how the three digits of a three-digit number represent amounts of hundreds, tens, and ones. Through a series of activities, they will analyze, build, and compare three-digit numbers as they develop their understanding of place value.

STANDARDS

CCSS.MATH.CONTENT.2.NBT.A.1

Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones

OBJECTIVES

- ✓ Students will be able to describe the value of each digit of a three-digit number
- ✓ Build and describe three-digit numbers

GUIDING QUESTIONS

What is place value?

What do the digits in numbers represent?

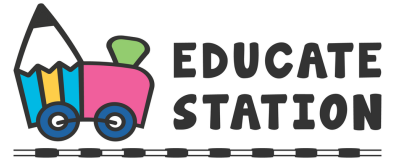
How can you build three-digit numbers?

MATERIALS

- What's in a Number? worksheet
- Building Three-Digit Numbers worksheet
- Number Matching worksheet
- Order Numbers worksheet
- Number Pairs worksheet



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ASSESSMENTS

Formative assessments and checks for understanding occur throughout the lesson:

- Students' responses to guiding questions
- Students' work and explanations when discussing strategies used throughout the different activities
- Students' explanations and work during guided practice
- Students' work during independent practice

Summative Assessment:
Number Pairs worksheet

DIFFERENTIATION STRATEGIES

- Allow students to use concrete materials such as straws, popsicle sticks, snap cubes, or base ten blocks to model place value.
- Support students to write "ones," "tens," and "hundreds" under the digits in three-digit numbers.
- For a challenge, encourage students to explore the "thousands" place in four-digit numbers.

EXTENSION ACTIVITIES

- Ask students to use their place value understanding to add two three-digit numbers together, explaining how their knowledge of place value supported them.
- Encourage students to create a visual representation of a three-digit number, using their place value understanding to show the ones, tens, and hundreds.



ACTIVITY OVERVIEW

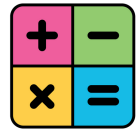
<p>Activity 1 What's in a Number?</p> <p>Students analyze the digits of three-digit numbers to develop their understanding of place value.</p>	<p>Activity 2 Building Three-Digit Numbers</p> <p>Students use their knowledge of place value to build three-digit numbers.</p>	<p>Activity 3 Number Matching</p> <p>Students think about how many ones, tens, and hundreds are in numbers and match the correct numbers</p>	<p>Activity 4 Order Numbers</p> <p>Students use their knowledge of place value to order three-digit numbers.</p>	<p>Activity 5 Number Pairs</p> <p>Students show what they've learned throughout the learning plan.</p>
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ACTIVITY 1: WHAT'S IN A NUMBER?

- Write 473 on the board. Ask students what number this is.
- Say "four hundred seventy-three." Point to the corresponding digit as you say each part of the number. For example, point to the four as you say "four hundred."
- Explain that the digits in a three-digit number represent the number of hundreds, tens, and ones in the number. Under each digit write "hundreds" "tens," and "ones."
- Write another three-digit number on the board. Ask students to share how many hundreds, tens, and ones there are.
- Pass out the What's In a Number? worksheet. Model how to complete the sample problem, then have students complete the rest of the worksheet independently.

ACTIVITY 2: GUIDED PRACTICE

- Tell students that you are going to give them clues and they will figure out what number you are thinking of.
- Draw three lines on the board, one line for the ones place, one line for the tens place, and one line for the hundreds place.
- Think of a three-digit number and tell students how many are in the ones, tens, and hundreds place. Ask for a volunteer to write the number on the board.
- Repeat the process, but give students the number of tens first, then the number of ones, then the number of hundreds.
- Pass out the "Build Three-Digit Numbers" worksheet and have students work independently to build the correct numbers.



ACTIVITY 3: INDEPENDENT PRACTICE

- Write three numbers on the board: 394, 282, 176
- Tell students to point to the number that has three hundreds. Then have students point to the number that has two ones. Finally, have students point to the number that has seven tens.
- Pass out the Number Matching worksheet. Ask students to complete the worksheet independently.

ACTIVITY 4: ORDER NUMBERS

- Share that thinking about place value can help us to compare numbers.
- Write 483 and 473 on the board. Ask students which number is bigger. Invite students to share how they used their place value understanding to compare the numbers. Prompt students to share that 483 has one more ten than 473.
- Pass out the Order Numbers worksheet. Review how to complete the worksheet, then have students work on it independently.
- When students complete the worksheet, call them back together to share and compare their responses.

ACTIVITY 5: NUMBER PAIRS

- Pass out the Number Pairs worksheets. Ask students to cut out all the cards. Explain that their job is to match cards that show the same amounts. They can do this while the cards are face-up, or they can put the cards face down and take turns trying to find pairs with a partner (playing like the game "Concentration.")
- As students find pairs, monitor how they are using their understanding of place value.

WHAT'S IN A NUMBER?

Example: How many ones are in 394?

Hundreds	Tens	Ones
3	9	4

How many tens are in 493?

How many hundreds are in 902?

How many ones are in 238?

BUILD THREE-DIGIT NUMBERS

Write the numbers in the boxes

1. 8 hundreds 4 tens 8 ones	2. 4 hundreds 0 tens 3 ones	3. 9 hundreds 9 tens 1 ones
4. 7 hundreds 3 tens 6 ones	5. 6 hundreds 8 tens 0 ones	6. 2 hundreds 5 tens 5 ones

Number Matching

Draw lines to match the numbers.

4 HUNDREDS

3 TENS

8 ONES

863

8 HUNDREDS

6 TENS

3 ONES

781

1 HUNDRED

9 TENS

2 ONES

438

7 HUNDREDS

1 TEN

4 ONES

192

7 HUNDREDS

8 TENS

1 ONES

714

ORDER NUMBERS

In each group below, the numbers are in order from smallest to largest. But some of the numbers are missing digits! Fill in the blanks to complete the numbers. Make sure each group of numbers stays in order from smallest to largest.

1. 242 2____4 253

2. ____18 924 988

3. 768 ____72 879

4. 142 147 1____8

5. 863 8____1 876

NUMBER PAIRS

Cut out the cards. Match the cards that show the same numbers.

8 hundreds 0 tens 2 ones	2 hundreds 6 tens 8 ones	6 hundreds 9 tens 4 ones
2 hundreds 2 tens 9 ones	5 hundreds 1 tens 5 ones	4 hundreds 5 tens 3 ones
7 hundreds 4 tens 2 ones	9 hundreds 9 tens 3 ones	1 hundred 8 tens 0 ones

NUMBER PAIRS

Cut out the cards. Match the cards that show the same numbers.

742	802	453
268	515	229
180	993	694