General Information

Lesson Parts & Duration

Total Duration: 2 to 2 ½ hours

- Segment 1: Place Value Through the 100's Place: Bundles of "10" (45-60 Minutes)
- Segment 2: Digits and Their "Place" Value (45 Minutes)
- Segment 3: Activity: Steal the Bacon with Mental Math Place Value! (30 Minutes)

Subject(s)

- Place Value Through the 100s Place (2.NBT.1)

Objective

- Students will understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.
- Students will understand the following as special cases:
    - 100 can be thought of as a bundle of ten tens - called one "hundred".
    - The numbers 100, 200, 300, 400, 500, 600, 70, 800, 900 refer to one, two, three, four, five, six, seven, eight, nine hundreds (and zero tens and zero ones).
- Students will correctly identify two-digit and three-digit numbers on a place value chart, indicating which digit represents which value (hundreds, tens, ones).
- Students will identify a two-digit or three-digit number correctly based on verbal descriptions using place value terms (i.e., *one group of ten and 1 one, 11 ones, or the digit 1 in the tens place and the digit 1 in the ones place*).

Materials

- plain or lined paper, enough for 3 pieces per student
- pencils/erasers
- document camera or whiteboard
- **Optional:** equity sticks (sticks that have either student names or numbers on them to ensure you are calling on students fairly).
- **Optional:** printable "Exit Slips" (page 12)
- **Optional:** printable "Break Up Your Day" brain/movement break ideas (page 14)

Protocols (page 13)

- Used throughout lesson - be familiar with each protocol.
- Place Protocols under a document camera (if available) as necessary throughout the lesson.

Instructional Setting

- Students seated with or near another student for partner work

Throughout these lessons, you will find:

- ***Scripted Text*** indicates things that need to be said directly. Bullets starting with a **"T"** followed by *italicized type* indicate scripted text
- **Clarifiers** within scripted text are in orange
- **Teacher Directions** indicate things you should be doing
- **Side notes** provide helpful hints, ELL strategies, differentiation and information
- **Break Up Your Day** (Brain/Movement Breaks) are in green boxes (at the end)

Remember!

Quality over quantity. All components do not have to be accomplished; lessons may be ended at any time and resumed later.

Instructional Plan: Segment 1: 45-60 minutes

Subject

- Place Value Through the 100's Place: Bundles of "10"

Objective

- Students will understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.
- Students will understand the following as special cases:
    - 100 can be thought of as a bundle of ten tens - called one "hundred".
    - The numbers 100, 200, 300, 400, 500, 600, 70, 800, 900 refer to one, two, three, four, five, six, seven, eight, nine hundreds (and zero tens and zero ones).

Materials

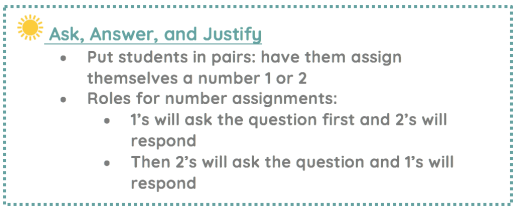
- pencils/erasers
- plain or lined paper, enough for 3 pieces per student
- document camera or whiteboard
- **Optional:** equity sticks (sticks that have either student names or numbers on them to ensure you are calling on students fairly).
- **Optional:** printable "Exit Slip" (page 12)

Introduction

T *Raise your hand if you have heard of place value?*
T *How do we use place value in our number system?*
T *Why is it important to understand place value?*
T *Today we are going to answer these last two questions as we explore numbers and place value to have a better understanding of what numbers represent.*

On a whiteboard, or with a piece of plain paper and document camera, write the digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. Then, write the word "DIGITS"

T *We all know these as the numbers 0-9, but we also refer to them as single digits.*
T *We refer to them as single digits because only one single number at a time can be placed into each place value space.*
T *A single digit number will always be in the "ones" place.*
T *When we look up at the board at these digits, what do you notice?*
T *Is there anything you think is missing?* Let students ponder the list of numbers for a moment. Answer: no digits are missing



T *Okay, we are going to buddy up with the person next or near to you.*
T *Assign yourselves as Thinker #1 or Thinker #2.* Wait a second for them to make this decision.
T *Thinker #1's ask Thinker #2's what they noticed about the digits on the board.* Give time for 1's to ask 2's.
T *Now, 2's ask 1's the same question.* Give time for 2's to ask 1's.

Circulate with purpose by moving around the pairs and listen to their discussions, redirect or support any that are not on task. Allow about 1 minute for the discussions and bring them back.

T *Okay, Critical Thinkers!*

T *Let's come back to the digits on the board.* Using equity sticks, if available, call on a student to share their idea(s).

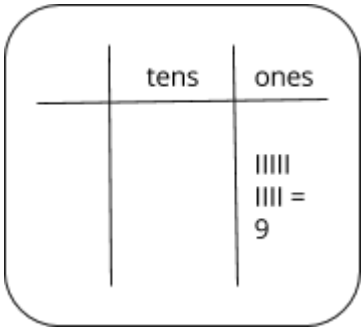
> **Share out and check for understanding**
> - Follow the protocol for Ask and Justify
> - Ask students to share their response to the question
> - Verify that response or conclusion is correct
> - If needed, provide clarification

Note:
Ideally, a "Thinker" might notice or wonder where the number 10 is, combining digits to create a two-digit number.

T *If no one asks where the number ten is, ask them: "Why isn't the number 10 in this group?* Using equity sticks, if available, call on a student to share their idea(s).

Depending on level of answers, reinforce that number ten is a two-digit number.

On the board, make a place value "T" chart for tens and ones. Shown on the right.



T *Remember, only single digit numbers can go here in the "ones" place.*

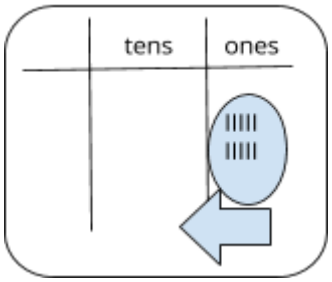
T *If we counted hash marks on the chart, we could only count as high as nine in the ones place.*

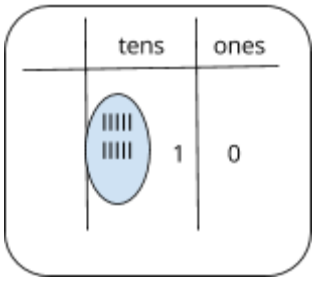
T *But if we added one more, and made 10 hash marks, we would need to bundle them and add the bundle of 10 to the tens place.*

T *See?*

T *If we have a group or a bundle of 10 and we move the bundle to the ten's place...*

T *Then we have 10!*





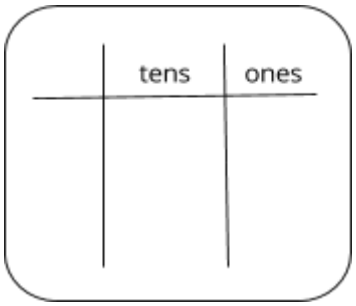
Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.

See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 12)

T *Okay, Mighty Thinkers, let's make a new place value chart!*

Make a three-column chart like the one below, but about 3 feet wide, with only tens and ones.



T *This time we are going to use YOU to make this chart!* Using equity sticks, if available, call on a student to come up to the board.

T *Mighty Thinkers, your fingers are also called digits!*

T *Each finger is a digit, just like a number!*

T *With your fingers, show me one finger for the one's place.*

T *Alright!*

T *And all ten for the tens place.*

T *Good!*
T *We are going to use our friend as a bundle of ten fingers!*
T *Remember, this time we are counting fingers (10) not just the student.*
T *Should (student) stand under the one's place or the tens place?*
T *Show me using your finger digits!*

Verify their response is correct, if some are not, remind the group.

T *Remember he/she is* ONE BUNDLE OF TEN FINGERS...SO WHICH PLACE VALUE ARE THEY REPRESENTING?

Place standing student under the tens column.

T *Now we have 1 group of ten fingers and zero extra's or ones!* Write a zero under the "ones" place.

Partner Discussion

T *How many "bundles of ten fingers" can we put in the tens place?* Using equity sticks, if available, call on a student to share their idea(s). After each student gives their response, ask them to "justify their answer", or "please explain why". Ideally the group of answers will be reflective of the same process for the ones place.

T *Let's try that out and see if it works.* After each student response, call up that number of students and have them stand in the tens place. **If someone stands in the ones place, leave them there...

T *Let's count (by tens) to see how many we have.*

T *If there is someone still in the ones place, then count them as a one.*

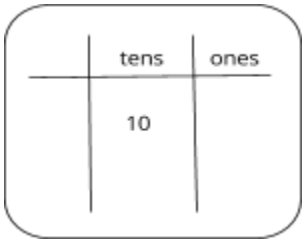
T *Is this the most we can put into the tens place?* **If lower than 10, keep cycling to the next response.

T If 10, write the numeral 10 in the tens place, asking, *Does this make sense?*

T If the response is overwhelmingly "NO!", ask one of the responders, "*WHY not?*"

Ask, Answer, and Justify
- Put students in pairs: have them assign themselves a number 1 or 2
- Roles for number assignments:
  - 1's will ask the question first and 2's will respond
  - Then 2's will ask the question and 1's will respond

Share out and check for understanding
- Follow the protocol for Ask and Justify
- Ask students to share their response to the question
- Verify that response or conclusion is correct
- If needed, provide clarification



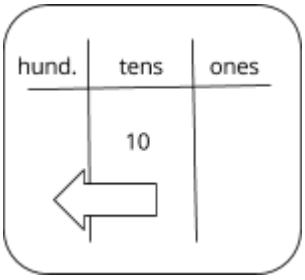
Ideally they will explain that the number 10 is a two-digit number and in place value, we can only have single digits. If they do not have this response, then the Teacher may explain. Explanation found below.

T *Some may think that you were supposed to put the zero in the ones place.* Demonstrate and count to see if this number (10) matches the quantity of students standing in the tens place. When you have ten students in the tens place, then it shows you have ten 10's and therefore you have 100.

Show the students that they must repeat the same procedure and move the "bundles of ten fingers" (ten 10's) to the "hundreds" place.

T *If we have a group or a bundle of 10 and we move the bundle to the ten's place...*
T *Then we have 10!*

NOW...have the ten students in the hundreds place count off by 10's until they reach 100.



T *Mighty Thinkers!*
T *How many bundles of ten did we move from the tens place to the hundreds place?* Check understanding that 10 BUNDLES (each kid is a bundle of ten fingers) were moved to the hundreds place to make 1 bundle of 100. **Point out that there are no students in the tens or ones place, that is why there is a zero in each place.

Write "hund." in the chart on the board.

- ***T*** *So, Mighty Thinkers, here is the most important question!*
- ***T*** *Are you ready?*
- ***T*** *How many fingers are there in the "hundreds" place now?* Ideally, they say 100! If not, recount the fingers of the first student, 10, and then tell the students to count by tens again as you point to each student. Re-ask the same question. Using equity sticks, if available, call on a student.
- ***T*** *If 100 has 1 group of 100, how many hundreds are in 700?* Call on a student. Answer: 7
- ***T*** *How many hundreds are in 300?* Call on a student. Answer: 3
- ***T*** *How many hundreds are in 600?* Call on a student. Answer: 6
- ***T*** *How many hundreds are in 900?* Call on a student. Answer: 9

***You may use the exit slip at the end of this lesson as a quick assessment of student understanding. Either print them out (page 12), or simply have students copy the problems on a half sheet of paper.**

Name: __ANSWER KEY_____Date: _____

Exit Slip: Segment 1

How Many Hundreds & How Many Tens?

1. How many **hundreds** are in **500**? _____5_____ **hundreds**
2. How many **hundreds** are in **200**? _____2_____ **hundreds**
3. How many **hundreds** are in **400**? _____4_____ **hundreds**
4. How many **hundreds** are in **800**? _____8_____ **hundreds**
5. How many **tens** are in **50**? _____5_____ **tens**
6. How many **tens** are in **90**? _____9_____ **tens**
7. How many **tens** are in **100**? ____10_____ **tens**

Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.

See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 14)

Instructional Plan: Segment 2: 45 minutes

Subject

- Digits and Their "Place" Value

Objective

- Students will understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones.
- Students will correctly identify two-digit and three-digit numbers on a place value chart, indicating which digit represents which value (hundreds, tens, ones).

Materials

- lined paper (1 per student)
- pencil
- document camera or whiteboard
- **Optional:** equity sticks (sticks that have either student names or numbers on them to ensure you are calling on students fairly).
- **Optional:** printable "Exit Slip" (page 12)

Pass out one piece of lined paper per student.

Setting Up Your Paper

T *Write your name and date in the top right hand corner of your paper.* See example & model so students can follow.

T *On the first line please write, "I will write two and three-digit numbers in a place value chart in the correct placement."*

Name
Date
I will write two and three digit numbers in a place value t-chart in the correct placement.

Either write this on the board for the students to copy or project with document camera. Give students time to write.

Model for students how to draw a "Place Value Chart" on their paper.

T *Now we are going to draw a place value chart on our papers.*

T *Draw one straight horizontal line straight across your paper, like you are underlining something.* Model this step for students to follow.

T *Next, we will draw two vertical lines.*

T *Vertical means straight up and down.*

T *We are dividing our line into 3 equal parts.* Model this step for students to follow.

T *Last, we need to label our place value chart.*

T *The first column we will label hundreds, for the hundred's place.*

T *The second or center column we will label tens, for the ten's place.*

T *And the third and last column we will label ones, for the one's place.*

Name
Date
I will write two and three digit numbers in a place value t-chart in the correct placement.

hundreds	tens	ones

Note:
It is very important for you to walk around the room between each step that the students need to draw or write and check student work while waiting for them to finish.

T *The first number you are to write on your chart, and please write your number exactly below the line of the place value space, is eighty-nine.* Write the number 89 on the board, NOT on your chart so students can attempt correct placement of digits independently.

T *The number eighty-nine is a two-digit number.*

T *If I read it in place value, it reads "eight groups of ten and nine ones".*

T *Reading it this way helps me understand how to write it on the chart.*

Write the number 8 under the tens and 9 under the ones.

T *Hold up your paper if this is how you wrote it.*

T *If you did not write it this way, take a moment to place your numbers correctly.*

T *Okay.*

T *Now, draw a straight line from left side of your paper to right on your chart under the number 89.*

T *We will be drawing a line like this after each number you write.*

T *I'm going to read a list of numbers and I want you to write them in the correct place value on your chart.*

T *Please write the number 12, or "1 group of ten and 2 ones".* Write the number 12 on the board, NOT on your chart so students can attempt correct placement of digits independently.

T *The next number is 57, or "5 groups of ten and 7 ones".* Write the number 57 on the board, NOT on your chart so students can attempt correct placement of digits independently.

T *Now please write 35* Write the number 35 on the board, NOT on your chart so students can attempt correct placement of digits independently.

T *Class, how do we say this number in place value?* Listen for accuracy. Answer: 3 groups of ten and 5 ones

T *Next number, 48.* Write the number 48 on the board, NOT on your chart so students can attempt correct placement of digits independently.

T *125, or "1 group of one hundred, 2 groups of tens and 5 ones"* Write the number 125 on the board, NOT on your chart so students can attempt correct placement of digits independently.

Note:
While reading the numbers, pause and scan the room for on-task behavior. Circulate the room while reading so that you can redirect off-task students. Proximity is very effective!

T *For our last five numbers, you need to be a very good listener.*

T *I will not be writing these numbers on the board after I say them.*

T *Our first challenge number is… 231.* For the remainder of problems do not write the number them on the board.

T *Our second challenge number is… 798.*

T *Our third challenge number is… 673.*

T *Our fourth challenge number is… 111.*

T *Be careful, this one is tricky!*

T *Okay, the big finale! 999.*

T *Okay, let's check our work with a partner.*

T *While you check over your work with your buddy you may make changes to your own answers if you discover you have written an answer wrong.*

Ask, Answer, and Justify
- Put students in pairs: have them assign themselves a number 1 or 2
- Roles for number assignments:
  - 1's will ask the question first and 2's will respond
  - Then 2's will ask the question and 1's will respond

T *But remember, just because your buddy has a different answer doesn't mean their answer is correct.*

T *If you have different answers, please have a discussion and justify your answer by telling why you wrote what you wrote.*

T *Then hopefully you and your buddy can agree on an answer.*

Using Ask, Answer, and Justify have students get a partner to check their answers. Then bring the class back together as a whole to go over the correct answers.

T *Take turns asking each other how they wrote each answer.*

T *As a challenge have your partner tell you how we say the number in place value terms.*

T *Let me show you an example of what I mean.*
T *If you were my partner* talk to a specific student who is near you *I would start by saying how did you write the number 12?*
T *Then you would respond, "I wrote the number 12 as the digit 1 in the tens place and the digit 2 in the ones place."*
T *For a challenge, I can also ask you, "how do you say the number 12 in place value terms?*
T *Then you would respond with, "1 group of ten and 2 ones".*
T *When I say "Place", you say "Value" and 1's can begin.*
T *Place!* Students respond, "Value" and begin.

Write the following sentence frames on the board for students to use as a model during this activity.

Question:

How did you write the number _____?

Answers:

I wrote the number _____ as the digit _____ in the **tens place** and the digit _____ in the **ones place**.
OR
I wrote the number _____ as the digit _____ in the **hundreds place**, the digit _____ in the **tens place**, and the digit _____ in the **ones place**.

Challenge:

Question:

How did you write the number _____ in place value terms?

Answer:

_____ group(s) of ten and _____ ones.

OR

_____ group(s) of hundreds _____ group(s) of ten and _____ ones.

Note:
While reading the numbers, pause and scan the room for on-task behavior. Circulate the room while reading so that you can redirect off-task students. Proximity is very effective!

You may use the exit slip at the end of this lesson as a quick assessment of student understanding. Either print them out (page 12), or simply have students copy the problems on a half sheet of paper. (Answer Key on next page)

Name: ___ANSWER KEY____Date: _____

Exit Slip: Segment 2

Digits and Their Value

(ANSWERS WILL VARY)

1. Write any **2-digit number**. SAMPLE ANSWER: 23
2. **Fill in the sentence frames:**
   a. I can write the number 23 as the digit 2 in the **tens place** and the digit 3 in the **ones place**.
   b. 2 groups of ten and 3 ones.

3. Write any **3-digit number**. SAMPLE ANSWER: 578
4. **Fill in the sentence frames:**
   a. I can write the number 578 as the digit 5 in the **hundreds place**, the digit 7 in the **tens place**, and the digit 8 in the **ones place**.
   b. 5 groups of hundreds 7 groups of ten and 8 ones.

At the end of the exercise, teacher collects papers and paper clips them together. This is the final product.

Make sure to "Break Up Your Day!"

Now is a great time to take a break and get students re-energized.

See our list of engaging movement and brain break ideas to get your students moving and ready to refocus! (see page 14)

Instructional Plan: Segment 3: 30 minutes

Subject

- Activity: Steal the Bacon with Mental Math Place Value!

Objective

- Students will identify a two-digit or three-digit number correctly based on verbal descriptions using place value terms (i.e., *one group of ten and 1 one, 11 ones, or the digit 1 in the tens place and the digit 1 in the ones place*).

Materials

- white or chalk board eraser, or item of similar size.
- clipboard with paper that has numbers of half of the student class count written down the left side (if there are 28 students, write #'s 10-23)

It would be helpful to check off the ones that you have called to ensure you are calling all numbers.

Introduction

T *Let's Go Outside!!* Rainy Day? Try this one: If room, have students quietly and respectfully move desks to the outer walls of the room, or ask the front office if the multi-purpose room, or gym is open!

T *Today we will be playing a game called, "Steal the Bacon".*

T *It is going to help us practice our understanding of place value.*

T *We are going to get into two teams.*

T *Each team will line up on opposite sides.*

T *I am going to give you a number that has a digit in both the ten's place and the one's place.*

T *We call these two-digit numbers.*

T *There will be someone on the opposite team with that same number.*

T *In the center, between your two lines I am going to put a* chalk board/dry erase board eraser or something of similar size.

T *I will think of a number, but I won't say it directly.*

T *Instead, I will tell you either "ones" or "tens and ones".*

T *For example, for the number 11, I might call out "One group of ten and 1 one".*

T *Or I might say, "11 ones".*

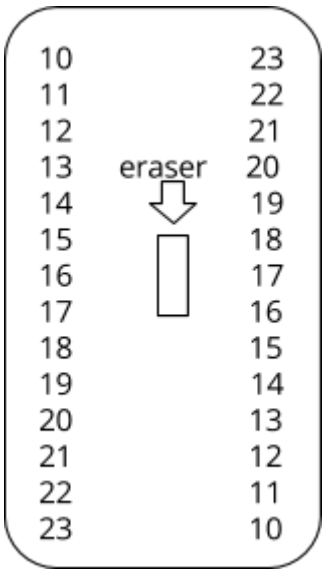
T *Or I can even say, "the digit 1 in the tens place and the digit 1 in the ones place".*

T *Each of the two students with that number run to try and "steal the bacon" and run back to their place in line before getting tagged by the other student.*

T *If they make it back to their spot in line, their team gets a point.*

T *If they get tagged, no point.*

T *After all numbers have been called, the team with the most point wins!!*



Proceed by calling out place value names for all numbers on the list (randomly).

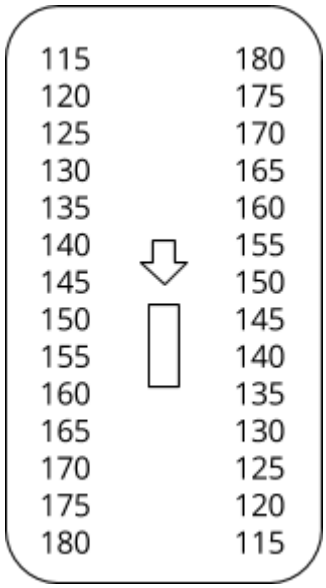
****Challenge round on next page.**

CHALLENGE ROUND (Three-Digit Numbers)

If there is time… Play a CHALLENGE round using numbers in the 100's. Assign each student a number starting at 115, counting up by 5's (115, 120, 125, 130, etc.) Directions on previous page.

It would be helpful to have a list of number to check off the ones that you have called to ensure you are calling all numbers.

- ***T*** *Just like the last game, I am going to give you a number.*
- ***T*** *However, this time your number will have a digit in the hundred's place, ten's place, and one's place*
- ***T*** *We call these three-digit numbers.*
- ***T*** *There will be someone on the opposite team with that same number.*
- ***T*** *In the center, between your two lines I am going to put a* chalk board/dry erase board eraser or something of similar size.
- ***T*** *I will think of a number, but I won't say it directly.*
- ***T*** *Instead, I will tell you either "hundreds, tens and ones".*
- ***T*** *For example, for the number 105 I might call out "One group of hundreds, Zero groups of tens and 5 ones".*
- ***T*** *Or I might say, "105 ones".*
- ***T*** *Or I can even say, "the digit 1 in the hundreds place, the digit 0 in the tens place and the digit 5 in the ones place".*
- ***T*** *Each of the two students with that number run to try and "steal the bacon" and run back to their place in line before getting tagged by the other student.*
- ***T*** *If they make it back to their spot in line, their team gets a point.*
- ***T*** *If they get tagged, no point.*
- ***T*** *After all numbers have been called, the team with the most point wins!!*



Proceed by calling out place value names for all numbers on the list (randomly).

Name: _____Date: _____

Exit Slip: Segment 1

How Many Hundreds & How Many Tens?

1. How many **hundreds** are in **500**? _____ **hundreds**
2. How many **hundreds** are in **200**? _____ **hundreds**
3. How many **hundreds** are in **400**? _____ **hundreds**
4. How many **hundreds** are in **800**? _____ **hundreds**
5. How many **tens** are in **50**? _____ **tens**
6. How many **tens** are in **90**? _____ **tens**
7. How many **tens** are in **100**? _____ **tens**

Name: _____Date: _____

Exit Slip: Segment 2
Digits and Their Value

1. Write any **2-digit number**. _____
2. **Fill in the sentence frames:**
   a. I can write the number _____ as the digit _____ in the **tens place** and the digit _____ in the **ones place**.
   b. ____ groups of ten and ____ ones.

3. Write any **3-digit number**. _____
4. **Fill in the sentence frames:**
   a. I can write the number _____ as the digit _____ in the **hundreds place**, the digit _____ in the **tens place**, and the digit _____ in the **ones place**.
   b. ____ groups of hundreds ____ groups of ten and ____ ones.

Protocols:

Ask and Justify

- Put students in pairs: have them assign themselves a number 1 or 2
- Roles for number assignments:
  - 1's will ask the question first and 2's will respond
  - Then 2's will ask the question and 1's will respond
  - The next time 2's ask the question first

On your feet/ Get ready to meet/ Go and Greet (should take less than one minute)

- Students stand up and put their hand up in the air
- Students find another student that has their hand up to have a "new" partner (and get them moving around)
- Once they are with their new partner, they put their hands down and face the teacher

Give one & Get one

- Students share information in Ask & Justify
- Each student in the pair writes down the information shared by their partner
- If the information is already written, a check is put by the information

Back to Back and Face to Face

- When in pairs, direct students to stand back to back
- Ask the students to consider the question
- Give students at least a minute to consider their response
- Have them turn face to face
- Follow the protocol for Ask and Justify

Share out and check for understanding

- Follow the protocol for Ask and Justify
- Ask students to share their response to the question
- Verify that response or conclusion is correct
- If needed, provide clarification

(Used throughout lesson - be familiar with each protocol.)

Note: Place Protocols under a document camera (if available) as necessary throughout the lessons

Make sure to "Break Up Your Day!"

These can be used in the middle of a lesson or at the end of your lesson.

Here are a few engaging movement and brain break ideas to get your students moving and ready to refocus!

Break Up Your Day: You're Out of Order!

- Students buddy up and say 3 single-digit numbers out loud.
- The second buddy must repeat the numbers backwards!
- Reverse roles.
- Repeat three times. (example: Buddy 1 says, "My numbers are 5, 3, 6, Buddy 2 says, "Your numbers were 6, 3, 5.")

Break Up Your Day: Guess My Number!

- Teacher thinks of a multiple digit number.
- The students will take turns asking yes or no questions to try and figure out the number, can use equity cards to call on students to ask questions.
- (Example: does the number have three digits, is the number in the tens place greater than 2).
- Providing paper and pencils for students to write down guesses can be helpful.)

Break Up Your Day: Body Stretches!

FORMATION: Standing at desks
EQUIPMENT: None
RULES/DIRECTIONS:

- Have students begin the day with a series of simple activities lasting 30 seconds or more: Jumping jacks, Knee lifts, Flap arms like a bird, Hopping Scissors (feet apart then cross in front, feet apart then cross in back)
- Follow each activity with a basic stretching movement: Reach for the sky, Runner's stretch, Butterfly stretch (sit with bottom of feet together), Knee to chest, Rotate ankles, Scratch your back
- Hold stretches for 10 - 30 seconds.
- Repeat a different simple activity followed by a new basic stretch as many times as desired.