

Math Topic: Representing Teen Numbers

Grade Level(s): 1,2

Learning Outcomes: A1, A3,A4,A5,A8,A9,A10 / A1,A4,A5,A9,A10

Context of Lesson within the unit: Combining numbers to get over 10 into the teen numbers

Materials: Book: Lots of Spots by Lois Elhert, Teen Number mats, number line, crayons, pencil, coloured photocopies of some animals with a few spots

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Lesson Ideas:

Share Learning Intention: I can draw, write and order teen numbers in spotty stories

Warm-up or review of concepts: Use number lines, 10-frame cards to count to 10 or other manipulatives to count to 10. Continuing counting and noticing patterns in our number system above 10 to 20. Show these numbers with manipulatives and on the number line.

1. Activity with many levels of entry introduced and practiced: Read the book – Lots of Spots and discuss different ways to count (5 counting principles, forwards, backwards, counting on, by 2s, by 5s)
2. Establish Criteria for Success (teacher modeling): “I can follow and count as the teacher shows 2 animals with spots, adds them together to a “teen” number and draws, orders and writes a story problem. “
ex. the flicker (9 spots) + buckeye butterfly (6 spots) = 15 spots
3. **You will know you fully understand the concept when you can (student practice):** pick 2 animals, count their sets of spots, add them together to a “teen” number and draw, order and write a corresponding story problem. ***Higher numbers of spots can be used for students when they are ready for it.
4. Activity continued: Pick 2 other animals whose spots add to a teen number and complete the teen number mat.
5. Reflection: Self assessment based on criteria and learning intention. (see example of student work)
6. Ticket out the door: Question that links to the learning intention

What number did you have fun writing about today?

Lesson Review:

- Did I connect the concept to previous experiences?
- Did I provide individual choice?
- Was there an open-ended task?
- Was it possible to enter the task from a variety of levels?
- Was time provided for ‘Turn and Talk’ for sharing of strategies and perspectives?

NUMBER

General Outcome: Develop number sense.

Prescribed Learning Outcomes	Suggested Achievement Indicators
<i>It is expected that students will:</i>	<i>The following set of indicators may be used to assess student achievement for each corresponding prescribed learning outcome. Students who have fully met the prescribed learning outcome are able to:</i>
A1 say the number sequence, 0 to 100, by - 1s forward and backward between any two given numbers - 2s to 20, forward starting at 0 - 5s and 10s to 100, forward starting at 0 [C, CN, V, ME]	<input type="checkbox"/> recite forward by 1s the number sequence between two given numbers (0 to 100) <input type="checkbox"/> recite backward by 1s the number sequence between two given numbers <input type="checkbox"/> record a given numeral (0 to 100) symbolically when it is presented orally <input type="checkbox"/> read a given numeral (0 to 100) when it is presented symbolically <input type="checkbox"/> skip count by 2s to 20 starting at 0 <input type="checkbox"/> skip count by 5s to 100 starting at 0 <input type="checkbox"/> skip count forward by 10s to 100 starting at 0 <input type="checkbox"/> identify and correct errors and omissions in a given number sequence

A3 demonstrate an understanding of counting by - indicating that the last number said identifies "how many" - showing that any set has only one count - using the counting on strategy - using parts or equal groups to count sets [C, CN, ME, R, V]	<input type="checkbox"/> answer the question, "How many are in the set?" using the last number counted in a given set <input type="checkbox"/> identify and correct counting errors in a given counting sequence <input type="checkbox"/> show that the count of the number of objects in a given set does not change regardless of the order in which the objects are counted <input type="checkbox"/> count the number of objects in a given set, rearrange the objects, predict the new count, and recount to verify the prediction <input type="checkbox"/> determine the total number of objects in a given set, starting from a known quantity and counting on <input type="checkbox"/> count quantity using groups of 2s, 5s, or 10s and counting on
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Prescribed Learning Outcomes	Suggested Achievement Indicators
A4 represent and describe numbers to 20 concretely, pictorially, and symbolically [C, CN, V]	<input type="checkbox"/> represent a given number up to 20 using a variety of manipulatives, including ten frames and base ten materials <input type="checkbox"/> read given number words to 20 <input type="checkbox"/> partition any given quantity up to 20 into 2 parts and identify the number of objects in each part <input type="checkbox"/> model a given number using two different objects (e.g., 10 desks represents the same number as 10 pencils) <input type="checkbox"/> place given numerals on a number line with benchmarks 0, 5, 10, and 20
A5 compare sets containing up to 20 elements to solve problems using - referents - one-to-one correspondence [C, CN, ME, PS, R, V]	<input type="checkbox"/> build a set equal to a given set that contains up to 20 elements <input type="checkbox"/> build a set that has more, fewer, or as many elements as a given set <input type="checkbox"/> build several sets of different objects that have the same given number of elements in the set <input type="checkbox"/> compare two given sets using one-to-one correspondence and describe them using comparative words, such as more, fewer, or as many <input type="checkbox"/> compare a set to a given referent using comparative language <input type="checkbox"/> solve a given story problem (pictures and words) that involves the comparison of two quantities

<p>A8 identify the number, up to 20, that is one more, two more, one less, and two less than a given number. [C, CN, ME, R, V]</p>	<ul style="list-style-type: none"> <input type="checkbox"/> name the number that is one more, two more, one less, or two less than a given number, up to 20 <input type="checkbox"/> represent a number on a ten frame that is one more, two more, one less or two less than a given number
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Prescribed Learning Outcomes	Suggested Achievement Indicators
<p>A9 demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially, and symbolically by</p> <ul style="list-style-type: none"> - using familiar and mathematical language to describe additive and subtractive actions from their experience - creating and solving problems in context that involve addition and subtraction - modelling addition and subtraction using a variety of concrete and visual representations, and recording the process symbolically <p>[C, CN, ME, PS, R, V]</p>	<ul style="list-style-type: none"> <input type="checkbox"/> act out a given story problem presented orally or through shared reading <input type="checkbox"/> indicate if the scenario in a given story problem represents additive or subtractive action <input type="checkbox"/> represent the numbers and actions presented in a given story problem by using manipulatives, and record them using sketches and/or number sentences <input type="checkbox"/> create a story problem for addition that connects to student experience and simulate the action with counters <input type="checkbox"/> create a story problem for subtraction that connects to student experience and simulate the action with counters <input type="checkbox"/> create a word problem for a given number sentence <input type="checkbox"/> represent a given story problem pictorially or symbolically to show the additive or subtractive action and solve the problem
<p>A10 describe and use mental mathematics strategies (memorization not intended), such as</p> <ul style="list-style-type: none"> - counting on and counting back - making 10 - doubles - using addition to subtract to determine the basic addition facts to 18 and related subtraction facts [C, CN, ME, PS, R, V] 	<p><i>(It is not intended that students recall the basic facts but become familiar with strategies to mentally determine sums and differences.)</i></p> <ul style="list-style-type: none"> <input type="checkbox"/> use and describe a personal strategy for determining a given sum <input type="checkbox"/> use and describe a personal strategy for determining a given difference <input type="checkbox"/> write the related subtraction fact for a given addition fact <input type="checkbox"/> write the related addition fact for a given subtraction fact

NUMBER

General Outcome: Develop number sense.

Prescribed Learning Outcomes	Suggested Achievement Indicators
<i>It is expected that students will:</i>	<i>The following set of indicators may be used to assess student achievement for each corresponding prescribed learning outcome.</i> <i>Students who have fully met the prescribed learning outcome are able to:</i>
A1 say the number sequence from 0 to 100 by – 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5, and 10 respectively – 10s using starting points from 1 to 9 – 2s starting from 1 [C, CN, ME, R]	<input type="checkbox"/> extend a given skip counting sequence (by 2s, 5s, or 10s) forward and backward <input type="checkbox"/> skip count by 10s, given any number from 1 to 9 as a starting point <input type="checkbox"/> identify and correct errors and omissions in a given skip counting sequence <input type="checkbox"/> count a given sum of money with pennies, nickels or dimes (to 100¢) <input type="checkbox"/> count quantity using groups of 2s, 5s, or 10s and counting on
A4 represent and describe numbers to 100, concretely, pictorially, and symbolically [C, CN, V]	<input type="checkbox"/> represent a given number using concrete materials, such as ten frames and base ten materials <input type="checkbox"/> represent a given number using coins (pennies, nickels, dimes, and quarters) <input type="checkbox"/> represent a given number using tallies <input type="checkbox"/> represent a given number pictorially <input type="checkbox"/> represent a given number using expressions (e.g., $24 + 6$, $15 + 15$, $40 - 10$) <input type="checkbox"/> read a given number (0–100) in symbolic or word form <input type="checkbox"/> record a given number (0–20) in words
A5 compare and order numbers up to 100 [C, CN, R, V]	<input type="checkbox"/> order a given set of numbers in ascending or descending order and verify the result using a hundred chart, number line, ten frames or by making references to place value <input type="checkbox"/> identify errors in a given ordered sequence <input type="checkbox"/> identify missing numbers in a given hundred chart <input type="checkbox"/> identify errors in a given hundred chart
A9 demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by – using personal strategies for adding and subtracting with and without the support of manipulatives – creating and solving problems that involve addition and subtraction – explaining that the order in which numbers are added does not affect the sum – explaining that the order in which numbers are subtracted may affect the difference [C, CN, ME, PS, R, V]	<input type="checkbox"/> model addition and subtraction using concrete materials or visual representations and record the process symbolically <input type="checkbox"/> create an addition or a subtraction number sentence and a story problem for a given solution <input type="checkbox"/> solve a given problem involving a missing addend and describe the strategy used <input type="checkbox"/> solve a given problem involving a missing minuend or subtrahend and describe the strategy used <input type="checkbox"/> match a number sentence to a given missing addend problem <input type="checkbox"/> match a number sentence to a given missing subtrahend or minuend problem <input type="checkbox"/> add a given set of numbers in two different ways, and explain why the sum is the same, (e.g., $2 + 5 + 3 + 8 = (2 + 3) + 5 + 8$ or $5 + 3 + (8 + 2)$)

Prescribed Learning Outcomes	Suggested Achievement Indicators
<p>A10 apply mental mathematics strategies, such as</p> <ul style="list-style-type: none"> - using doubles - making 10 - one more, one less - two more, two less - building on a known double - addition for subtraction <p>to determine basic addition facts to 18 and related subtraction facts [C, CN, ME, R, V]</p>	<ul style="list-style-type: none"> <input type="checkbox"/> explain the mental mathematics strategy that could be used to determine a basic fact, such as <ul style="list-style-type: none"> - doubles (e.g., for $4 + 6$, think $5 + 5$) - doubles plus one (e.g., for $4 + 5$, think $4 + 4 + 1$) - doubles take away one (e.g., for $4 + 5$, think $5 + 5 - 1$) - doubles plus two (e.g., for $4 + 6$, think $4 + 4 + 2$) - doubles take away two (e.g., for $4 + 6$, think $6 + 6 - 2$) - making 10 (e.g., for $7 + 5$, think $7 + 3 + 2$) - building on a known double (e.g., $6 + 6 = 12$, so $6 + 7 = 12 + 1 = 13$) - addition to subtraction (e.g., for $7 - 3$, think $3 + ? = 7$) <input type="checkbox"/> use and describe a personal strategy for determining a sum to 18 and the corresponding subtraction