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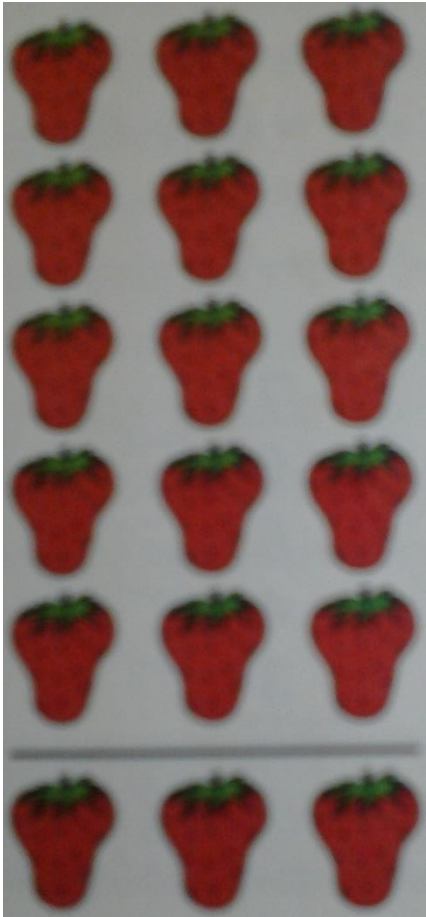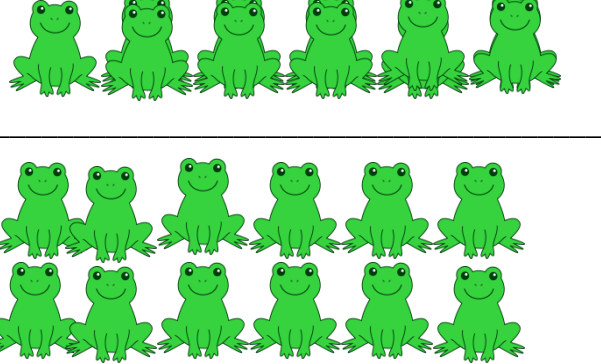Every Child Can Learn, Every Child Must Learn

MATH COUNTS

Mathematics Planning Template

Week	Topics/Objectives	Main concepts	Teaching/learning activities	Assessment/Homework activities
Feb 29 to Mar 1 - 4	a. Join sets and tell how many members (repeated addition) b. Develop array to show multiplication facts	Repeated addition Equal groups Joining Groups of Sets of Product Multiplied by Times Rows Columns Array	1. Have students conduct an investigation with money. Allow them to work with partners to determine the amount of money in sets of piggy banks. Provide partners with about 50 $1 coins, then pose the following problem: *"Mrs. Jones brought each of her 7 children a brand new piggy bank. She went to the bank to get enough $1 coins to put 5 $1 coins in each of their piggy banks. How many $1 coins did she need?"* 2. Have students work together to solve the problem using their coins, and then allow them to share their solutions	Obj. a 1. **Resource Document 2** (Allow students to use array to solve problem)

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			with the class. Engage the students with the following probing questions: a) How many piggy banks did she have? b) How did you find the total number of coins needed? c) After you placed the coins in the bank, did you count all of the coins to find the total? Were there other ways you might have found the total? d) Did anyone skip-count to find the total? Which way would be faster, skip-counting or counting all of the coins? Allow students to justify their answers. e) Did anyone add to find the total number of coins? Why would addition work to solve the problem? f) From the established repeated addition sentence, guide students in writing the multiplication sentence $7 \times 5 = 35$ as you verbalize "7groups of 5 coins is \$35" or "7piggy bank with 5 \$1 coins in each bank is \$35 total coins." 3. Have students model the following problem type and then have them write an addition and multiplication number sentence to represent same: *"Peter has 2 bags with 3 cookies in each bag. How many cookies does Peter have?"* 4. Help students understand the meaning of each number as they join the sets, that is "3" represents the number of cookies in each bag, whereas the "2" stands for the number of bags. The answer "6" represents the total number of cookies in both bags. Therefore, helping students to see part – whole relationship hence in the equation $2 \times 3 = 6$, the '3' tells the number of parts and the '6' represents the whole.	
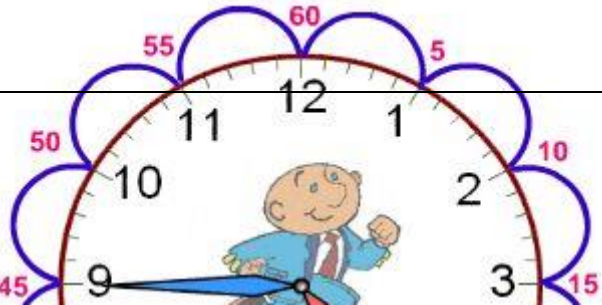
Week	Topics/Objectives	Main concepts	Teaching/learning activities	Assessment/Homework activities
			5. Engage students in **Fishbowl Multiplication Game (see resource document 1)** 6. The picture above shows 6 groups of 3 strawberries separated into 5 groups of 3 and 1 group of 3. Allow the child to verbalize:	**Obj. b**

Week	Topics/Objectives	Main concepts	Teaching/learning activities	Assessment/Homework activities
			"I know that 5 threes is 15 and 1 more group of 3 is 18, so 6 groups of 3 is 18 and $6 \times 3 = 18$." 7. Show students 3 groups of 7 objects and have them write a number sentence for the display. **(See resource document 3 for further development of concept)** 8. Using comparison problems involving two quantities, engage students in activities that will help them to describe *how many times as much* one quantity is compared to another quantity. For e.g.: *"Maria has3 oranges. Tony has 2 times as many oranges as Maria does. How many oranges does Tony have?"*	1. Engage students in activities with arrays that already are split in half; have them write (or orally state) a number sentence for each half and then for the total. Also give students arrays of 4, 6 and 8, and ask them to split each array in half and write number sentences for each part and total. **(see resource document 5 with graph highlighting further development)**

Week	Topics/Objectives	Main concepts	Teaching/learning activities	Assessment/Homework activities
			_____ 9. Examining the frogs in the picture above, since 2 groups of six (2 sixes) is 12, 4 groups of six (4 sixes) is twice as much, which is 24. When at least one of the factors is even, the product may be split into two equal parts.	
Mar 7 - 11	c. Solve problems with addition and subtraction using	• Degree Celsius • Gram	**Activity 1** Allow students to handle graph paper cut-outs of 10 millimetre,	**Obj. c** Supermarket scenario. (**See resource**

	measurement (horizontal and vertical form)	• Kilogramme
		• Metre
		• Centimetre
		• Millimetre
		• Decimetre
		• Subtraction
		• Addition
			100 centimetre, 10 decimetres and 1 metre strips. Then allow students to explore how many of each unit makes another by covering the surface of one unit by a smaller unit and repeat the process up to a metre. Then have students complete the Fact Sheet (**see resource doc., page 1**).
			  1. Allow students to subtract decimetres from metres.
			  2. Allow students to add by seeing how many millimetres make 2 cm etc.
			
			Activity 2
			Take a thermometer to class along with three containers. Each container will have water of different temperature – ice water, room temperature, luke warm water. Allow students to add and subtract in degrees Celsius the different readings of the thermometer when the thermometer is dipped in the various containers with water.
			
			Activity 3
			Up & Down the Meter Rule Race (Game)
			Players: 2-4
			Materials: Meter Rule, score sheet and two dice of different colour.
			Preparation: Students should understand the number of mm that make 1 cm.
			Procedure:
			  ✚ One colour die will represent tens and the other ones.
			  ✚ Each player will take turns to roll the dice and record their number. Eg. If the child rolls 2 tens and 6 ones. This will be read as: 26 mm. The child will count the result on the meter rule. When the child records this on the score sheet however, this will be 2 cm and 6 mm. When the child rolls again he will add his current result to his last. So if he rolls 48 mm, he will count on from 2 cm and 6 mm to 7 cm and 4 mm.)
				doc., page 2)
				
				Questions
				a. If john takes up 21 bottles of water with each containing 1 litre and returns 7 bottles to the shelf. How many litres of water did he take?
				
				b. How long did it take John to shop? His breakdown of time is as follows:
				  5 minutes to get the water
				  3 minutes to select his brand of bread
				  4 minutes to find the chicken
				  1 minute to get tin milk
				  4 minutes to find the soap and
				  3 minutes to checkout
				
				c. What was his shortest route to complete shopping?
				
				d. How many metres more would John have to travel if he took the longer route?
				
				e. John average step was a metre in length. If John should take a half of a step, how many centimetres would that be?
				
				f. John noticed two thermometers in the supermarket. One at the entrance that read 29 °C and another close to the chicken that read 3 °C. What is the difference in temperature?

			- Once a player reaches 100 cm at the top of the meter rule, each subsequent roll will take the player down the meter rule. Hence, the child will be taking the difference from his last result. - The first child to make it up and down the meter rule will be declared the winner.	g. If John were to wait on cashiers 2 and 4 to return from lunch, it would have taken him 35 minutes to checkout. How much time did he save by going to cashier 1? h. What is the mass of a tin milk and a bar of soap?
Mar 14 – 18	d. Compare events that occur in 5 and 15 minutes intervals	orientation in reading clock	**Activity 1** Engage students in a conversation about their favourite TV programmes and allow them to state the times that these programmes are aired. Let them state or estimate the length of these programmes. Also, let them state or estimate the number of commercial breaks and their lengths in minutes and the frequency in which they occur. **Activity 2** Allow students to compare events by directing their thoughts to estimating how long it would take them to sing a song, to sweep the yard, to wash their school uniforms, to clean their rooms etc. Then let them see on a clock that there are 60 minutes. And that every line inside the clock shows a minute. Also, a longer line is drawn every 5 minutes (**see Figure 1**). Help them to see that some things can be done in a short space of time while others will take longer time. 	**Obj. d 1.** Assign students homework where they will note the duration of their favourite TV programme in a template. Then present their findings in class. Students will get a chance to colour the time intervals on a clock. (**see resource document, page 3**) eg.

|				
			Figure 1 **Activity 3** Take a class a laptop and a projector, if possible. And engage students in an interactive website http://www.time-for-time.com/swf/myclox.swf that will allow them to recognise how a long is a second and a minute. They will be able to see analogue and digital time as well as add and subtract minutes.	**Obj. d 2.** Give students an assignment to keep a journal where they will record activities that can be done reasonably well in 5 minutes and 15 minutes. They will keep track of these activities for a week and they present in class.
Mar 21 - 23	e. Tell time using calendar	Day Week Month Year	**Activity 1** By producing a similar image as Figure 2, allow students to see that there are 24 hours in one day. Let them look at **Time Line 1** to see some of the activities that they might do in a day. Allow them to suggest others **(see resource doc)**.	**Obj. e 1.** Allow students to recognise how they spend their days by completing **Time Line 2** with pictures and words descriptors **(see resource doc)**. **Obj. e 2.** Allow students to do a project where they will create a calendar with all the Jamaican holidays.
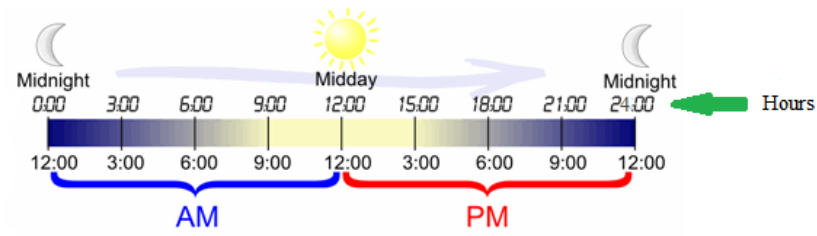
Figure 2

Activity 2

Part1
Allow students to use a crayon to colour the first seven days of the week on **Leon's Month (see resource document)**. Then allow them to review
 ordinal numbers by colouring the 2nd, 3rd and 4th weeks using different colour crayons. Let them recognise that 7 days makes a week and a month is made up of 4 weeks and approximately 30 days. Explore whether the remaining days on the calendar can be classified as a week and use a different colour crayon to colour them.

Part 2
Reprint Leon's Month and allow them to colour 4 weeks with each week having a different colour starting from any other day than Sunday. Then engage them in rich discussion.

Eg.
 Wednesday the 4th to Tues the 10th

Questions
a. Does the first Sunday in every month always begin at the

number 1?
b. If you were to point at Thursday 12th in the 2nd week and move your finger down to the 3rd week, you would have added 7 days to 12 days which would give you 19 days. Is this the end of the week or the beginning of a new week?

Activity 3
Allow students to circle their birthdays on last year's calendar and this current year calendar. Have them observe all the days, weeks, and months that transpired in between. Engage them in a rich discussion for them to discover that their last birthday to their next birthday is one year (**see resource document**, or visit http://www.timeanddate.com/calendar to customise and print your own calendars)
Students can also commit to memory the number of days in each month by learning the a poem (**See resource document**)