**1st Grade Singapore Math**

**Subtraction**

**Summary:** In this domain, students will be introduced to the concept of subtraction through the construction of subtraction stories. Students will be able to write number sentences using pictures and number bonds. Students will be introduced to the counting back method, and begin working toward automaticity.

**The Big Idea:** Subtraction means taking apart a whole to find a missing part.

**Colorado State Standards:**

1.1.2.a. Use addition when putting sets together and subtraction for breaking sets apart or describing the difference between sets

1.1.2.b. Use number relationships such as doubles, one more or one less, and the relationship between composing and decomposing to solve addition and subtraction problems

1.1.2.d. Demonstrate fluency with basic addition and related subtraction facts through sums to 10

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| 1.2.2.a. Use number relationships such as doubles, or plus or minus one to solve problems  1.2.2.b. Use the inverse relationship between adding and subtracting to solve problems |

2.1.2.c. Create stories and models, including linear and difference, to illustrate addition and subtraction

4.2.1.d. Find the unknown in simple equations

**Common Core Standards**:

**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 10 in 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 used.

**1. OA 1.** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**1. OA 3.** Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12. (Associative property of addition.)

**1. OA 4.** Understand subtraction as an unknown addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.

**1. OA 5.** Relate counting to addition and subtraction (e.g., by counting on 2 to add 2).

**1 . OA 6.** Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., 8 +6 = 8 + 2 + 4 = 10 + 4 = 14**);** decomposing a number leading to a ten(e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 =9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8= 4); and creating equivalent but easier or known sums (e.g., adding 6 +7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13).

**1. OA 7.** Understand the meaning of the equal sign, and determine if equations involving addition and subtraction are true or false. For example, which of the following equations are true and which are false? 6 = 6, 7 = 8 - 1, 5 + 2 = 2 + 5, 4 + 1 = 5 + 2.

**1. OA 8.** Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations 8 + ? = 11, 5 = \_\_ - 3, 6 + 6 = \_\_.

**Singapore Unit:**

1. Subtraction Within 10
2. Subtraction
3. Subtraction Sentences
4. Subtraction Stories
5. Subtraction with Number Bonds
6. Subtraction Facts
7. Other Methods of Subtraction (Count back strategy)

**Core Knowledge Language Arts:**

I. Listening and Speaking

A. Presentation of Ideas and Information

* Follow multi-step, oral directions.
* Provide simple explanations.

**Previous Unit:** Addition Within 10

**Prior Knowledge:**

Kindergarten

* Counting the whole and finding the missing part
* Solving subtraction sentences under 10 using pictures
* Showing the parts of a number sentence with pictures
* Writing a subtraction number sentence from a picture

**Next: Unit:** Ordinal Numbers

**What Students will Learn in Future Grades:**

Second Grade

* Meanings of Subtraction
* Subtraction Without Renaming
* Subtraction With Renaming
* Finding the Missing Number
* Methods for Mental Subtraction

**Cross Curricular Links:**

Language Arts

I. Phonics

* Phonograms are parts of whole words
* Syllables are parts of whole words

II. Grammar

* Parts that make up a whole sentence

**Additional Resources:**

For Teachers:

* *Singapore Standard Edition Primary Mathematics Extra Practice,* Tay Choon Mong
* *New Enrichment Mathematics for Primary,* Pan Pacific Publications, Pauline Ong
* *Know Your Maths: Topical Exercises for Primary One*, Tinoh Chan