Unit 8 : Represent, Count and Write Numbers 20 and Beyond

Content Area: **Mathematics**
Course(s): **Math K**
Time Period: **March**
Length: **10 Days**
Status: **Published**

Unit Summary

In this unit, students will be able to count fluently to 100 by tens and ones. As well as demonstrate their ability to count orally from any given number by ones and tens. Students will use a variety of manipulative to assist with counting and identify number patterns. Students will gain the understanding that numbers are in a sequence order.

Standards

MA.K.CC	Counting and Cardinality
MA.K.CC.A	Know number names and the count sequence.
MA.K.CC.A.1	Count to 100 by ones and by tens.
MA.K.CC.A.3	Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).
MA.K.CC.B	Count to tell the number of objects.
MA.K.CC.B.4	Understand the relationship between numbers and quantities; connect counting to cardinality.
MA.K.CC.B.5	Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1–20, count out that many objects.
MA.K.CC.B.4a	When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.
MA.K.CC.B.4b	Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.
MA.K.CC.B.4c	Understand that each successive number name refers to a quantity that is one larger.
MA.K-12.4	Model with mathematics.
MA.K-12.7	Look for and make use of structure.
CRP.K-12.CRP2	Apply appropriate academic and technical skills.
CRP.K-12.CRP2.1	Career-ready individuals readily access and use the knowledge and skills acquired through experience and education to be more productive. They make connections between abstract concepts with real-world applications, and they make correct insights about when it is appropriate to apply the use of an academic skill in a workplace situation.
TECH.8.1.2.A.CS1	Understand and use technology systems.
TECH.8.1.2.A.CS2	Select and use applications effectively and productively.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 × 8 equals the well remembered 7 × 5 + 7 × 3, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2 × 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

Student Learning Objectives

Students will be learn to...

- model and count 20 with objects.
- represent 20 objects with a number name and a written numeral.
- count forward to 100 from a given number.
- know the count sequence when counting to 100 by ones.
- know the count sequence when counting to 100 by tens.
- use sets of tens to count to 100.

Essential Questions

- How can you show, count, and write numbers to 20 and beyond?

Enduring Understandings

Students will understand that...

- numbers are all around us.
- numbers are necessary in day to day living.

- they can count to 100 by ones and tens.

Application

Students will be able to independently use their learning to…

- count to 100 by ones, starting from 0 or any number.
- count to 100 by tens.

Skills

Students will be skilled at...

- orally counting to 100 by ones from any given number.
- orally counting to 100 by tens.
- using ten frames and connecting cubes to model 20.
- writing the missing numbers in the number sequence 0-20.
- counting a group of 20 objects.
- representing and writing the number 20.
- using a number grid to located number patterns.