



MINISTRY  
OF  
EDUCATION, YOUTH & INFORMATION  
*Every Child Can Learn, Every Child Must Learn*



# **NATIONAL MATHEMATICS PROGRAMME**

## **RESOURCE DOCUMENT**

FOR GRADE ONE TEACHERS

**Objective:** Associate the addition of up to three numbers with the joining of sets.

**Topic:** Adding Three Numbers - Train

Provide students with counters (links preferably) of three different colors, addition cards and an Addition Mat. The apparatus could look like the image below.



Hold up a card (for a whole group demonstration) or record the task on the board: For example  $6 + 2 + 4$ . Have students first select 6 red, 2 blue and 4 yellow counters at their tables. Then have students assist the teacher in determining the total of all three sets.

The teacher will then go through the task, this time recording the numbers in a number sentence. Hence as she identifies the number of red counters with the help of the students, she will record 6 in the first slot of her number sentence and so on. Following this, the teacher will again solicit from the students the total number of counters. The teacher will perform three or more whole group examples before allowing students to work in pairs.

In their small groups, students will be given five cards with addition tasks to complete using their supply of coloured counters and addition mats. At the end of the exercise, have students use the specified counters (in the example below:  $1 + 2 + 5$ ) and create their own addition train.



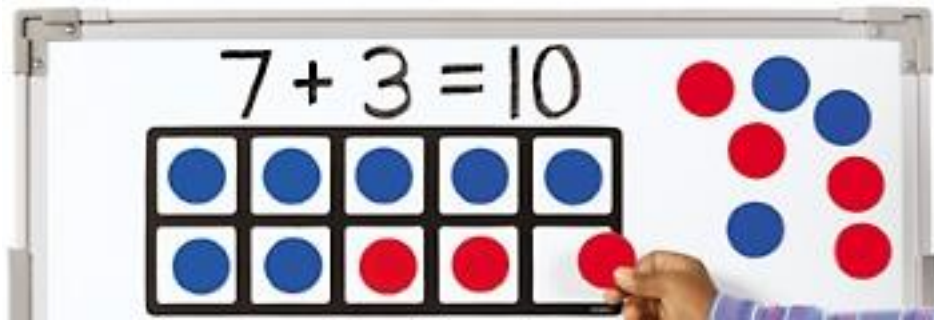
Figure 1: Addition Train

**Objective:** Associate the addition of up to three numbers with the joining of sets.

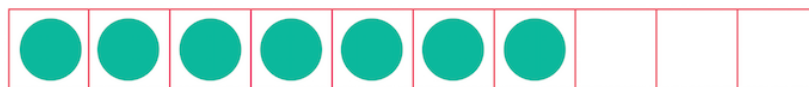
**Topic:** Ten Frame and Number Bond

Help students to solidify their understanding of a concept by taking them through activities that develop their fluency with Concrete, Pictorial, and Abstract representations of a given task: CPA.

Students can work with a variety of manipulatives: (commercial or otherwise). In this example, the student used counters with the Ten Frames. Once students are comfortable working with manipulatives, like the counters and Ten Frame, they can move on to writing Number bonds. To assist students in building this 'pictorial' skill, encourage students to begin the task with the Ten Frame and then *transfer* the information to the Number bond.



*Note:* The above information can be presented in a way that promotes meaningful discussions. The teacher can opt to demonstrate the transference using blue and red counters (as seen above) or she could use one colour for the first set (7 as seen below) and ask the students to determine the missing set (3). In other words - 'how many chips will I need to make 10?'



They would transfer the information to the number bond as below. Once students are comfortable using the number bond they may be observed replacing their use of counters for other methods such as *strokes* to determine the solution.

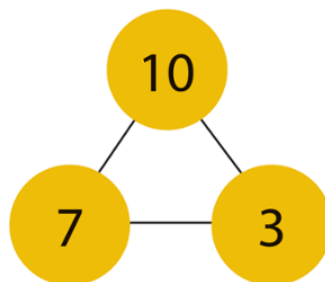


Figure 2: Number Bond

The teacher would determine an appropriate time to introduce abstract representations. Once students have mastered the creation of number bonds independent of using manipulatives, they would be considered ready to move to abstract representations. Ask students, “How would you write a number sentence based on the number bond?”

Then in order to emphasize the relationship that exists between addition and subtraction, the teacher could challenge the students to determine other ways of recording the same number bond information – in an abstract form: “Can you write a different number sentence from that number bond?”

The four number sentences related to the number bond above are:

$$7 + 3 = 10 \quad 3 + 7 = 10 \quad 10 - 3 = 7 \quad 10 - 7 = 3$$

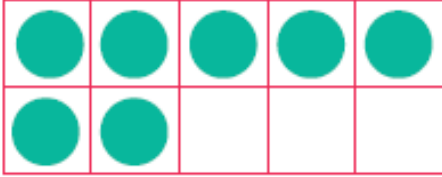

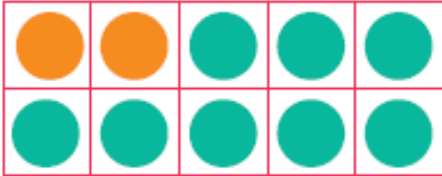

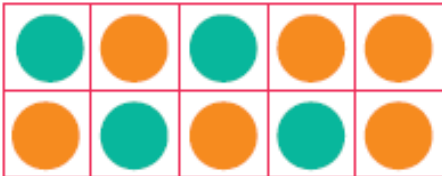

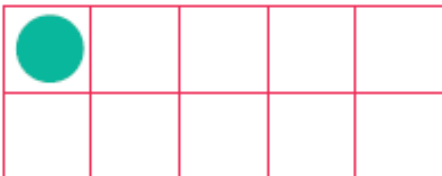

**Objective:** Associate the addition of up to three numbers with the joining of sets.

**Topic:** Ten Frame and Number Bond

Name \_\_\_\_\_ Date \_\_\_\_\_

## Ten-Frame Activities

**Directions:** Use the ten-frame model to write a number bond. Then write two addition and two subtraction equations that number bond could represent. Each color counter represents an addend.

		$\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$ $\underline{\quad} - \underline{\quad} = \underline{\quad}$
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**Objective:** Associate the addition of up to three numbers with the joining of sets.

**Topic:** Grab Sort and Add

- Place counters of three different colours into a container.
- Have students reach into the bucket with one hand and grab a handful of counters. Have them sort the counters into three piles by colour.
- Next, they put the cubes on their ten frames mat without leaving any spaces between the colours to show what number they made.
- Then, they write the number sentence they made and copy it onto their recording sheet
- Wipe off, and do it again.
- Having the different coloured cubes and ten frames will really help them internalize the concept.



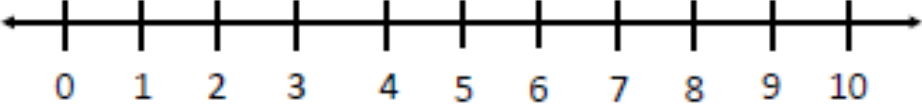
For further information, see <http://missgiraffeclass.blogspot.com/2014/12/adding-3-numbers.html>

**Objective:** Use +, -, =, ≠ Correctly to complete mathematical sentences


**Topic:** Numberline Tasks

Name \_\_\_\_\_ Date \_\_\_\_\_

# Addition



0 1 2 3 4 5 6 7 8 9 10



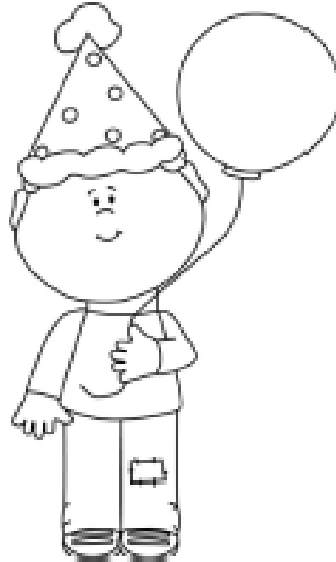
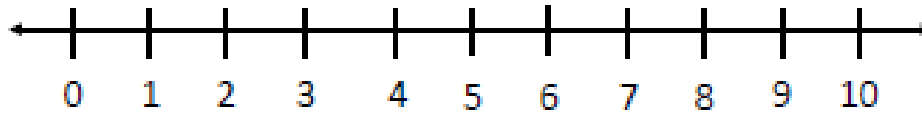
Andy likes to catch frogs. He caught six little frogs and three big frogs. How many frogs did he catch in all?

Ten Frame	Equation      Sum
<div style="position: absolute; top: 0; left: 0; right: 0; bottom: 0; border: 1px solid black; border-style: dashed;"> <!-- Empty ten frame grid --> </div>	<div style="font-size: 2em; margin-bottom: 10px;">_____ + _____ = _____</div>

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 Graphics by: [www.mycutegraphics.com](http://www.mycutegraphics.com)

Name \_\_\_\_\_ Date \_\_\_\_\_

# Subtraction



Kevin had a birthday party. He had ten balloons. He gave away seven. How many balloons does he have left?

Ten Frame									

Equation	Difference
_____ - _____ = _____	

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