

First Grade Math Skills

Add and subtract within 20:

- Relate counting to addition and subtraction (counting on and counting back)
- Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 using strategies (complements of 10, fact families, doubles, doubles +1)

Work with addition and subtraction equations:

- Understanding the meaning of the equal sign and determine if equations involving addition and subtraction are true or false ($6=6$, $7=8-1$, $5+2=2+5$, $4+1=5+2$)
- Determine the unknown whole number in an addition or subtraction equation relating three whole numbers ($8+?=11$, $5=?-3$, $6+6=?$)

Represent and solve problems involving addition and subtraction:

- Use addition and subtraction within 20 to solve word problems with unknowns in all positions (result, change and start)
- Solve word problems that call for the addition of 3 whole numbers whose sum is less than or equal to 20

Understand and apply properties of operations and the relationship between addition and subtraction:

- Apply properties of operations as strategies to add and subtract
 - Commutative Property of Addition ($8+3=11$ and $3+8=11$); fact families
 - Associative Property of Addition ($2+6+4=2+10=12$)
 - Understand subtraction as an unknown addend problem (Solve $10-8=2$ by counting up)

Extend the Counting Sequence:

- Count to 120 starting at any number less than 120
- Read and write numerals to 120 to represent objects

Understand Place Value

- Understand that the two digits of a two-digit number represent amounts of tens and ones.
 - 10 can be thought of as a bundle of 10 ones
 - The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - The numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones)
- Compare two digit numbers based on meanings of tens and ones digits, recording the results of comparisons with symbols $>$, $=$, $<$

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

- Add within 100 using concrete models or drawings and strategies based on place value
 - Add a 2-digit number and a 1-digit number ($46 + 3$)
 - Add a 2-digit number and a multiple of 10 ($34 + 20$)
 - Communicate the strategy used through numbers, pictures, symbols, and/or words
- Given a 2-digit number, mentally find 10 more or 10 less than the number without having to count; explain the reasoning used
- Subtract multiples of 10, in the range 10 to 90, from other multiples of 10 from 10 to 90 ($60 - 20 = 40$) using concrete models or drawings and strategies based on place value
 - Communicate the strategy used through numbers, pictures, symbols, and/or words

Measure lengths indirectly and by repeating length units:

- Order three objects by length and compare them using a third object
- Express the length of an object as a whole number of length units by laying multiple copies of a shorter object end to end with no overlaps or gaps

Tell and write time:

- Tell and write time in hours and half-hours using analog and digital clocks

Represent and interpret data:

- 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?
 - How many more or less are in one category than in another?

Reason with shapes and their attributes:

- Distinguish between defining attributes (triangles are closed and 3-sided) versus non-defining attributes (color, orientation, size)
- Build and draw shapes to possess defining attributes
- Compose (build) and decompose (take-apart) a 2 or 3-dimensional shape by using 2 or more shapes
- Divide circles and rectangles into two and four equal shares
 - Describe the shares using the **words** halves, fourths and quarters
 - Use the phrases half-of, fourth-of, and quarter-of the whole
 - Understand that more equal shares create smaller shares

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