An Introduction to Place Value
1st & 2nd grade

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1st grade (Tens and Ones)

Day	Goal	Procedure	Materials	Assessment
1	Explore different ways of counting Grouping 10s and 1s 1.NBT.2a 1.NBT.2b	Teacher presents the scenario: I have 36 items. How can we count this item? Can you show different ways to count the item? Students work with a partner or individually to solve problem as teacher walks around. While walking around teacher asks probing questions: Is there another way to show 36? Can you show me another way to make 36? Why did you choose to group them together that way? Could you give that grouping a name? Teachers chooses a few students with varying to strategies to share their strategy & asks the above probing questions to further explanations.	● manipulatives ● tens frames (available-not given)This is a freebie on Teacherspayteachers by Kaia Tomokiyo https://www.teacherspayteachers.com/Product/Blank-Tens-Frames-276349 ● ● paper	Anecdotal ● Does the student begin to group in equal groups or still use one to one. ● Can students show 36 in a variety ways? Can they justify their thinking?
2	Students will begin to group into tens to help make counting easy. Students will begin to name them as numbers of tens and ones. 1.NBT.2a 1.NBT.2b	Teacher presents the scenario: I have a bunch of cubes in these bags. I have no idea how many are in each bag. Can you help me figure out how many cubes are in your bag? Students work with a partner or individually to solve problem as	● manipulatives ● tens frames (available-not given) ● paper	Anecdotal ● Can the student show a way to group the numbers in multiple ways and justify their thinking? ● Does the student begin to use the

		teacher walks around. While walking around teacher asks probing questions: "Is there another way to show ___? Can you show me another way to make ___? Why did you choose to group them together that way? Is there a more efficient way to group those? How is that more efficient? Could you give that grouping a name? Teachers chooses a few students with varying to strategies to share their strategy & asks the above probing questions to further explanations.		strategy of grouping by tens? Can they justify their thinking?
3	Students will be able to group a number by tens and ones and name the number of tens and ones. 1.NBT.2a 1.NBT.2b	WHOLE GROUP Read Fair Bear Share. Discuss the strategy that the bears used to count their berries. While reading the book; students practice grouping the the way Mama grouped using the same numbers. Teacher will record on an anchor chart picture of groups, words (one group of ten/one, then write the numeral). Teacher gives the students the exit task to check on students' understanding of grouping.	● Fair Bear Share by Stuart J. Murphy ● manipulatives ● anchor chart paper ● Paper	Another bear collected 22 berries. Group the berries the way mama grouped the berries. How many tens do you have? How many ones do you have?

| 4 | Students will group build numbers with tens and ones and begin to use the language ___ tens.

1.NBT.2a
1.NBT.2b | WHOLE GROUP
Give each student four tens frames. Present the following questions for students to discuss with an elbow partner: What is the largest number we can make using these tens frames? If I only have one tens frame what is the largest number we can make? If I use two tens frames what is the largest number I can make?

Write the number 26 on the board. Have students build the number on their tens frames boards. Teacher will monitor the filling in the tens frames for accuracy. Students can check their work with an elbow partner. Teacher will allow one student to show how they filled in their ten frame (two full tens frames and 6 spillover). What do you notice? What could we call that? (trying to lead to 2 tens and 6 ones). How can we write that? (2 groups of tens and 6 more).

Continue this process with 2 or 3 more numbers. Have students share their tens frames and the phrasing (____ groups of tens and ___ more). Teacher will monitor and help students as needed.

Students complete "My Teens in the Tens Frame Book" independently. There is an enrichment version with an | ● manipulatives
● tens frames
● My Book of Teen Numbers
● board or chart paper | My book of teen numbers located on K-5 Math Teaching Resources (11 is one group of ten and ___ more).
http://www.k-5mathteachingresources.com/support-files/my-teens-on-the-ten-frame-book.pdf
Enrichment:
http://www.k-5mathteachingresources.com/support-files/my-teens-on-the-ten-frame-book.-ver.1.pdf |

		equation.		
5	Students will be able to build a two digit number on a tens frame and verbalize the number of tens and ones. 1.NBT.2a 1.NBT.2b	Math workshop day ● Spin it, Build it, Say it game in pairs ● teacher pulls small intervention groups continuing on the learning from the day before Spin it, Build it, Say it Using two spinners, one labeled tens one labeled ones, students spin each spinner and build the number. Once the numbers are built on a tens frames students then tell their partner the number that they have created. The game will allow the teacher to meet with small intervention groups continuing on the activity from the day before.	● labeled spinners http://www.mathwire.com/templates/spinners.pdf Intervention-use only numbers 1 & 2 on spinner for tens place. Enrichment-use more numbers or higher numbers on spinners. ● tens frames ● manipulatives ● online spinner (will need to be programmed by teacher prior to lesson) http://www.mathplayground.com/probability.html	Teacher spins a spinner and students fill in tens frames and writes the number. Spinner Template http://www.mathwire.com/templates/spinners.pdf

2nd grade (Hundreds, Tens and Ones)

Day	Goal	Procedure	Materials	Assessment
1	Students will explore different ways of counting and grouping numbers. Students will begin to make groups of tens and ones. 2.NBT.1	Teacher presents the scenario: I have 86 items. How can we count these items? Can you show different ways to count the item? Students work with a partner or individually to solve problem as teacher walks around. While walking around teacher asks probing questions: Is there another way to show 86? Can you show me another way to make 86? Why did you choose to group them together that way? Could you give that grouping a name? Teachers chooses a few students with varying to strategies to share their strategy & asks the above probing questions to further explanations.	● manipulatives ● tens frames (available-not given) ● paper	Anecdotal ● Does the student begin to group in equal groups or still use one to one? ● Can the student show 86 in a variety ways? Can they justify their thinking?
2	Students will practice different ways of counting and grouping numbers.	Teacher presents the scenario: I have a bunch of cubes in these bags. I have no idea how many are in each bag. Can you help me figure out how many cubes are in your bag? (All bags contain	● manipulatives ● tens frames (available-not given) ● paper	Anecdotal ● Does the student use groups of 10? ● Does the student know what to do once they get to

		Students will begin to make groups of hundreds, tens and ones. 2.NBT.1 2.NBT.3	a number over 100.) Students work in small groups or with a partner to solve problem as teacher walks around. While walking around teacher asks probing questions: Is there another way to show ___? Can you show me another way to make ___? Why did you choose to group them together that way? Is there a more efficient way to group those? How is that more efficient? Could you give that grouping a name? Teachers chooses a few students with varying to strategies to share their strategy & asks the above probing questions to further explanations.		100? ● Can the student show his or her number in a variety ways? Can they justify their thinking?
3		Students will explore hundreds. Students will start to recognize ten tens as equivalent to one hundred.	Teacher gives each student one hundreds grid. Teacher poses question: What is the largest number we can make using this grid? Teacher walks around and observes as students work independently. Teacher facilitates whole group discussion by asking questions: How did you figure it out? What do you notice about the way the grid is organized? Why do you	● hundreds grids http://www.math-drills.com/decimal/blm hundredthsgrid.html	Anecdotal ● Does the student use groups of 10? ● Does the student know what to do once they get to 100? ● Can students show his or her number in a variety ways? Can they justify their thinking?

		think it's organized that way? If we have four grids what is the largest number we can make? If we have eight grids what is the largest number we can make?		
	2.NBT.1 2.NBT.3			
4	Students will group numbers into hundreds, tens and ones. Students will represent three-digit numbers in multiple ways.	Teacher reads <u>The Roadside Stand</u> By: Asa Endo (or <u>A Fair Bear Share</u>). Teacher facilitates a class discussion on how the rows were organized in the book. "Why did they organize their rows that way?" Teacher gives each group of students a number of objects for their roadside stand greater than 100 and has them count how many objects they have and represent their number of objects. Students work in small groups or with a partner to solve problem as teacher walks around. While walking around teacher asks probing questions: How did you organize your objects/represent your number? Why did you organize them that way? How many objects did you have? Is there any other way you could organize them or represent them? Teacher facilitates whole group discussion about strategies used to complete the task. Teacher asks guiding questions: What	● <u>The Roadside Stand</u> ● manipulatives ● paper	Exit ticket (show a three-digit number on hundreds grids) http://www.math-drills.com/decimal/blmhundredthsgrid.html

	2.NBT.1 2.NBT.3	happened in your counting when you got to ten rows of ten? What do you think would happen if you had twenty rows of ten?		
5	Students will represent three-digit numbers in multiple ways. 2.NBT.1 2.NBT.3	Math workshop day ● Spin it, Build it, Say it game in pairs ● teacher pulls small intervention groups continuing on the learning from the day before Spin it, Build it, Say it Using three spinners, one labeled hundreds, one labeled tens and one labeled ones, students spin each spinner and build the number. Once the numbers are built on hundreds grids students then tell their partner the number that they have created. Identify the total number, along with the number of hundreds, tens, and ones	● labeled spinners http://www.mathwire.com/templates/spinners.pdf Intervention-use only numbers 1 & 2 on spinner for tens place. Enrichment-use more numbers or higher numbers on spinners. ● hundreds grids ● manipulatives (for intervention groups as appropriate) ● online spinner (will need to be programmed by teacher prior to lesson) http://www.mathplayground.com/probability.html	Teacher spins a spinner and students fill in hundreds grids and writes the number.

Other resources/activities:
  ● <u>*Earth Day Hooray*</u> *By: Stuart Murphy (groups cans by place value up to 1,000)*

Connection to Place Value

This introduction to place value is designed to give students a solid understanding of tens and ones (1.NBT.1) at the 1st grade level and hundreds, tens and ones (2.NBT.1) at the 2nd grade level. Students build their understanding through multiple experiences with counting and grouping objects. Students will explain their thinking through discussion with their classmates about different strategies for accomplishing the task.

Relevant Mathematical Practices

The first relevant mathematical practice in this "unit" is making sense of a problem and persevering in solving them. By asking students share ways of counting a given quantity, students are given opportunity to explain to themselves the meaning of a problem and look for entry points to its "solution." They are able to attempt other ways of counting, moving from simplistic one-to-one correspondence to more complex solutions, testing out both their own as well as others' strategies. This unit encourages students to access prior knowledge to solve a problem using strategies with which they have experience and some level of comfort. Students share out, justifying their thinking as well as hear, analyze, and critique others' approaches to solving the problem; the teacher is able to observe which strategies are used and assess students' knowledge level which will drive future instruction. This lesson also becomes an anchor lesson upon which future lessons can build and to which the teacher can refer as the unit progresses.

A second relevant mathematical practice is "looking for and making use of structure." This practice, which overlaps with attending to precision, facilitates students to develop the understanding of groupings of objects into groups of ten or one hundred, which is foundational to the understanding of place value. Students are supporting in developing the understanding and application of the structure of tens frames and hundreds grids and the relationship of digits in numerals. Students must also attend precision as they complete the tens frames or hundreds grids and determine if the grid or frame corresponds to the given quantity.