

## Lesson Plan: Place Value Routine

### 1<sup>st</sup> Grade, Teen Numbers

Grade: 1<sup>st</sup>

Standards:

1.NBT.1 - Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NBT.2 – Understand that the two digits of a two-digit number represents amounts of tens and ones. Understand the following as special cases:

- a. 10 can be thought of as a bundle of ten ones called a “ten.”
- b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
- c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90, refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

1.NBT.3 - Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols  $>$ ,  $=$ , and  $<$ .

Use place value understanding and properties of operations to add and subtract.

1.NBT.4 - Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.5 - Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

1.NBT.6 - Subtract multiples of 10 in the range 10-90 from multiples of ten from the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning being used.

Materials needed:

- Math journals/paper
- Ten Frames and red/yellow counters
- Base ten blocks
- Whiteboards
- Pennies

## Lesson Overview:

- Introductions (3 – 5 min)
- Choral Counting (5 – 7 min)
  - First, we will chorally count aloud from 1 – 20.
  - Let's count again. This time we will count the numbers on the Hundred Chart as I point to them.
  - Let's look at the first (1-10) row and second (11-20) row of numbers.
  - What do you notice about the numbers in the first row? What do you notice about the numbers in the second row?
  - What do these numbers represent? What does this digit represent? T. points to a digit in the ones place. What does this digit represent? T. points to a digit in the tens place. (Students may not be able to answer the questions but, T. is prompting them to see the digits as separate values.)
  - Can we count objects to show us what a number represents?
  - Let's count some objects together. T. provides items to count. (Pennies)
- Number of the Day: 18 – Let's say the number. (2 times, whole group.) What do you know about today's number? (Call on 2 students to share.)
- Let's build the number 18 (15 - 20 min).
  - How can we build 18 using counters? How can we show 18 with a ten-frame?
  - What do you notice about the ten-frame? What do you see? How can we say this amount? (Ten and 8 more).
  - How can we build 18 with base ten blocks? S. explore the manipulatives and build 18.
  - T. observes and notes how S. build 18.
  - S. may build 18 in different ways.
- Let's share how we built 18. Choose 2-3 students
  - T. has S. share their work or T. shares for the student.
  - T. will help S. make connections from the ten-frame structure to the ones units and ten rods.
    - If S. builds 18 as ten units in a Ten frame structure and 8 units...
    - If S. builds 18 as 18 units...
    - If S. builds 18 as a 1-Ten rod and 8 Ones units...
      - T. shares that all methods are correct.
      - What do you notice about these models?
      - What do you notice about how the tens and ones are related?
      - What is the same? What is different? Why?
      - Do any of these models show a faster way to count?
      - T. holds up the ones unit. How many might this represent? Is there a name for this piece? T. then shares the mathematical name. This is a

unit. It represents one. It is called a ones unit.

- T. holds up a ten rod. How many might this represent? How do you know? What do you notice about this piece? How many ones units are in a ten-rod?
- Is there a name for this piece? T. then shares the mathematical name. This is a rod. It represents ten. It is called a tens rod.

1. T. builds 18 as 1 rod and 8 units.

2. T. guides students in discussion about place values of the tens and ones.

3. How many “Ten” rods do we have? How many “Ones” units do we have?  
Shoulder partner share

4. T. There is 1 Ten and 8 ones. Teacher places the digits in the place value pockets.

5. Class discussion

- Who would like to share one idea they learned, today?

• Partner Practice:

- Now, I am going to have you work on a new number with your partner while your teacher and I talk about the ideas that you shared.
- Have two students pull out digit cards to create the new number on the board. Say the new number with the whole class twice and release students to begin partner work.

- Additional ideas for a place value routine can be found in the What’s My Place? What’s My Value? Book.

#### **Anticipated Student Responses:**

- Students may struggle to count by ones through the teen numbers, especially 11-13.
- Student builds 18 as 18 separate units.

#### **Possible Teacher Questions:**

- Show students a filled ten frame. Do you know a fast way to count the number of dots in this ten-frame?
- How might we show that there are ten and some more? How might a ten frame help you?

Reflection/Observation Questions:

- What are students saying and doing?
  
- What ideas/strategies did students use?
  
- What ideas/strategies did students share?
  
- What are your next steps to continue the learning from this math routine?

Resources:

- *Number Literacy: What's My Place? What's My Value?* by Debby Head and Libby Pollett, <http://bbypublications.com/products/number-literacy/>
- Illustrative Mathematics, <https://www.illustrativemathematics.org/>.
- *Number Sense Routines: Building Numerical Literacy Every Day* in Grades K-3 by Jessica F. Shumway.
- Lesson plan created by Sophia Burr, K-8 Math Coach, Dinuba Unified School District, <http://dusd.dinuba.k12.ca.us/>.