Culminating TASK: Drop It, Web It, Graph It!

Approximately 2 day (Adapted from Van de Walle activity 5.1)

STANDARDS FOR MATHEMATICAL CONTENT

MCC1.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.

MCC1.MD.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

STANDARDS FOR MATHEMATICAL PRACTICE

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

BACKGROUND KNOWLEDGE

Place value requires the understanding of grouping by tens, and how groups are recorded in our place-value system, how numbers are written, and how they are spoken. We want children to recognize that making groupings of tens and left-overs is a way of counting the same quantity by ones. (Van de Walle, p. 124) This activity is designed to assess the previous concepts taught throughout the unit. This task revisits Dropping Tens and One Minute Challenge concepts and procedures.

ESSENTIAL QUESTIONS

- What is an effective way of counting a large quantity of objects?
- How can we represent a number with tens and ones?
- How does a graph help us better understand the data collected?
- How can we use tally marks to help represent data in a table or chart?

MATERIALS

- Dropping Tens Dot Sticks
- Web It recording sheet

- Data recoding sheet
- Graph It recording sheet

GROUPING

Individual

TASK DESCRIPTION, DEVELOPMENT AND DISCUSSION

Part I
Gather the students together to review Dropping Tens directions. Model with the students how to fill in the Recording Web after the number is determined. Also, review the gathering data process from the One Minute Challenge.
Part II
Give each student a varied amount of dot sticks ranging between 7 and 12 and a recording web to complete. Have the student complete two number webs.
Note: Be aware that students with 11 or 12 dot sticks can potentially have all ones showing. Be prepared to engage students in questions to help determine how many tens and ones they have dropped.
Part III
Have each student choose one number to put on a sticky note to complete the graphing recording sheet.

FORMATIVE ASSESSMENT QUESTIONS

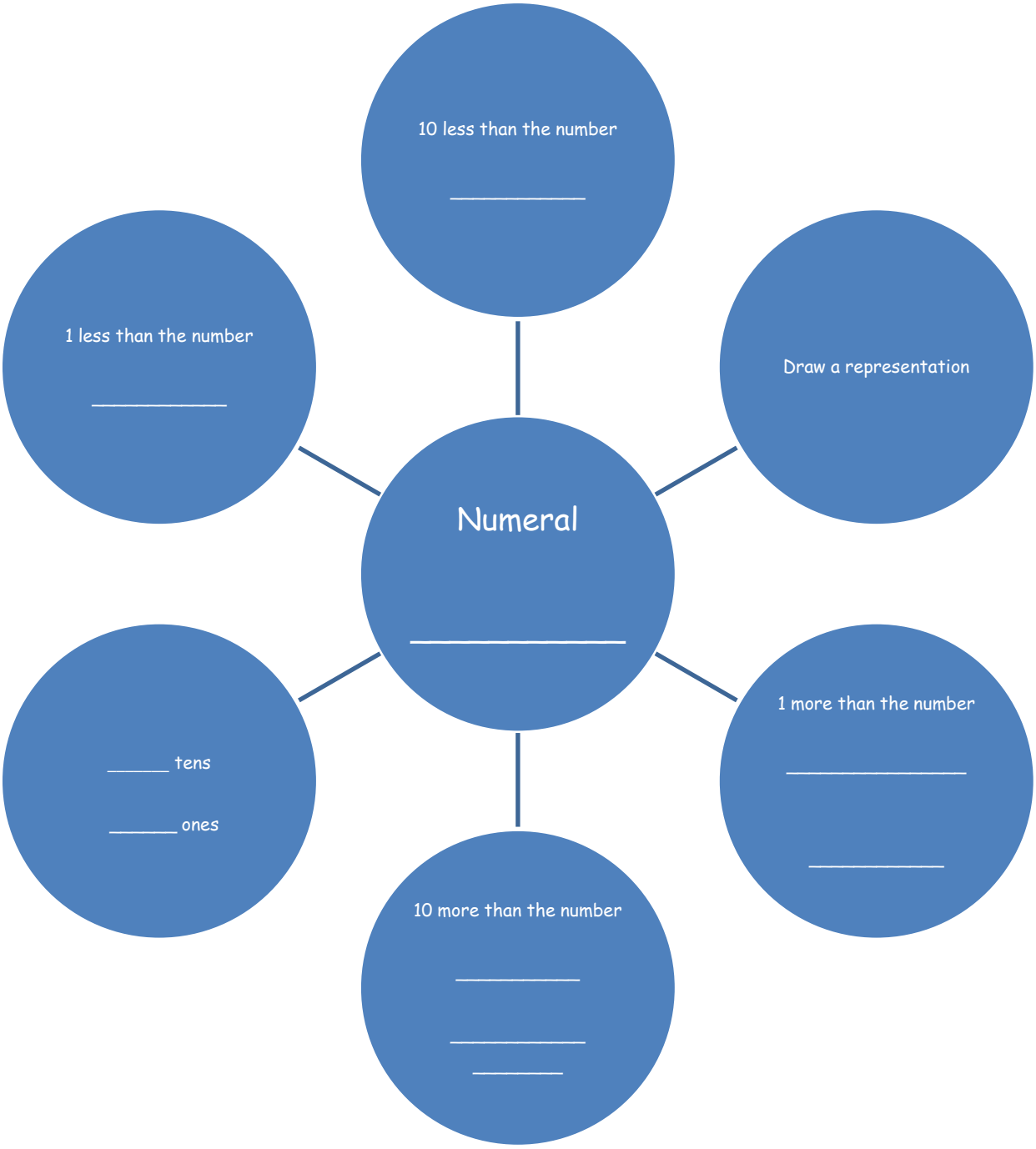
- How many sticks did you drop? How many were tens? How many were ones?
- How can a set of ten be represented?
- How can ones be represented?
- What is the smallest number that could have been made with your dot sticks?
- What is the largest number that could have been made with your dot sticks?
- Which range of numbers was created the most often in the class?
- Which range of numbers was created the least often in the class?

DIFFERENTIATION

Extension
- Have students model and represent the web numbers in multiple representations. (Example: 34 can be represent as 3 tens and 4 ones or 1 ten and 24 ones)

Intervention
- Have the students use fewer sticks to play Dropping Tens.
- Allow students to use bean sticks to represent their number.

Drop It, Web It, Graph It! Name: _____



Drop It, Web It, Graph It! Name: _____

Numbers of Counters	Number of Students
0-9	
10-19	
20-29	
30-39	
40-49	
50-59	
60-69	
70-79	
80-89	
90-99	
100-109	
110-119	

Drop It, Web It, Graph It! Name: _____

15			
14			
13			
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			
	0-39	40-79	80 and some more