**LESSON 2.1**

**Group Tens as Hundreds**

**Materials** base-ten blocks

- Write *10 tens* on the board.
- Take 10 tens blocks. Model grouping the tens blocks in groups of ten. Draw a quick picture of the tens in a group.
- Model regrouping the group of tens with one hundred block. Write *1 hundred* on the board.
- Draw a quick picture of one hundred.

- Have children repeat the activity for 20 and 30 tens.

**Tier 2**

**Materials** base-ten blocks

- Give each child 10 tens blocks.
- Lead children in counting with the tens blocks. Emphasize that "one hundred" is what they say after "ninety."
- Then give each child one hundreds block. Tell children to line up the tens blocks on top of the hundreds block. Discuss how 10 tens are equal to 1 hundred.
- Write *10 tens are the same as 1 hundred* on the board.
- Read aloud the sentence on the board and have children repeat the sentence.
- Repeat the activity using 20 tens blocks and 2 hundreds blocks.
LESSON 2.2
Explore 3-Digit Numbers

Materials  base-ten blocks, number cube (labeled 1–6)

- Draw a quick picture of 9 tens on the board. Roll a number cube. Take that many tens blocks. Draw a quick picture of those tens blocks next to the 9 tens on the board. Then count the tens blocks aloud.

- Say: **10 tens are the same as 1 hundred. So, trade 10 tens blocks for 1 hundreds block.** Say how many hundreds and tens you have and write the number in standard form on the board. Explain that the model shows 1 hundred and some tens, so you use it to write the number.

- Have children repeat the activity. Guide them to trade 10 tens blocks for 1 hundreds block. Have each child tell how many hundreds and tens he or she has. Then, have children write the number of blocks they have in standard form.

Materials  base-ten blocks

- Count out 12 tens blocks as you hold up each tens block for children to see. Say: **I have 12 tens.** Write **12 tens** on the board.

- Together, count the tens blocks by 10s to 100. Group those 10 tens blocks together. Then count the number of tens blocks you grouped (10). Say: **I can trade these 10 tens blocks for 1 hundreds block.**

- Ask: **How many tens blocks are there now? 2 tens blocks** Have children count the blocks to find the answer. Write **1 hundred 2 tens** on the board.

- Write the number **120** on the board. Say: **The model shows 1 hundred and 2 tens, or 20. So, I write this number as 120.**
LESSON 2.3
Hands On • Model
3-Digit Numbers

Materials  base-ten blocks, Workmat 5 (see eTeacher Resources)

- Write the number 126 on the board.
- Use questions such as the following to guide children through the process of using blocks to model 126 on the workmat. What is the value of the digit in the hundreds place in this number? How do you show one hundred with blocks? Where will you place the hundreds block on the mat? What is the value of the tens digit? What is the value of the ones digit? How do you show these values on the mat? How do you read this number?
- Continue working with children to model the numbers 299 and 350.

Materials  base-ten blocks

- Give each group of children 2 hundreds blocks, 8 tens blocks, and 5 ones blocks.
- Have children sort the blocks so that all hundreds are together, all tens are together, and all ones are together.
- Have each child draw a quick picture of the blocks.
- Demonstrate how to write and read the number (285, two hundred eighty-five). Then ask questions such as What is the value of the hundreds digit in 285? What is the value of the tens digit? What is the value of the ones digit?
LESSON 2.4
Hundreds, Tens, and Ones

**Reteach Tier 1**

Materials: base-ten blocks, Place-Value Charts (hundreds, tens, ones) (see eTeacher Resources)

- Model 365 with base-ten blocks.
- Provide children with place-value charts. Have them write the number of hundreds, tens, and ones shown by the blocks.
- Then have children use the information in their place-value charts to write the number in standard form. Review the hundreds, tens, and ones places with children.
- Ask: What is the value of 3 hundreds? 300 What is the value of 6 tens? 60 What is the value of 5 ones? 5 Guide children to write the answers to these questions on their place-value charts to show the number in expanded form: 300 + 60 + 5.

**Tier 2**

Materials: base-ten blocks, Workmat 5 (see eTeacher Resources), Place-Value Charts (see eTeacher Resources)

- Model the values of the digits in 246 with base-ten blocks on Workmat 5.
- Ask: How many hundreds are in this model? 2 hundreds In which column of your place-value chart do you write that? the hundreds column
- Continue the discussion by having children tell the number of tens and ones in the model and explaining where to record the digits.
- Have children write the number shown by the blocks in standard form.
- Repeat the activity with the number 360. Discuss with children what to do when a zero is one of the digits in a number.


**Tier 1**

**Reteach**

**Lesson 2.5**

**Place Value to 1,000**

**Materials** Place-Value Charts (see eTeacher Resources), base-ten blocks

- Write 327 on the board. Guide children to write the number in their place-value charts, with each digit in the correct column.

- Ask: **Which digit is in the hundreds place?** 3 Invite children to model 3 hundreds using base-ten blocks. **What is the value of 3 hundreds?** 300 Repeat the questions and have children model the value of the tens and ones digits in the same way.

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

- Repeat the activity with the number 259.

**Tier 2**

**Visual / Kinesthetic / Auditory**

**Small Group**

**Materials** base-ten blocks, Place-Value Charts (see eTeacher Resources)

- Write 417 in a place-value chart. Have children do the same in their own charts.

- Point to the 4. Say: **The four is in the hundreds place. We can use blocks to show 4 hundreds.** Model 4 hundreds with base-ten blocks. Have children do the same and then have them describe their actions.

- Then say: **The value of the 4 in this number is 400.** Follow this procedure for the remaining digits.

- Repeat these steps to work with children to model the number 234.
LESSON 2.6
Number Names

Materials  Secret Code Cards (see eTeacher Resources)

- Use the Secret Code Cards to form a 3-digit number, such as 714.

- Show children the 3-digit number and have them write the digits. Use the Secret Code Cards to show them the value of each digit in the number.

- Have children say the number aloud. Ask: What place value of the number did you say first? hundreds Guide children to recognize that they said the tens and ones digits together: fourteen.

- Guide children to write the number using words the same way as they say the number aloud.

- Repeat the activity with similar questioning for the 3-digit number 391.

Materials  Secret Code Cards (see eTeacher Resources), Place-Value Chart (hundreds, tens, ones) (see eTeacher Resources)

- Use the Secret Code Cards to form a 3-digit number, such as 367. Show children the 3-digit number.

- Have children write on the place-value chart the digits in the appropriate columns. You may wish to write the number in a place-value chart on the board.

- Use the Secret Code Cards to show the value of each digit and have children write the value of each digit below the digit on the place-value chart. For example, for 367 they would write 300, 60, 7.

- Guide children to say the value of the hundreds digit: three hundred. Then have them say the values of the tens and ones digits together: sixty-seven.

- Have children write three hundred sixty-seven below their place-value charts.
**LESSON 2.7**

**Different Forms of Numbers**

**Materials** Secret Code Cards (see eTeacher Resources)

- Show the Secret Code Cards for the numbers 300, 10, and 5. Say: **300 plus 10 plus 5 is . . .** and pause.
- Have children say the number: “315.”
- Slide the cards together to show 315.

**Materials** Secret Code Cards (see eTeacher Resources)

- Write 196 and say the number. Have each group show the number using Secret Code Cards.
- Have children help you draw a quick picture for 196 using the value for each digit. Ask: **How many hundreds, tens, and ones do we need to draw?**
  1 hundred, 9 tens, 6 ones
- Then turn over the Secret Code Cards to check the quick picture.
Lesson 2.8  
Algebra • Different Ways to Show Numbers

Materials  base-ten blocks, Place-Value Chart (hundreds, tens, ones)  
(see eTeacher Resources)

- Show 3 hundreds, 4 tens, and 5 ones with base-ten blocks. *How many of each type of block are there?* 3 hundreds blocks, 4 tens blocks, 5 ones blocks  Record the answer in a place-value chart.

- Discuss with children that 1 hundred is the same as 10 tens. Trade 1 hundreds block for 10 tens blocks. *How many of each type of block are there now?* 2 hundreds blocks, 14 tens blocks, 5 ones blocks  Record the answer in the place-value chart. Next, discuss that 1 ten is the same as 10 ones. Trade 1 tens block for 10 ones blocks. *How many of each type of block are there now?* 2 hundreds blocks, 13 tens blocks, 15 ones blocks  Record the answer in the place-value chart.

- Discuss that each model shows the same number, 345.

Materials  base-ten blocks, Place-Value Chart (hundreds, tens, ones)  
(see eTeacher Resources)

- Display a place-value chart. Show 1 hundred, 4 tens, and 3 ones with base-ten blocks. Ask: *How many hundreds, tens, and ones blocks are there?* 1 hundreds block, 4 tens blocks, 3 ones blocks  Record the answer in the place-value chart.

- Say: 1 ten has the same value as 10 ones. So, we can *trade 1 tens block for 10 ones blocks*. Have children count the blocks. 1 hundreds block, 3 tens blocks, 13 ones blocks  Record the answer in the place-value chart.

- Say: 1 hundred has the same value as 10 tens. So, we can *trade 1 hundreds block for 10 tens blocks*. Have children count the blocks. 0 hundreds blocks, 13 tens blocks, 13 ones blocks  Record the answer. Discuss that the blocks in each model show the number 143.
LESSON 2.9
Count On and Count Back by 10 and 100

Materials base-ten blocks, Place-Value Charts (see eTeacher Resources)

- Display a place-value chart. Write 321 in it. Model with blocks the values of the digits in 321.
- Remove 1 tens block to show 10 less. Have children say the new number, 311. Then write 311 in a place-value chart. Discuss that the digit in the tens place is now 1 less than that digit in 321.
- Model 321 again. Add 1 tens block to show 10 more. Have children say the new number, 331. Write 331 in a chart. Discuss that the digit in the tens place is now 1 more than that digit in 321.
- Repeat the activity, showing 100 less and 100 more. Have children say the new numbers, 221 and 421. Record them in place-value charts and discuss how the hundreds digit changes.

Materials base-ten blocks, Place-Value Charts (see eTeacher Resources)

- Model with blocks the values of the digits in 274. Write the number in a place-value chart.
- Say: **Put 1 more tens block in the model to show 10 more.** Have children count the blocks and say the new number, 284. Write 284 in a place-value chart.
- Repeat the activity to show 10 less, 100 less, and 100 more. Start with 274 each time. For each model, have children count the blocks and say the new number. Record the numbers in place-value charts.
LESSON 2.10
Algebra • Number Patterns

Materials  base-ten blocks

• Write 215 on the board and have children model the number with base-ten blocks. Ask: How many hundreds, tens, and ones are in the number 215? Possible answer: 2 hundreds, 1 ten, 5 ones

• Have children add another tens block to their model and tell what number is modeled. 225 Once again, have children add another tens block to the model and ask what number is being modeled. 235

• Have children describe the pattern they see. The number increases by 10. Have children model and write the next number in the pattern. 245

• Repeat the activity beginning with 215, but add a hundreds block each time. Have children write the pattern.

Materials  strips of paper, chart paper, marker

• Write 826, 836, 846, 856, and 866 in a vertical column on chart paper. Then point to each number and have children read it aloud.

• Use a strip of paper to cover the tens and the ones columns. Ask: What do you notice about the hundreds digits in these numbers? They all have an 8 in the hundreds place. Move the strip of paper to cover the hundreds and the tens column. Ask: What do you notice about the ones digits in these numbers? They all have a 6 in the ones place.

• Now show just the tens column. Ask: What do you notice about the tens digits in these numbers? They increase by 1 ten each time. Remove the paper strip. Ask: What number would come next? 876
LEsson 2.11
Problem Solving • Compare Numbers

Materials base-ten blocks

- Guide children in using base-ten blocks to solve the following problem.

  Maggie has 132 seashells. Jeff has 124 seashells. Who has more seashells?

- Ask children to model the value of each digit in 132 with base-ten blocks. **How many hundreds do you have?** 1 hundreds block. **How many tens blocks?** 3 tens blocks **How many ones blocks?** 2 ones blocks

- Have children write Maggie’s name on a sheet of paper and then draw a quick picture of the model next to her name.

- Now have children model the value of each digit in the number 124 below their model for 132. Have children write Jeff’s name below Maggie’s and draw a quick picture of their model for 124. Have children compare the pictures in each group. Ask: **Who has more hundreds?** They both have one hundred. **Who has more tens?** Maggie So, Maggie has more seashells.

Materials Workmat 5 (see eTeacher Resources), base-ten blocks

- Show the following problem to children.

  George has 351 baseball cards. Tommy has 322 baseball cards. Who has more cards?

- Ask: **What does the problem ask?** Who has more cards? Have volunteers circle the numbers that need to be compared. 351, 322

- Next, label two workmats, one George and one Tommy. Have children use base-ten blocks to show the values of each digit in the numbers on the workmats.

- Ask: **Who has more hundreds?** They both have 3 hundreds. **Who has more tens?** George

- Explain that George has more cards because his number has the same number of hundreds, but more tens than Tommy’s number.
LESSON 2.12
Algebra • Compare Numbers

Reteach Tier 1

Materials Place-Value Chart (hundreds, tens, ones) (see eTeacher Resources)

- Write 358 and 516 on the board.
- Start with 358. Say: 3 is in the hundreds place, so write 3 in the hundreds column. Then ask: Which digit do you write in the tens column? Why? 5; 5 is in the tens place. Guide children to tell you which digit to write in the ones column. Have children write the digits in their place-value charts.
- Repeat with similar questioning for 516.
- When you compare the numbers, start with the greatest place value, hundreds. 5 hundreds are greater than 3 hundreds, so 516 > 358.
- Repeat for 453 and 482, and 224 and 226. Discuss when to use the tens or ones places to compare.

Tier 2

Materials base-ten blocks

- Write 231 and 352 on the board. Have children use base-ten blocks to model the values of each digit in the numbers.
- Explain that children can use the blocks to compare the numbers. Have them count the hundreds blocks in each model. Say: 3 hundreds are greater than 2 hundreds, so 352 is greater than 231.
- Repeat the activity with 352 and 369. Point out that the models have the same number of hundreds blocks, so it is necessary to compare the tens blocks.