Foundations For Learning

Foundation Phase Numeracy Lesson plans

Fourth term

Grade 2

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FOURTH TERM OVERVIEW

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Counting: Whole Class	Daily rote counting to 200									
	Daily rational counting using abacus, number lines, number grids etc.									
	Rational counting in 1s, 2s, 5s, 10s forwards and backwards, starting and stopping at any number 1 to 100				Daily rational counting in 2s, 5s and 10s from 100 to 200 Daily rational counting in 2s, 5s and 10s starting and stopping at any number from 100 to 200					
	Counts out objects to 50 to 100		Counts out objects in pictures				Counts out objects in pictures			
	Counts on in 1s from 1 to 100		Counts on in 1s from 100 to 200							

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Concept Develop ment and Number Sense	Builds up concept of numerosity of numbers to 100									
	Place value of 2 digit numbers using flard cards. Expanded notation of 2 digit numbers									
	Double and halve 2 digit numbers, practically and written									
	Add and subtract a single digit number to a two-digit number			Addition and subtraction of two 2 digit numbers						
	Fractions		Building up to, or breaking down to, a whole 10	Build up and break down 3-digit numbers						
	Repeated addition leading to multiplication			Calculates multiplication of a 2-digit by a 1 digit number						
	Recognises and completes given number patterns as well as patterns in the environment.									
	Calculates time in hours and minutes			Estimates, measures and compares length		Estimates, measures and compares length		Estimates, measures and compares length		Time
			Positional relationships				Positional relationships			Positional relationships
			Collects and sorts data according to given criteria and draws graphs						Analyses data	
	Problem solving. Work with 3 ability groups at their own level. 4 different word problem types done every week during group teaching time.									

THE ASSESSMENT FRAMEWORK

	ACTIVITIES THAT WILL BE USED FOR ASSESSMENT		
	COUNTING	CONCEPT DEVELOPMENT	PROBLEM SOLVING
WEEK 1			
WEEK 2	Oral activities dealing with counting in 2s, 5s and 10s to 200	Practical activities dealing with ordering fractions. Written activities dealing with counting, fractions and number relationships.	Oral and written activities dealing with calculating hours and minutes.
ASSESSMENT TASK 1 COMPLETED			
WEEK 3		Practical and written activities dealing with collecting, sorting and analyzing data.	
WEEK 4			
WEEK 5	Daily oral and written work dealing with aspects of counting	Practical and written activities dealing with number relationships, sequencing numbers, doubling and halving. Written activities dealing with expanded notation and understanding place value. Recording collected data and constructing a pictograph	
ASSESSMENT TASK 2 COMPLETED			
WEEK 6			
WEEK 7	Daily oral and written work dealing with aspects of counting and mental calculations.	Written activities dealing with addition and subtraction of two 2 digit numbers. Written activities dealing with multiplication of single digit numbers. Practical work with flard cards dealing with expanded notation of 3-digit numbers. Practical and written activities dealing with recognizing the orientation and position of 2D shapes and 3D objects.	Oral, practical and written activities dealing with solving problems and explaining solutions.
ASSESSMENT TASK 3 COMPLETED			
WEEK 8			
WEEK 9			
WEEK 1O			

The criteria for the assessment are drawn from the Learning Outcomes, the Assessment Standards and the Milestones

FOURTH TERM: WEEK 1 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING
LO 1 AS 1,2</td><td>• Says number names in sequence from at least 1 to 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2, 5, 10 to 200</td><td colspan="5">Daily :
• Rote counting in 1s from 160 to 199
• Rational counting in 2s, 5s and 10s in the number range 100 to 200, forwards and backwards
• Rational counting in 2s, 5s and 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO 1 AS5,7,8,9,10
LO 2 AS 2,3
LO 4 AS 3</td><td rowspan="3">• Number knowledge and mental computation:
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Orders and compares fractions according to size (half and quarter)
- Copies and extends number sequences to 200
• Uses hours and minutes to calculate time</td><td colspan="5">Daily:
• Numerosity of numbers 1 to 100
• Building up to, and breaking down to, a whole 10 when adding or subtracting.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Number sequences

Fractions

Addition of a 2 digit with a one digit number.</td><td>Number sequences

Calculate time using hours and minutes</td><td>Number sequences

Addition and subtraction of two 2 digit numbers</td><td>Number sequences

Fractions</td><td>WHOLE CLASS ACTIVITY

Time</td></tr>
<tr><td rowspan="2">GROUP TEACHING

LO 1 AS 7,10,11,12</td><td rowspan="2">• Solve different types of problems and explain solutions to problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 sharing with a remainder and 1 change type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 sharing with a remainder and 1 change type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 grouping with a remainder and 1 repeated addition type word problem.
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 grouping with a remainder and 1 repeated addition word problem.
Group 1 works on their own.</td></tr>
</table>

WEEK 1: WHOLE CLASS

WEEK 1	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means than the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependant on its place in the number.
- This week you will work with two 2-digit numbers. This concept has been developed during group teaching time using flard cards and you will now extend the concept, first practically and then as written work.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 100 to 200 – with learners clapping their hands as they say every 2nd number and stamping their feet as they say every 10th number. Ask learners to identify the pattern (counting in 2s and 10s).
- Randomly choose a 2 digit number (draw it out a packet, ask a learner, use the date, etc.) and starting at that number, count on in 2s/5s/10s to 100.

Choose from the following (to make up the 10 mins.):

- Count in 10s and when you clap your hands they count on in 1s e.g. 10, 20, 30 (clap), 31, 32, 33, etc.
- Using a clock (or learners can use the clock faces they made in Term 3) learners count in 5s as you point to the minutes i.e. 5 minutes, 10 minutes, 15 minutes, etc.. When you go past the hour, they continue counting including the hour i.e. 1 hour 5 minutes, 1 hour 10 minutes, etc.
- Make up a story using time e.g.
  - I started walking at 9 o'clock. After 10 minutes I saw a dog. After another 5 minutes I saw another dog. After another 15 minutes I saw a third dog. What was the time when I saw the third dog?
  - I went for a run at 6 o'clock. Every 10 minutes I had a drink of water. If I had 4 drinks of water, how long had I been running?
  - I went for a run at 6 o'clock. Every 10 minutes I had a drink of water. If I had 6 drinks of water, how long did I run for?

DAY 1 (to take no more than 20 minutes)

- Give the learners each a grid showing addition of single digit numbers. See Annexure 1 for an example of the grid. The numbers across the top are added to the numbers down the side. For example, 1+4=5 so the number is filled in as indicated where the two numbers meet, or 10+4=14.

add	1	2	3	4	5	6	7	8	9	10
	1			5						
2										
3		5								
4						10				
5									14	
6										
7										
8										
9										
10				14						

  Once all the numbers have been filled in let the learners colour in all the blocks with the number 5 in red and all the blocks with the number 10 in green. Discuss the patterns and encourage learners to find other patterns.
- You will need a piece of string (or wool) with pegs on, evenly spaced. You will also need 20 pieces of paper with the numbers 1 to 20 and 20 pieces of paper with $\frac{1}{2}$ written on. Hand out all the pieces of paper – some learners may get 2 pieces depending on the size of your class. Let 2 learners hold the piece of string. Ask the learners to come and order the numbers from 1 to 20 on the number line, using the pegs. Now discuss where the numbers $\frac{1}{2}$ will go. Ask learners to peg the papers with $\frac{1}{2}$ in the correct places. Once the number line is complete let the class count i.e. a half, one, one and a half, two, two and a half, etc. Keep the apparatus as you will use it later in the week.

DAY 2 (to take no more than 20 minutes)

- Draw a pattern of symbols on such as the following on a big piece of paper:

  ○○ ○○○○ ○○○○○○ ○○○○○○○○

  Ask one learner to write the number symbols under each group of circles. Now ask learners to identify what has been done each time to develop a pattern (i.e. add 2 each time). Ask different learners to draw the next two groups of circles in the pattern i.e. 10 and 12 circles. Ask the following type of questions to develop the concept of increasing and decreasing:
  - If we read the pattern from left to right is the pattern increasing or decreasing?
  - If we read the pattern from right to left is the pattern increasing or decreasing?
- Do you know other words that mean the same as increasing/decreasing?

Tip: *Keep the piece of paper as you will revise this concept each day this week.*

- Using a clock face, ask learners to count the minutes in 5s from 12 to 12. Revise that there are 60 minutes in 1 hour and 30 minutes in half an hour. Now ask the following type of questions:
  - How many hours in 90 minutes?
  - How many hours in 30 minutes?
  - How many minutes from the 4 to the 7?
  - If it is 9 o'clock and I watch TV for 60 minutes, what will the time be?

DAY 3 (to take no more than 20 minutes)

- Display the paper with the pattern of circles. Revise the vocabulary of increase and decrease. Tell the learners to draw 2 patterns of their own in their books. One must show increasing from left to right and the other must show decreasing from left to right (i.e. adding and subtracting the same number).
- Let the learners stand behind their chairs. Start by asking how much 31 plus 10 is. The first learner to answer correctly sits down and may not answer any more. Keep adding or subtracting whole 10s e.g. 47+20, 66-30, 29+10 and so on. As learners answer correctly, they sit down till there are only a few learners left standing. These learners get a chance to answer first the next time you play the game.

DAY 4 (to take no more than 20 minutes)

- Display the paper with the pattern of circles. Revise the vocabulary of increasing/decreasing and increase/decrease. Tell the learners to draw 2 patterns of their own in their books. One must show increasing from left to right and the other must show decreasing from left to right (i.e. adding and subtracting the same number). The pattern must be different from the one they did on Day 3.
- You will need a piece of string (or wool) with pegs on, evenly spaced. You will also need 20 pieces of paper with the numbers 1 to 20 and 20 pieces of paper with $\frac{1}{2}$ written on. Hand out all the pieces of paper – some learners may get 2 pieces depending on the size of your class. Let 2 learners hold the piece of string. Ask the learners to come and order the numbers from 1 to 20 on the number line, using the pegs. Now discuss where the numbers $\frac{1}{2}$ will go. Ask learners to peg the papers with $\frac{1}{2}$ in the correct places. Once the number line is complete let the class count i.e. a half, one, one and a half, two, two and a half, etc. Keep the apparatus as you will use it later in the week. This part of the lesson is revision. Let the learners draw a line in their books and, using their ruler, mark it as 1, $1\frac{1}{2}$, 2, $2\frac{1}{2}$ etc.

DAY 5 (the whole lesson)

- Learners will work in the groups where they are sitting. Give each learner in the group a small strip of paper with a time activity written on it as well as a clock face. Strips can have the following type of activities written on them :
  - _____ ran the 100m sprints at 9 o'clock in the morning.
  - _____ woke up at 6 o'clock in the morning.

- _____wrote a story at 11 o'clock after break at school.
- _____ fell asleep at 5 o'clock in the afternoon.

Learners fill in their own name on the line and then fill in the time on the clock face. Once everyone in the group has completed the strip and the clock face, they order the strips and clock faces in order from early to late. The strips and clock faces are then pasted on to a piece of paper and displayed in the class. Encourage the learners to look at the different groups work and check that the order is correct.

ASSESSMENT	**Formal :** No formal, recorded Assessment **Informal :** Unrecorded assessment of learners oral responses and ability to participate

WEEK 1 : GROUP TEACHING

Week 1	**GROUP TEACHNG COMPONENT (Concept Development and Problem Solving)**

Notes to teacher:

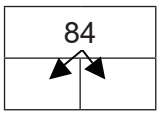
- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- You will use the group teaching time for assessing learners ability to solve problems. By this time in the year you will expect learners to be able to record their thinking using numbers and not only drawings. Although you are assessing during the problem solving activity, learners may still have access to counters, number grids, etc.

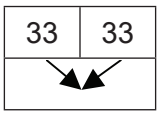
Examples of activities to be done independently. *Work from a Learner's Book, worksheets, workcards, etc.*

- Complete a sequencing activity e.g. fill in the missing numbers on a number line, dot-to-dot etc.
- Complete a table e.g.

	25	26	27	28
+10	35			

- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square.
- Doubling and halving activities.





Half		Double
	16	

- Number patterns e.g. 31+3=; 32+3=; 33+3=; 34+3=; and 60-3=; 59-3=; 58-3= etc.

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Give each pair of learners a pile of counters (they can work on their own or in pairs). Start with piles of over 30 counters. Ask them to estimate the number of counters first. Discuss these estimates with the group – if one guess is obviously much too big or too little, see if learners can explain why they think the estimates are far out. Choose one pile of counters for the whole group to estimate. Check the estimates together as a group, counting out the pile of counters to see how accurate the estimates are. Counting could be done in twos (2; 4; 6; ….). Ask questions such as: *Was your estimate too much or too little? How much too much? Etc.*
- Each learner sets out his/her flard cards in a sequence. Work with the cards asking learners to build up and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?
- Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 125. Ask them to show the number as expanded notation i.e. 100 and 20 and 5. Discuss what numbers are used to make the number 125. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.

  Tip: *Use this for Assessment Task 1*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 sharing with a remainder and 1 change type word problem and on Wednesday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Give each pair of learners a pile of counters (they can work on their own or in pairs). Start with piles of over 30 counters. Ask them to estimate the number of counters first. Discuss these estimates with the group – if one guess is obviously much too big or too little, see if learners can explain why they think the estimates are far out. Choose one pile of counters for the whole group to estimate. Check the estimates together as a group, counting out the pile

of counters to see how accurate the estimates are. Counting could be done in twos (2; 4; 6; ….). Ask questions such as: *Was your estimate too much or too little? How much too much? Etc.*

- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build up and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?
  Tip: *Use this for Assessment Task 1*
- Let learners choose their own number and make it with the flard cards. They then write it in 3 other ways, e.g. 39 is 30 +9 or 40-1 or 10+10+10+9.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 sharing with a remainder and 1 change type word problem and on Thursday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

GROUP 3

This group works with the teacher ***every day*** *for 25 minutes.*

- Each learner estimates how many big footsteps s/he will take from the mat to the door. Once they have recorded their estimate, they measure how many big footsteps they actually take and then say if they estimated too many, too few or correctly.
- Have a set of number cards 21 to 50. Shuffle the cards and let each learner take one card. They read the number and then say how many must be added to make the next 10 e.g. the number on the card is 42, so the learner says 8 more must be added to make 50. Repeat the activity, but subtracting to make the smaller 10 e.g. the card is 42, so the learner says that 2 must be taken away to make 40.
  Tip: *Use this for Assessment Task 1*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 sharing with a remainder and 1 change type word problem and on Wednesday and Thursday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes

Assessment	**Formal :** No formal, recorded Assessment . **Informal :** Unrecorded assessment of learners oral responses and ability to solve problems.

FOURTH TERM: WEEK 2 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Counts out a collection of a given number of objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting in 1s from 100 to 200.
• Rational counting in 2s, 5s and 10s in the number range 100 to 200, forwards and backwards
• Rational counting in 2s, 5s and 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2
LO4 AS 1,3</td><td rowspan="3">• Number knowledge and mental computation:
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Orders and compares fractions according to size (half and quarter)
- Copies and extends number sequences to 200
- Building up a whole 10 when adding and subtracting e.g. 9 + 4= 9+1 +3 or 14 – 8 = 14 – 4 - 4
• Uses hours and minutes to calculate time.</td><td colspan="5">Daily:
• Count out objects to 100.
• Identify the numerosity of numbers from 50 to 100
• Build up and break down numbers using whole tens.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Addition and subtraction of single digit numbers to 2 digit numbers building the whole 10.

Order fractions.</td><td>Describe observed patterns in number sequences.

Counts forwards and backwards.</td><td>Orders fractions.

Time.</td><td>Copy and extend number sequences.

Addition and subtraction of two 2 digit numbers.</td><td rowspan="3">Whole class activity

Space and shape. Game using scatter boards.</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>• Solve different types of problems and explain solutions to problems with whole numbers to at least 100 using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-175; Group 2 works in 1-150; Group 3 works in 1-100</td></tr>
<tr><td>Group 1 and 3 work with teacher, one group at a time.
Ask one addition and one multiplication word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one addition and one multiplication word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one combination and one comparison word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one combination and one comparison word problem.
Group 1 works on its own.</td></tr>
</table>

WEEK 2: WHOLE CLASS

WEEK 2	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- This week you will work with two 2-digit numbers. This concept has been developed during group teaching time using flard cards and you will now extend the concept, first practically and then as written work.
- The last term is generally shorter than the other terms and this makes assessment more of a challenge. It is important that you retain the ethos of learning and teaching that you have established through the year. Therefore assessment must be continuous as part of the everyday activities learners will be engaged in.
- **Assessment Task 1 will be completed this week**

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 1 as far as they can in 1 minute.
- Randomly choose a 2 digit number (draw it out of a packet, ask a learner, use the date, etc.) and starting at that number, count on in 2s/5s/10s to 100.

  Tip: *Do this every day and assess a few learners each day.*

Choose from the following (to make up the 10 mins.):

- Count in 10s and when you clap your hands they count on in 1s e.g. 10, 20, 30 (clap), 31, 32, 33, etc.
- Count in 2s and when you clap your hands they count on in 10s e.g. 2, 4, 6, 8, 10, 12 (clap), 22, 32, 42, etc.
- Clap a pattern which learners echo back to you by clapping. Repeat the pattern, but add another element to make it more complicated. Learners echo the pattern by clapping the pattern.

DAY 1 (to take no more than 20 minutes)

- Give each pair a card with 3 numbers to be added, two of which will make a complete 10. Learners identify the 2 numbers that make 10 and write the answer, e.g.

16+ 7 +4= 3+17+4= 2+7+38=		16 +7 +4= 16+4+7=20+7=27 2+7+38=2+38+7=40+7=47	16 + 7 + 4 =16+4+7=27 2 + 7 + 38 =2+38+7=47

- Give each learner 4 circles. One they leave whole, one they fold in half, one they fold in quarters and the last one they fold in eighths. Learners leave the one circle whole, cut the others along the folds according to the fraction and label each piece. Learners now order the fractions from one whole to one eighth (use only one piece from each circle) and paste them in decreasing order in their books.
  ***Tip**: Use this activity for Assessment Task 1.*

DAY 2 (to take no more than 20 minutes)

- Make a set of papers with different counting instructions on each paper. Give each group a set of papers. Each learner in a group takes one piece of paper and writes his/her name at the top of the paper. Learners then read the instruction and write the next number. Each learner only writes ONE number on his/her piece of paper and then passes the paper to the learner on the left. This learner reads the instruction and writes the next correct number and passes the paper on to the learner on the left. Time the activity and after 10 minutes tell them to stop and give the paper they have in front of them to the learner who started with that piece of paper. That learner checks the numbers to see if the counting is correct. An example of instructions are :

Start at 34 and count on in 2s :	Start at 59 and count on in 10s:	Start at 97 and count back in 2s:	Start at 105 and count on in 5s :

  ***Tip**: Observe the learners while they are working as this activity can form part of Assessment Task 1.*

- Give each learner a pattern of symbols on such as the following on a piece of paper and answer the questions:

○○ ○○○○ ○○○○○○ ○○○○○○○○

1. Does the pattern get increasing or decreasing?
   The pattern is _____.
2. How many objects in the first group?
   There are _____ objects in the first group.
3. How many objects in the second group?
   There are _____ objects in the second group.
4. How many objects in the third group?
   There are _____ objects in the third group.
5. How many objects in the fourth group?
   There are _____ objects in the fourth group.
6. The pattern is adding _____ each time.

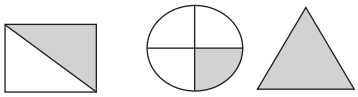
DAY 3 (to take no more than 20 minutes)

- Give the learners a worksheet that allows you to assess counting out, identifying the numerosity of numbers up to 100 and ordering fractions. The following is an example of the type of worksheet you can design:

1. Count how many notes there are. Write the number and the word.

Number: Word:	♫♫♫♫♫♫♫♫♫♫ ♫♫♫♫♫♫♫♫♫♫ ♫♫♫♫

2. Draw these pictures in the correct order from biggest to smallest.



3. Write 6 number sentences where 69 is the answer.

69 =	69 =
69=	69 =
69 =	69 =

4. Draw the time on these clock faces.

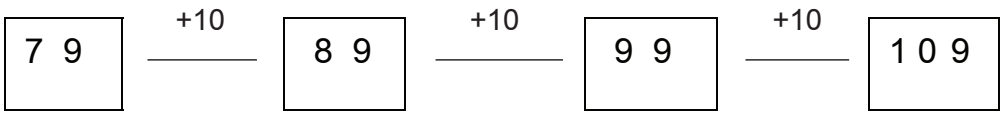


½ past 3	10 o'clock	quarter to 12	7 o'clock

***Tip**: Use this activity towards Assessment Task 1.*

DAY 4 (to take no more than 20 minutes)

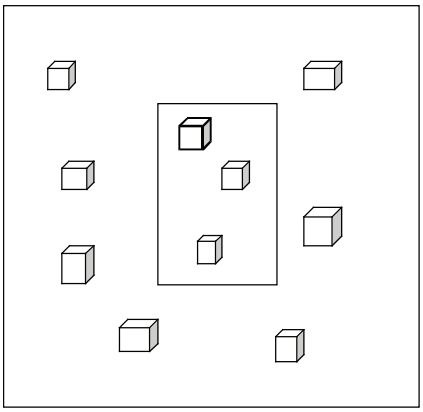
- Write a number of linked boxes on the board. Ask a learner to choose a number and write this in the 1st box. Tell learners that each link is +10 (which they write above the line) and ask what the number in the next box will be. Call different learners to fill in the missing number in the boxes on the board. Learners can use their number grids if they need to. Repeat the activity by adding 20/30/40 instead of adding 10. You should also do this using subtraction.



- Learners must draw a number of boxes, as you did on the board, in their books. They can choose their own number to start with and complete the activity by adding or subtracting either 9 or 11 each time.

DAY 5 (the whole lesson)

- Take the class outside and divide them randomly into 4 equal groups. Each learner must take a piece of paper and a pencil with them. Give each group a newspaper and a magazine as well as 10 counters such as sticks, unifix blocks, buttons, etc. Learners place the newspaper on the ground with the magazine on top of the newspaper – more or less in the middle of the newspaper. They then take turns to throw all 10 counters onto the magazine and newspaper. Counters that land on the newspaper count 10 each, and those on the magazine count 1 each e.g.



Learners add up their score and these are recorded e.g. 7 blocks on the newspaper = 70 and 3 blocks on the magazine = 3, so the total score is 73. Once everyone in the group has had a chance, the learners have a second throw. They add their 2 scores together and the learner with the highest total score is the winner.

Tip: *Try to have counters small enough so that the learners can throw all 10 counters at once. You can change the rules of the game by saying that the learner with the lowest score is the winner, or by changing the scoring – counters on the newspaper count 1 each and those on the magazine count 10 each.*

ASSESSMENT	**Formal: Recorded Assessment Task 1:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Counts out collections of a given number of objects to 100. • Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200. • Develops number relationships e.g. 25 is quarter of 100 • Orders and compares fractions according to size • Uses hours and minutes to calculate time.

WEEK 2 : GROUP TEACHING

Week 2	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- You will use the group teaching time for assessing learners ability to solve problems. By this time in the year you will expect learners to be able to record their thinking using numbers and not only drawings. Although you are assessing during the problem solving activity, learners may still have access to counters, number grids, etc.

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Complete a sequencing activity e.g. fill in the missing numbers on a number line, dot-to-dot etc.
- Complete a table e.g.

	29	13	57	45
+10	35			
-10				
+9				

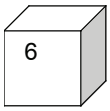
- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square.
- Number patterns e.g. 31+3=; 32+3=; 33+3=; 34+3=; and 60-3=; 59-3=; 58-3= etc.
- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.

47

21

76

59



47+6→47+3+3→50+3=53

21+6=27

76+6→76+4+2→80+2=82

59+6→59+1+5→60+5=65

An example of recording.

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Make up a story using time as the context and ask relevant questions e.g.
  Sipho went to visit Granny. He left home at 6 o'clock in the morning and caught the taxi at half past 6. The journey took 40 minutes and Sipho walked for 20 minutes to reach Granny's house. What time did he reach Granny's house? How long did the whole journey take?
  ***Tip**: Use this activity as part of Assessment Task 1.*
- Ask learners to estimate how many times they can click their fingers in half a minute. Let them write their estimates down, then time them while they clap their hands and count. See whose estimate was the closest.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one addition and one multiplication and on Wednesday you will ask one combination and one comparison word problem.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Make up a story using time as the context and ask relevant questions e.g.
  Sipho went to visit Granny. He left home at 6 o'clock in the morning and caught the taxi at half past 6. The journey took 40 minutes and Sipho walked for 20 minutes to reach Granny's house. What time did he reach Granny's house? How long did the whole journey take?
  ***Tip**: Use this activity as part of Assessment Task 1.*
- Ask learners to estimate how many times they can clap their hands in half a minute. Let them write their estimates down, then time them while they clap their hands and count. See whose estimate was the closest.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be one addition and one multiplication and on Thursday you will ask one combination and one comparison word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Make up a story using time as the context and ask relevant questions e.g.
  Sipho went to visit Granny. He left home at 6 o'clock in the morning and caught the taxi at half past 6. The journey took 40 minutes and Sipho walked for 20 minutes to reach Granny's house. What time did he reach Granny's house? How long did the whole journey take?

***Tip**: Use this activity as part of Assessment Task 1.*

- Ask learners to estimate how many times they can jump in half a minute. Let them write their estimates down, then time them while they clap their hands and count. See whose estimate was the closest.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 125. Let each learner tell the group how s/he solved the problem. On Monday the word problem will be one addition and on Tuesday the word problem will be one multiplication. On Wednesday you will ask one combination problem and on Thursday the problem will a comparison one.

Assessment	**Formal: Recorded Assessment Task 1:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Counts out collections of a given number of objects to 100. • Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200. • Develops number relationships e.g. 25 is quarter of 100 • Orders and compares fractions according to size • Uses hours and minutes to calculate time.

SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY FOURTH TERM

TASK 1 : WEEK 2

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Counts forwards and backwards in multiples of 2, 5 and10 from 0-200. • Number knowledge and mental computations - Builds up and breaks down numbers 1 to 100 e.g. 47=40+7 or 20+20+7 or 50-3 etc. - Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc. - Orders and compares fractions according to size (half and quarters • Uses hours and minutes to calculate time	Wk 2	• Use the daily oral activities to assess counting in 2s, 5s and 10s, forwards and backwards up to 200. • Use the practical activity on Day 1 to assess the ordering and comparing of fractions. • Use the written activities on Days 2 and 3 to assess counting, fractions and number relationships
PROBLEM SOLVING	• Uses hours and minutes to calculate time	Wk 2	• Use the problem solving activities to assess learners understanding of hours and minutes

FOURTH TERM: WEEK 3 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Counts out objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting in 1s from 100 to 200.
• Rational counting in 2s, 5s and 10s in the number range 100 to 200, forwards and backwards
• Count on in 2s from any number from 1 to 100.</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2
LO3 AS 5
LO 5 AS
1,2,3,4,5</td><td rowspan="2">• Number knowledge and mental computation:
- Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Copies and extends number sequences to 200
• Analyses data to draw a conclusion.
• Recognises 3D objects from various positions.</td><td colspan="5">Daily:
• Expanded notation.
• Double and halve.
• Identify the numerosity of numbers to 100.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Patterns using addition and subtraction.

Count in multiples using counters as units of 2, 5 and 10.</td><td>Addition and subtraction building the whole 10.

Collect and sort data.</td><td>Analyse data.</td><td>Draw graph.</td><td>Whole class activity.

Recognise 3-D objects from different positions. (Integrate with Arts and Culture)</td></tr>
<tr><td rowspan="2">GROUP TEACHING

LO 1
AS7,10,11,12</td><td rowspan="2">• Solve different types of problems and explain solutions to problems including grouping and sharing with whole numbers to at least 100, using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-175; Group 2 works in 1-150; Group 3 works in 1-100</td><td rowspan="2"></td></tr>
<tr><td>Group 1 and 3 work with teacher, one group at a time.
Ask one sharing with remainder and one subtraction word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one sharing with remainder and one subtraction word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one grouping with remainder and one array type word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one grouping with remainder and one array type word problem.
Group 1 works on its own.</td></tr>
</table>

WEEK 3: WHOLE CLASS

WEEK 3	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means than the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependant on its place in the number.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- This week you will do data handling most days and will need to be well prepared. The learners will collect, sort and analyse data this week. All these will be taken into account for assessment. You will use this information again for final assessment purposes.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 1 to 100 – with learners whispering the odd numbers and saying the even numbers aloud. Ask learners to identify the pattern (counting in 2s).
- Repeat the activity with learners clicking their fingers as they say every 10th number.

Choose from the following (to make up the 10 mins.):

- Using their number grids, learners count in 2s placing a counter (bean, piece of paper, etc.) on each multiple as they say the number. Ask questions such as:
  - Is the number 8 in the 2s pattern?
  - Is the number 46 in the 2s pattern?
  - Is the number 61 in the 2s pattern?
- Mark the register each day and ask questions such as *how many children are present today? Who is not here? Are there more girls or boys at school today? Etc.*

DAY 1 (to take no more than 20 minutes)

- Put some counters in the middle of the group and each learner must count out 20. They must line the counters up in front of themselves. Talk about how one counter can represent a different number e.g. it can be counted as 1, or 2, or 4 and so on. Count the counters as follows:
  - each counter represents 1, so there are 20 counters
  - each counter represents 2, so the 20 counters will add up to 40
  - each counter represents 5, so the 20 counters will add up to 100
  - each counter represents 10, so the 20 counters will add up to 200.

- Write the following numbers on the board and ask the learners to identify the pattern:
  - 27, 28, 29, 30, 31, 32, 33
  - 97, 98, 99, 100, 101, 102, 103
  - 163, 164, 165, 166, 167, 168, 169.

  Tip: *The pattern is adding 1 each time.*

DAY 2 (to take no more than 20 minutes)

- Give each learner a market research questionnaire. Discuss it with the class. Learners take it home and ask for help to fill it in. It MUST be returned the next day, completed. See Annexure 1 for an example.
- Give each pair a card with 3 numbers to be added, two of which will make a complete 10. However, one of the numbers will be missing. Learners identify the 2 numbers that make 10, filling in the missing number, e.g.

24+___+7=37
___ + 4 + 8=48
54-___+9=59
72-___+3=73

DAY 3 (to take no more than 20 minutes)

- Each learner will read from their own questionnaire while the class sorts the data. Draw a table for the data collection on a big piece of paper. Ask the class what cell phone providers there are. As the learners answer, write the name of the cell phone provider on the table e.g. MTN, Vodacom etc. Learners take turns to make a mark on the paper next to the relevant cell phone provider. Every fifth learner must draw a line diagonally through the other 4 lines i.e. I I I I. This is called a tally. Continue in this way until all the data has been collected. Total each line e.g. all the MNT, then all the Vodacom etc. and check that the total of the cell phones is the same as the number of learners in the class. Do this for each of the categories.

DAY 4 (to take no more than 20 minutes)

- Display the table of data collected on day 3 and revise how it was sorted. Give each group one of the categories e.g. cell phones. The group must decide how they want to display the data in a graph and then draw the graph. They will also have to decide whether to mark the graph in 1s, 2, 5s, etc. Display the different graphs next to the original data table.

  Tip: *Use this whole data handling activity towards Assessment Task 2.*

DAY 5 (the whole lesson)

- Have a collection of 3-D objects e.g. a handbag, a hat, a shoe, a cup, a book, a ball, etc. Each learner chooses one object and places it on the floor. He/she places a foot on either side of the object and looks at it from above and then draws what he/she sees. Repeat this

looking at the objects from different viewpoints i.e. various sides as well as underneath. Each time they must draw what they see. Now let them cut out each of the different views and arrange them in a collage.

***Tip**: To see underneath, the learners can lie on their backs and hold the object above their faces. If necessary, they can get a friend to help them.*

ASSESSMENT	**Formal: Recorded Assessment Task 2:** During the whole class activities this week (as indicated) rate the learners against the following milestones, recording specific problems : • Analyses data to draw a conclusion. **Informal:** Unrecorded assessment of learners' oral responses and ability to participate.

WEEK 3 : GROUP TEACHING

Week 3	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. **It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.**
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- You will use the group teaching time for assessing learners ability to solve problems. By this time in the year you will expect learners to be able to record their thinking using numbers and not only drawings. Although you are assessing during the problem solving activity, learners may still have access to counters, number grids, etc.

DAILY ACTIVITIES

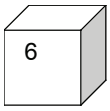
Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Complete a sequencing activity e.g. fill in the missing numbers on a number line, dot-to-dot etc.
- Complete a table e.g.

	+10	- 5	double	halve
24	34	19	48	12
16	26	11	32	8
42	52	37	84	21

- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.

47
21
76
59



47+6→47+3+3→50+3=53
21+6=27
76+6→76+4+2→80+2=82
59+6→59+1+5→60+5=65

An example of recording.

- Spider diagrams with 2 operations (see week 9 and 10 of Term 3)

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Ask a learner to choose a number between 11 and 19 e.g. 14. Each learner has a turn to add 10 onto the previous number i.e. start with 14, so the 1st learner adds 10 to 14 and says 24, the 2nd learner adds 10 to 24 and says 34 and so on. Repeat the activity adding 9 to the number each time. If there is time, repeat the activity adding 11 each time.
- Each learner sets out his/her flard cards in a sequence. Work with the cards asking learners to build up and break down 3 digit numbers e.g.136. Ask them to show the number as expanded notation i.e. 100 and 30 and 6. Discuss what numbers are used to make the number 136. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one sharing with a remainder and one subtraction and on Wednesday you will ask one grouping with a remainder and one array type word problem.

  ***Tip**: Remember, you will find a list of the different problem types in the Annexures of Term 1. Change the wording to suit your class and the context you are working with, but keep the structure of the problem the same.*

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Ask a learner to choose a number between 11 and 19 e.g. 14. Each learner has a turn to add 10 onto the previous number i.e. start with 14, so the 1st learner adds 10 to 14 and says 24, the 2nd learner adds 10 to 24 and says 34 and so on. Repeat the activity adding 9 to the

- number each time. Remind learners of how they can build up a whole 10 i.e. 9+1, and ask them to try and work it out in their heads, but don't put pressure on any of the learners to do this. Allow learners to use a number grid if they need to.
- Each learner sets out his/her flard cards in a sequence. Work with the cards asking learners to build up and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?
- Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 125. Ask them to show the number as expanded notation i.e. 100 and 20 and 5. Discuss what numbers are used to make the number 125. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be one sharing with a remainder and one subtraction and on Thursday you will ask one grouping with a remainder and one array type word problem.

  ***Tip**: Remember, you will find a list of the different problem types in the Annexures of Term 1. Change the wording to suit your class and the context you are working with, but keep the structure of the problem the same.*

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Ask a learner to choose a number between 11 and 19 e.g. 14. Each learner has a turn to add 10 onto the previous number i.e. start with 14, so the 1st learner adds 10 to 14 and says 24, the 2nd learner adds 10 to 24 and says 34 and so on. Repeat the activity adding 9 to the number each time. Remind learners of how they can build up a whole 10 i.e. 9+1, and ask them to try and work it out in their heads, but don't put pressure on any of the learners to do this. Allow learners to use a number grid if they need to.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be one sharing with a remainder and one subtraction and on Wednesday and Thursday you will ask one grouping with a remainder and one array type word problem.

  ***Tip**: Remember, you will find a list of the different problem types in the Annexures of Term 1. Change the wording to suit your class and the context you are working with, but keep the structure of the problem the same.*

Assessment	**Formal :** No formal, recorded Assessment . **Informal :** Unrecorded assessment of learners' oral responses and ability to participate.

FOURTH TERM: WEEK 4 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Counts out objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting in 1s from 100 to 200.
• Rational counting in 2s, 5s and 10s in the number range 100 to 200, forwards and backwards
• Rational counting in 2s, 5s and 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,3
LO3 AS 5
LO 5 AS
1,2,3,4,5</td><td rowspan="3">• Number knowledge and mental computation:
- Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Doubles and halves both odd and even numbers 1 to 100
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Copies and extends number sequences to 200
- Calculates the multiplication of two single-digit numbers e.g. 6x5=, 9x2=
• Recognises 3D objects from various positions.</td><td colspan="5">Daily:
• Count in 2s from any number from 1 to 100.
• Count using doubling (2, 4, 8, 16, etc.)
• Count back using halving. (16, 8, 4, 2)
• Recognise objects from different positions.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Copies and extends number sequences.

Expanded notation of numbers to 100.</td><td>Copies and extends number sequences

Calculate multiplication.</td><td>Copies and extends number sequences

Calculate multiplication.</td><td>Recognises 3D objects from different positions</td><td>Whole class activity.

Measuring (Integrate with Technology)</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>• Solve different types of problems and explain solutions to problems including grouping and sharing problems with whole numbers to at least 100, using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-175; Group 2 works in 1-150; Group 3 works in 1-100</td><td></td></tr>
<tr><td></td><td>Group 1 and 3 work with teacher, one group at a time.
Ask one subtraction and one repeated addition word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
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Ask one multiplication and one sharing where remainder is a fraction word problem.
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Ask one multiplication and one sharing where remainder is a fraction word problem.
Group 1 works on its own.</td><td></td></tr>
</table>

WEEK 4: WHOLE CLASS

WEEK 4	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- Much of the work this week is revision of work already done, although you are now either using bigger numbers, or using a different context.
- Do not spend too long on the whole class activities as the main learning takes place during the group teaching part of the lessons.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 1 as far as they can in 1 minute.
- Randomly choose a 2 digit number (draw it out of a packet, ask a learner, use the date, etc.) and starting at that number, count on in 2s/5s/10s to 100.

Choose from the following (to make up the 10 mins.):

- Count in 10s and when you clap your hands they count on in 1s e.g. 10, 20, 30 (clap), 31, 32, 33, etc.
- Count in 2s and when you clap your hands they count on in 10s e.g. 2, 4, 6, 8, 10, 12 (clap), 22, 32, 42, etc.
- Tell learners that you are going to clap and that each clap counts as 10 e.g. 1 clap is 10, 2 claps are 20, 3 claps are 30 etc. Learners listen to the number of claps and then tell you how much it represents.
- Repeat the activity, but this time if you click your fingers it counts as 5. If you do the following: *6 claps and 2 clicks*, learners need to be able to say the number is 70 (6x10 plus 2x5)

DAY 1 (to take no more than 20 minutes)

- Choose a learner to give you a number between 90 and 190 e.g. 179. Write in on the board and draw 4 spaces to the left of the number and 4 spaces to the right of the number. Call one learner to fill in the spaces to the right by counting on in 1s. Now call another learner to fill in the spaces to the left, starting at the number and counting back in 1s e.g.

____ ____ _____ _____ 179 ____ ____ ____ ____

- Redo the activity using the same number in the middle, but this time counting forwards and backwards in 2s.

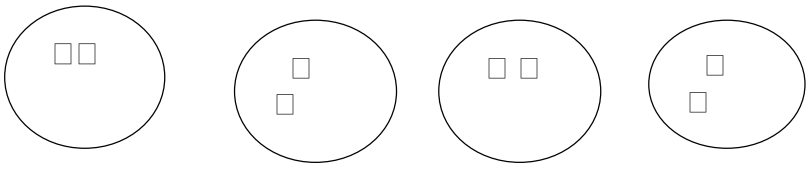
- Learners choose a number more than 34. They write this number in their book and write the number name (in words) underneath it. Now tell them to write the number as expanded notation in 3 different ways. One of the ways should mirror the flard cards they would use.

DAY 2 (to take no more than 20 minutes)

- Choose a learner to give you a number between 90 and 190 e.g. 103. Write in on the board and draw 4 spaces to the left of the number and 4 spaces to the right of the number. Call one learner to fill in the spaces to the right by counting on in 5s. Now call another learner to fill in the spaces to the left, starting at the number and counting back in 5s e.g.

____ ____ _____ _____ 103 ____ ____ ____ ____

- Redo the activity using the same number in the middle, but this time counting forwards and backwards in 10s.
- Learners draw 4 circles with 2 dots in each. They then write the repeated addition under the picture and finally write it in one other way.

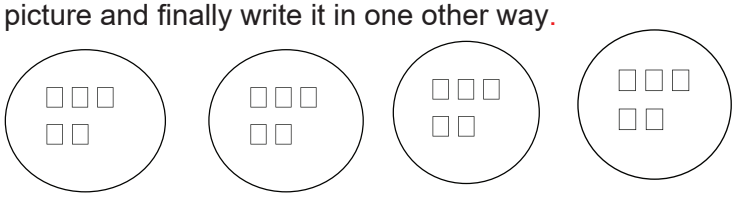


2 + 2 + 2 + 2 = 8

4x2=8

DAY 3 (to take no more than 20 minutes)

- Learners choose their own number and write it in the middle of the folded page in their books. They do the counting activity counting in 1s, 2s, 5s and 10s writing the numbers on either side of their number as done on the board in Day 1 and 2.
- Learners draw 4 circles with 5 dots in each. They then write the repeated addition under the picture and finally write it in one other way.



5 + 5 + 5 + 5 = 20

4X5=20

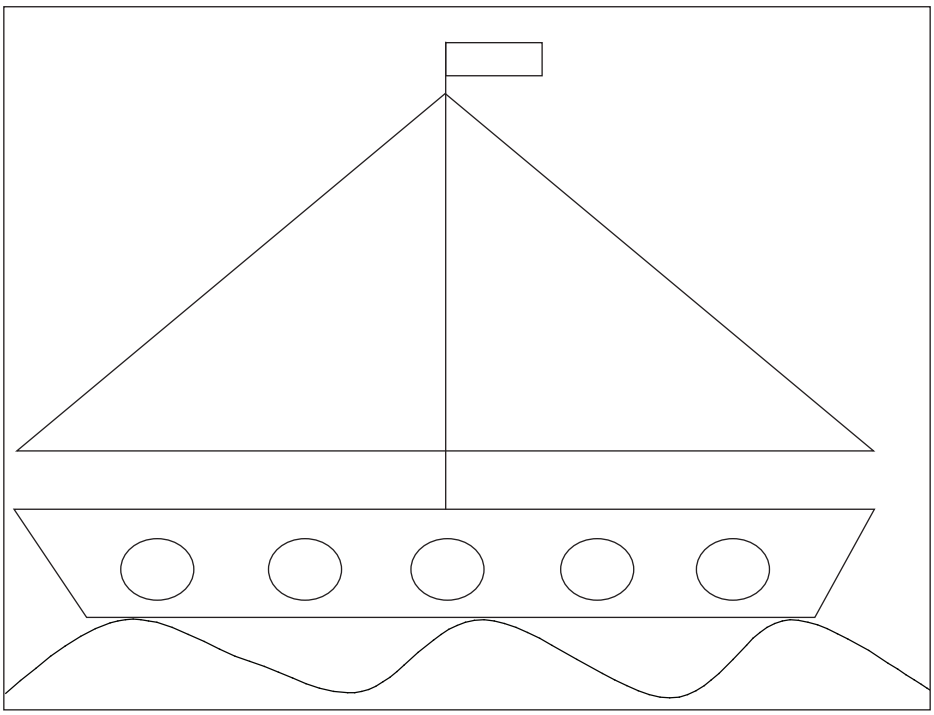
DAY 4 (to take no more than 20 minutes)

- Have a collection of 3-D objects e.g. a handbag, a hat, a shoe, a cup, a book, a ball, etc. Each learner chooses one object and places it on the floor. He/she places a foot on either side of the object and looks at it from above and then draws what he/she sees. Repeat this looking at the objects from different viewpoints i.e. various sides as well as underneath. Each time they must draw what they see.

***Tip**: To see underneath, the learners can lie on their backs and hold the object above their faces. If necessary, they can get a friend to help them.*

DAY 5 (the whole lesson)

- Learners are going to use a measuring activity to draw a yacht. Give each learner an A4 piece of white paper, which they fold in half vertically (lengthwise).Using their ruler learners turn the paper sideways (the fold line is from left to right) and measure 7cm from the bottom of the page along the folded line. They put a dark dot to indicate the position. Now turn the paper so that the fold line is from top to bottom and place the ruler across the page on the mark. Tell learners that you want them to draw a line of 16cm, but the dot must be in the middle of the line. Ask what half of 16 is and place that number on the dot. Rule a line (parallel to the bottom of the page) that is 8cm on one side of the fold line and 8cm on the other side of the fold line. The total line will measure from 0 to 16 on the ruler.
- Learners turn the paper sideways again and measure 5cm up the fold line. They put a dark dot to indicate the position. Now turn the paper so that the fold line is from top to bottom and place the ruler across the page on the mark. Tell learners that you want them to draw a line of 20cm, but the dot must be in the middle of the line. Ask what half of 20 is and place that number on the dot. Rule a line (parallel to the bottom of the page) that is 10cm on one side of the fold line and 10cm on the other side of the fold line. The total line will measure from 0 to 20 on the ruler.
- Learners must now join the 2 long lines to make the hull of the boat. Draw 5 evenly spaced circles. These are the portholes.
- Go back to the fold line and measure 2cm from the 20 cm line and mark it with a dot. Turn the paper and draw another 20cm line, half on one side of the fold line and half on the other. Now measure 14cm from the 2nd 20cm line along the fold line and mark it with a dot. Join the dot to the 20cm line on either side of the fold line to form the triangular sails.
- Add a small line to the top of the sails and learners can draw a flag of their choice. Tell learners to decorate the picture as they wish.



ASSESSMENT	**Formal :** No formal, recorded Assessment **Informal:** Unrecorded assessment of learners oral responses and ability to participate.

WEEK 4: GROUP TEACHING

Week 4	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- You will use the group teaching time for assessing learners' ability to solve problems. By this time in the year you will expect learners to be able to record their thinking using numbers and not only drawings. Although you are assessing during the problem solving activity, learners may still have access to counters, number grids, etc.

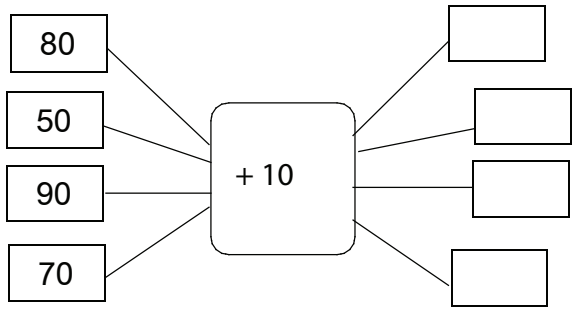
DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Complete a sequencing activity e.g. fill in the missing numbers on a number line, dot-to-dot etc.
- Complete a table e.g.

	95	96	97	98
-20	75			

- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square.
- Use a spider diagram and table where the input number is given.



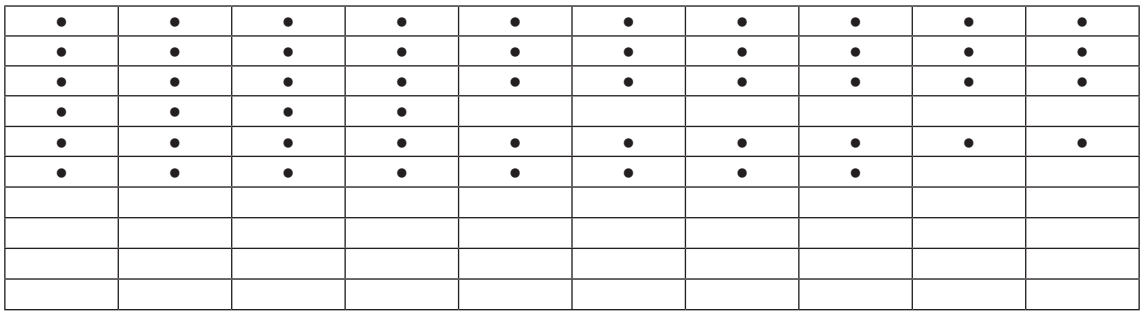
	80	50	90	70
+10				

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes.*

- Give each learner a 10x10 grid without numbers. Write the number sentence 34+18=☐. Using counters, learners will cover the correct number of blocks i.e. first indicating 34 blocks (3 rows and another 4 blocks). Starting on the next row they will cover 18 blocks i.e. 1 row and 8 blocks on the following row. Learners count row by row i.e. 10, 20, 30, 34, 44, 45, 46, 47, 48, 48, 50, 51, 52 (3 rows of 10→30+4→34+10→44+8→52).



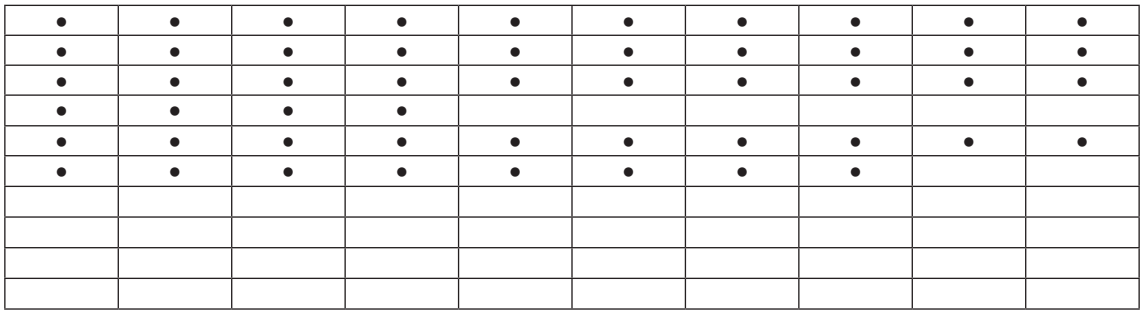
***Tip**: Most learners will count on the 8 remaining counters in 1s i.e. 44, 45, 46, etc.*
Repeat the activity using other numbers. Remember to include some subtraction number sentences.

- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one subtraction and one repeated addition and on Wednesday you will ask one multiplication and one sharing where the remainder is a fraction word problem.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes.*

- Give each learner a 10x10 grid without numbers. Write the number sentence 34+18=☐. Using counters, learners will cover the correct number of blocks i.e. first indicating 34 blocks (3 rows and another 4 blocks). Starting on the next row they will cover 18 blocks i.e. 1 row and 8 blocks on the following row. Learners count row by row i.e. 10, 20, 30, 34, 44, 45, 46, 47, 48, 48, 50, 51, 52 (3 rows of 10→30+4→34+10→44+8→52).



***Tip**: Most learners will count on the 8 remaining counters in 1s i.e. 44, 45, 46, etc.*
Repeat the activity using other numbers. Remember to include some subtraction number sentences.

- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be one subtraction and one repeated addition and on Thursday you will ask one multiplication and one sharing where the remainder is a fraction word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Each learner sets out his/her flard cards in a sequence. Work with the cards asking learners to build up and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?
- Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 125. Ask them to show the number as expanded notation i.e. 100 and 20 and 5. Discuss what numbers are used to make the number 125. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be subtraction and one repeated addition and on Wednesday and Thursday you will ask one multiplication and one sharing where the remainder is a fraction word problem.

Assessment	**Formal :** No formal, recorded Assessment **Informal :** Unrecorded assessment of learners oral responses and ability to participate

FOURTH TERM: WEEK 5 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Says number names in sequence from 1 to 200
• Counts out collections of a given numbers of objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting in 1s from 100 to 200.
• Rational counting in 5s, forwards and backwards, from 70 to 150
• Rational counting in 10s and 1s, starting and stopping at any number in the number range 1 to 200.</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,3
LO 5 AS
1,2,3,4,5</td><td rowspan="2">• Number knowledge and mental computation:
- Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Doubles and halves both odd and even numbers 1 to 100
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=,
- Copies and extends number sequences to 200
- Calculates the multiplication of two single-digit numbers
• Analyses data to draw a conclusion.</td><td colspan="5">Daily:
• Count forwards in 2s using doubling.
• Count backwards in 2s using halving.
• Identify the numerosity of numbers from 60 to 80.</td></tr>
<tr><td>DAY 1

Identify and describe number sequences to 500.

Magic squares.</td><td>DAY 2

Doubles and halves odd and even numbers.

Calculate multiplication.</td><td>DAY 3

Identify patterns in numbers.

Doubles and halves odd and even numbers.</td><td>DAY 4

Calculate multiplication.

Addition and subtraction of two 2 digit numbers in spider diagrams.</td><td>DAY 5

Whole class activity.

Analysing Data

Design and make a collage of shapes (integration with Arts and Culture)</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>• Solve different types of problems and explain solutions with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-175; Group 2 works in 1-150; Group 3 works in 1-100</td><td></td></tr>
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Ask one grouping and one sharing word problem.
Group 1 works on its own.</td><td></td></tr>
</table>

WEEK 5: WHOLE CLASS

WEEK 5	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means than the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependant on its place in the number.
- You are continuing to develop an understanding of the relationship of repeated addition leading to multiplication.
- You are also extending the learners' understanding of counting and the relationship of numbers in a vatiety of contexts.
- **Assessment Task 2 will be completed this week**.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

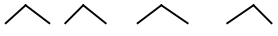
These must be done daily:

- Rote count from 100 to 200 – with learners clapping their hands as they say every 10th number and stamping their feet as they say every 5th number. Ask learners to identify the pattern (counting in 5s and 10s).
- Randomly choose a 2 digit number and a 3 digit number (draw it out of a packet, ask a learner, use the date, etc.) and, using the numbers, count forwards and backwards in 5s.

Choose from the following (to make up the 10 mins.):

- Give learners a number of counters and, working in pairs, they count the number. They then group (structure) the counters into 2s or 5s or 10s, count the number of groups and record e.g. 74 → 7x10 +4, 10+10+10+10+10+10+10+4, etc. OR 74→ 14x5 +4 etc.
- Give learners beads, buttons, safety pins, paper clips, match-sticks, etc and let them group them into groups of 10 e.g. use wool and thread 10 buttons, hook 10 paper clips together, etc.
- Let learners count using the grouped objects (structured).
- Play "10 questions". Tell learners you are thinking of a number that is between 50 and 100. They are allowed to ask only 10 questions in order to identify the number. If they identify the number, the class gets 1 point and if they don't, you get the point. Here is an example:
  1. Is it an even or an odd number? (even)
  2. Is it between 60 and 70? (no)
  3. Is it more than 70? (yes)
  4. Is it a multiple of 5? (yes)
  5. Is it 75? (no) and so on.

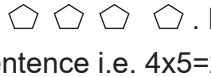
DAY 1 (to take no more than 20 minutes)

- Put a pile of matches in the middle of each group. Learners take enough matches each to build 2 squares - each side is 1 match-length i.e. ☐ ☐. Learners record this in their books and write the multiplication number sentence i.e. 2x4=8.
- Using the same number of matches, learners make shapes such as arrow heads, using 2 matches for each shape e.g.  . Learners record this in their books and write the multiplication number sentence i.e. 4x2=8
- If you have not already introduced your learners to magic squares, you should begin to do so. Draw a 3x3 square on the board, fill in the numbers from 1 to 9 as indicated and ask learners to find out why it is a magic square e.g.

8	1	6
3	5	7
4	9	2

***Tip**: . A magic square is when the numbers in each of the rows or columns adds up to the same thing. In this example the magic number is 15: 8+1+6=15, or 8+5+2=15, or 8+3+4=15 and so on.*

DAY 2 (to take no more than 20 minutes)

- Put a pile of matches in the middle of each group. Learners take enough matches each to build 5 squares - each side is 1 match i.e. ☐ ☐ ☐ ☐ ☐. Learners record this in their books and write the multiplication number sentence i.e. 5x4=20.
- Using the same number of matches, learners make 4 shapes using 5 matches for each shape e.g.  . Learners record this in their books and write the multiplication number sentence i.e. 4x5=20
- Give each learner a worksheet (or write it on the board for learners to copy) where learners will tell you 10 facts about a number e.g.

Choose your own number and write it in the box.

Write your number in the box each time and answer the questions

- What 3 numbers added together make ∏ ?
- What 4 numbers added together make ∏?
- What 3 numbers when subtracted give you ∏?
- ∏ is half of what number?
- ∏ is double what number?
- ∏ is less than _____ and more than _____
- Write 4 number sentences about you number.

***Tip**: Use this as an activity for Assessment Task 2.*

DAY 3 (to take no more than 20 minutes)

- Draw the following table on the board:

Count back					Count forwards				Use these intervals
				135					Count in 1s
				135					Count in 2s
				135					Count in 5s
				135					Count in 10s

Choose a learner to give you a number between 80 and 150 e.g. 135. Write it in each row. Call two learners at a time to fill in the spaces to the right and the left by counting on in the intervals indicated.

- Draw another table exactly like the first one, but write the number 146 in the middle. Learners copy this table into their books and complete it on their own.

***Tip**: Use this activity of extending number sequences towards Assessment Task 2.*

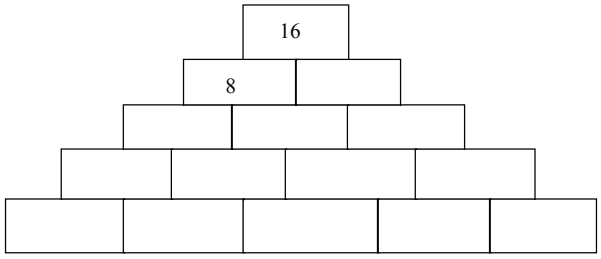
DAY 4 (to take no more than 20 minutes)

- Give each learner a worksheet (or draw it on the board and learners must copy it into their books) with doubling and halving activities e.g.

1. Complete the following table:

Half		Double
	44	
	31	
	25	
	20	

2. Complete the pyramid by halving the numbers in each row.



3. Find the solution to these problem. Show your working.

Jenny has R53 and Tom has double this. How much money does Tom have?

Sally has a box of 73 bananas. She gives half of them to the learners in her class and the other half to her teacher. How many bananas does Sally's teacher get?

***Tip**: Use this worksheet towards Assessment Task 2.*

DAY 5 (the whole lesson)

- Give the learners a worksheet with the following table

1. Complete the following table by filling in the missing information.

Our Pets	Tally	How many?
Dogs	𝍸 𝍸 𝍸 𝍸 II	
Cats		34
Goats	𝍸 𝍸 𝍸	
Chickens		79
Rabbits		114

2. Answer these questions
   - How many goats are there? _____
   - How many more cats than dogs? _____
   - Which pet is the most popular? _____

***Tip**: Use this towards Assessment Task 2.*

- Give each learner a worksheet with lots of different size squares and rectangles. Learners cut out each shape and use them to make their own design by pasting them on another piece of paper. Encourage learners to be as creative as possible by looking at different ways of placing the shapes on the paper. Once the shapes are pasted down, learners can decorate their design.

ASSESSMENT	**Formal: Recorded Assessment Task 2:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Number knowledge and mental computation: - Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3 - Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc. - Doubles and halves both odd and even numbers 1 to 100 - Copies and extends number sequences to 200 • Analyses data to draw a conclusion

WEEK 5: GROUP TEACHING

Week 5	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- **Assessment Task 2 will be completed this week. Assess the use of flard cards during the group teaching time.**

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square.
- Cards and counters e.g.

> Estimate how many counters there are.
> Count them and write the number.
> Write the number name.
> Compare the estimated number with the actual number.
> *My estimation was more or less*
> Write the number that is 5 more.
> Write the number that is 5 less.
> This number comes between _____ and _____.

- Complete a table e.g.

Children	10	15	20	25
Fingers	100			

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes.*

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 143. Ask them to show the number as expanded notation i.e. 100 and 40 and 3. Discuss what numbers are used to make the number 143. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.

- Ask learners to build the number 127. Once they have expanded it and then built it up again, ask them to do the following:
  - Show the number you will get when you add 10 to 127. What is the new number? 137. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you add 30 to 127. What is the new number? 157. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you take 5 away from 127. What is the new number? 122. Which number changed? Why did the 7 change and not the 100 or the 20? Repeat the activity using other 3 digit numbers.

  ***Tip**: This is one of the activities that make up Assessment Task 2*
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one doubling and one halving and on Wednesday you will ask one grouping and one sharing word problem.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 143. Ask them to show the number as expanded notation i.e. 100 and 40 and 3. Discuss what numbers are used to make the number 143. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.

  ***Tip**: This is one of the activities that make up Assessment Task 2*
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one doubling and one halving and on Wednesday you will ask one grouping and one sharing word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 143. Ask them to show the number as expanded notation i.e. 100 and 40 and 3. Discuss what numbers are used to make the number 143. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.

  ***Tip**: This is one of the activities that make up Assessment Task 2*

• Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be one doubling and one halving and on Wednesday and Thursday you will ask one grouping and one sharing word problem.	
Assessment	**Formal: Recorded Assessment Task 2:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Number knowledge and mental computation: - Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3 - Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc. - Doubles and halves both odd and even numbers 1 to 100 - Copies and extends number sequences to 200 • Analyses data to draw a conclusion

SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY FOURTH TERM

TASK 2 : WEEK 5

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Number knowledge and mental computation: - Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc. - Doubles and halves both odd and even numbers 1 to 100 - Copies and extends number sequences to 200 • Analyses data to draw a conclusion	Wk 3 Wk 5	• Use the daily activities throughout the week to assess whether learners can analyse data. • Use the written activity on Day 2 to assess understanding of number relationships (numerosity). • Use the written activities on Day 3 to assess sequencing of numbers to 200. • Use the written activities on Day 4 to assess doubling and halving of numbers to 100. • Use the activities on Day 5 to assess analyzing of data..
PROBLEM SOLVING	• Number knowledge and mental computation: - Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3	Wk 5	• Use the practical working with flard cards for assessing place value and expanded notation.

FOURTH TERM: WEEK 6 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Counts out objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting in 1s from 100 to 200.
• Rational counting in 5s, forwards and backwards, from 70 to 150
• Rational counting in 10s and 2s, in the number range 1 to 200 e.g. 10, 20, 30, 32, 34, etc.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,3,4
LO3 AS 5,7</td><td rowspan="3">• Number knowledge and mental computation:
- Uses flard cards to build three-digit numbers to at least 200 e.g. 143=100+40+3
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3=
- Doubles and halves both odd and even numbers 1 to 100
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Copies and extends number sequences to 200
• Recognises 3D objects from various positions.</td><td colspan="5">Daily:
• Count out objects to 100.
• Expanded notation of 3 digit numbers.
• Numerosity of 2 digit numbers</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Addition and subtraction of 6 to 9 to any 2 digit number.

Identify patterns leading to multiplication.</td><td>Addition and subtraction using tables

Identify patterns leading to multiplication.</td><td>Identify patterns leading to multiplication.

Addition and subtraction using tables.</td><td>Addition and subtraction of a single digit to a 3 digit number.</td><td>Whole class activity.

Measurement: length</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>• Uses flard cards to decompose 3 -digit numbers as expanded notation e.g. 241=200+40+1.
• Solves and explains solutions to practical problems that involve equal sharing and grouping with solutions where the remainder becomes a fraction</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-200; Group 2 works in 1-750; Group 3 works in 1-120</td><td></td></tr>
<tr><td></td><td>Group 1 and 3 work with teacher, one group at a time.
Ask one sharing where the remainder is a fraction and one repeated addition word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one sharing where the remainder is a fraction and one repeated addition word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one grouping and one subtraction word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one grouping and one subtraction word problem.
Group 1 works on its own.</td><td></td></tr>
</table>

WEEK 6: WHOLE CLASS

WEEK 6	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means than the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependant on its place in the number.
- The activities are designed to deepen the learners' understanding of working with numbers and their relationship to other numbers.
- Make sure you are still working at a Grade 2 level. In other words, the learners who think more slowly should be able to cope well with the activities. It is through your questioning that you will extend the faster thinkers.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 1 to 100 – with learners whispering the odd numbers and saying the even numbers aloud. Ask learners to identify the pattern (counting in 2s).
- Repeat the activity with learners clicking their fingers as they say every 10th number.

Choose from the following (to make up the 10 mins.):

- Using their number grids, learners count in 2s placing a counter (bean, piece of paper, etc.) on each multiple as they say the number. Ask questions such as:
  - Is the number 8 in the 2s pattern?
  - Is the number 46 in the 2s pattern?
  - Is the number 61 in the 2s pattern?
- Tell learners that you are going to clap and that each clap counts as 10 e.g. 1 clap is 10, 2 claps are 20, 3 claps are 30 etc. Learners listen to the number of claps and then tell you how much it represents. Repeat the activity, but this time if you click your fingers it counts as 5. If you do the following: *6 claps and 3 clicks*, learners need to be able to say the number is 75 (6x10 plus 3x5). Write the number sentence on the board and ask 5 learners to tell you another number sentence that means the same e.g. you write (6x10) + (3x5)=75 and learners say things like 70+5=75, or 80-5=75 and so on.

DAY 1 (to take no more than 20 minutes)

- Give each learner an A5 sheet of squared paper. There should be at least 12 rows with 20 squares in each row as well as a margin. Working together, learners will write the multiplication number sentences in the margin and then colour (or use symbols to show the correct number) the correct number of blocks to show the answer. In the next row, learners record the repeated addition, e.g.

4x2	*	*	#	#	@	@	&	&						
	2	+	2	+	2	+	2	=	8					
3x5	*	*	*	*	*	#	#	#	#	#	@	@	@	@	@
	5	+	5	+	5	=	15							

***Tip**: Only do 2 or 3 a day as you will repeat this activity each day this week.*

- Choose a learner to give you a number between 90 and 190 e.g. 164. Write in on the board and draw 4 spaces to the left of the number and 4 spaces to the right of the number. Call one learner to fill in the spaces to the right by counting on in 1s. Now call another learner to fill in the spaces to the left, starting at the number and counting back in 1s e.g.

____	____	_____	_____	164	____	____	____	____

- Redo the activity using the same number in the middle, but this time counting forwards and backwards in 2s.

DAY 2 (to take no more than 20 minutes)

- Use the paper from Day 1 and let learners repeat the activity using different numbers each day. Learners will write the multiplication number sentences in the margin and then colour (or use symbols to show the correct number) the correct number of blocks to show the answer. In the next row, learners record the repeated addition.
- Give each learner an empty 10x10 grid. Write a number sentence on the board e.g. 42+26=☐. Using a colour for each number, learners colour in the number of rows and blocks to show each number. They then record the number sentence as they understand it. Write 2 more number sentences on the board and let learners complete the activity.

DAY 3 (to take no more than 20 minutes)

- Use the paper from Day 1 and let learners repeat the activity using different numbers each day. Learners will write the multiplication number sentences in the margin and then colour (or use symbols to show the correct number) the correct number of blocks to show the answer. In the next row, learners record the repeated addition
- Draw a 3x3 square on the board, fill in the numbers from 1 to 9 as indicated and revise why this is a magic square and what the magic number is (it is 15) e.g.

8	1	6
3	5	7
4	9	2

- Draw the following 3x3 squares on the board and let the learners work out the missing numbers. Tell them the magic number is 12 and they can only use the numbers 0 to 8, once each.

3		7
	6	

		5
	8	1
2		

5	0	
	4	
		3

DAY 4 (to take no more than 20 minutes)

- Use the paper from Day 1 and let learners repeat the activity using different numbers each day. Learners will write the multiplication number sentences in the margin and then colour (or use symbols to show the correct number) the correct number of blocks to show the answer. In the next row, learners record the repeated addition
- Draw the following table on the board:

Count back					Count forwards				Use these intervals
									Count in 1s
									Count in 2s
									Count in 5s
									Count in 10s

Learners copy this into their books. Let each learner choose his/her own number in the number range 80 to 170 and use this number to complete the table.

DAY 5 (the whole lesson)

- Each learner will need a strip of thin cardboard the width of an A4 sheet. They use their thumbs to mark off spaces across the strip. This is a thumb ruler.

I	I	I	I	I	I	I	I	I	I	I

This thumb ruler belongs to _____.

Learners use their thumb measures to measure objects e.g.
your pencil, your exercise book, your Numeracy books, anything you like

- Working in their group, learners compare the measurements they have to find out answers to questions such as *are your measurements always the same as the others in the group?* Encourage learners to think of the reasons for similarities and differences in the measurements.

ASSESSMENT	**Formal :** No formal, recorded Assessment **Informal:** Unrecorded assessment of learners' oral responses and ability to participate.

WEEK 6: GROUP TEACHING

Week 6	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- The work for each of the 3 groups is different. Do not be tempted to do the same work with all the learners. It is during this group teaching time that you are able to work with learners at their own level.

DAILY ACTIVITIES

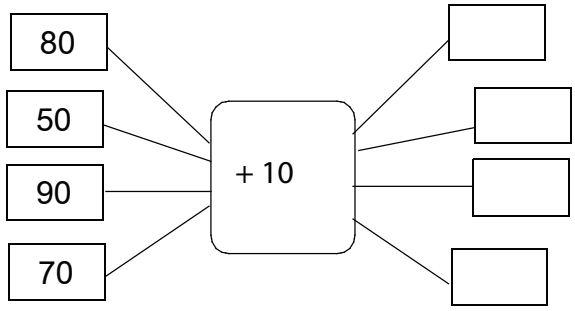
Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Learners identify the 2 numbers that make 10, filling in the missing frame, e.g.

24+☐+7=37
☐ + 4 + 8=48

54-☐+9=59
72-☐+3=73

- Use a spider diagram and table where the input number is given.



	80	50	90	70
+10				

- Cards which require expanded notation as well as number names e.g.

78	70+8	seventy eight
	40+9	
		eighty four

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Give each learner a 10x10 grid without numbers. Write the number sentence 34+18=⎕. Using counters, learners will cover the correct number of blocks i.e. first indicating 34 blocks (3 rows and another 4 blocks). Starting on the next row they will cover 18 blocks i.e. 1 row and 8 blocks on the following row. Learners count row by row i.e. 10, 20, 30, 34, 44, 45, 46, 47, 48, 48, 50, 51, 52 (3 rows of 10→30+4→34+10→44+8→52). Now let the learners record the picture by recording all the 10s first e.g. 10+10+10+10→40+4+8=52
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one sharing where the remainder is a fraction and one repeated addition and on Wednesday you will ask one grouping and one subtraction word problem.

GROUP 2

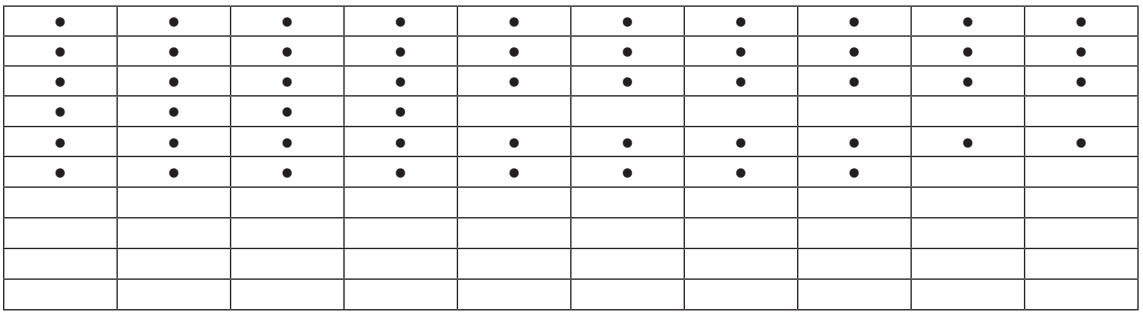
*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 159. Ask them to show the number as expanded notation i.e. 100 and 50 and 9. Discuss what numbers are used to make the number 159. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Ask learners to build the number 127. Once they have expanded it and then built it up again, ask them to do the following:
  - Show the number you will get when you add 10 to 127. What is the new number? 137. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you add 30 to 127. What is the new number? 157. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you take 5 away from 127. What is the new number? 122. Which number changed? Why did the 7 change and not the 100 or the 20? Repeat the activity using other 3 digit numbers.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be one sharing where the remainder is a fraction and one repeated addition and on Thursday you will ask one grouping and one subtraction word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 143. Ask them to show the number as expanded notation i.e. 100 and 40 and 3. Discuss what numbers are used to make the number 143. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again
- Give each learner a 10x10 grid without numbers. Write the number sentence 34+18=☐. Using counters, learners will cover the correct number of blocks i.e. first indicating 34 blocks (3 rows and another 4 blocks). Starting on the next row they will cover 18 blocks i.e. 1 row and 8 blocks on the following row. Learners count row by row i.e. 10, 20, 30, 34, 44, 45, 46, 47, 48, 48, 50, 51, 52 (3 rows of 10→30+4→34+10→44+8→52).



***Tip**: Most learners will count on the 8 remaining counters in 1s i.e. 44, 45, 46, etc.*
Repeat the activity using other numbers. Remember to include some subtraction number sentences.

- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be one sharing where the remainder is a fraction and one repeated addition and on Wednesday and Thursday you will ask one grouping and one subtraction word problem.

Assessment	**Formal :** No formal, recorded Assessment **Informal :** Unrecorded assessment of learners' oral responses and ability to participate

FOURTH TERM: WEEK 7 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Counts out objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting in 1s from 100 to 200.
• Rational counting in 5s, forwards and backwards, from 70 to 150
• Rational counting in 10s and 2s, in the number range 1 to 200 e.g. 10, 20, 30, 32, 34, etc.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,3,4
LO3 AS 5,7</td><td rowspan="3">• Number knowledge and mental computation:
- Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3=
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Copies and extends number sequences to 200
- Calculates the multiplication of two single-digit numbers e.g. 6x5=, 9x2=
• Knows or can easily establish addition and subtraction facts e.g. 15+14 =29; 29–11=8, 48+20= etc.
• Demonstrates understanding of 2D shape and 3D objects including orientation and position</td><td colspan="5">Daily:
• Expanded notation of 2-digit numbers
• Multiplication of two 1-digit numbers
• Establishes number facts easily</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Copies and extends number sequences</td><td>Copies and extends number sequences

Add and subtract two 2-digit numbers</td><td>Copies and extends number sequences

Multiplication</td><td>Copies and extends number sequences

Multiplication</td><td>WHOLE CLASS ACTIVITY

Using a net to make a pyramid. (Integrate with Technology)</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>- Solves and explains solutions to practical problems that involve equal sharing and grouping with solutions where the remainder becomes a fraction
- Solve different types of problems and explain solutions to problems including money problems with whole numbers to at least 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-175; Group 2 works in 1-150; Group 3 works in 1-100</td><td rowspan="2"></td></tr>
<tr><td>Group 1 and 3 work with teacher, one group at a time.
Ask one doubling and one halving word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one doubling and one halving word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one grouping and one sharing word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one grouping and one sharing word problem.
Group 1 works on its own.</td></tr>
</table>

WEEK 7: WHOLE CLASS

WEEK 7	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- **Assessment Task 3 will be completed this week.**

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 100 to 200 – with learners clapping their hands as they say every 10th number and stamping their feet as they say every 5th number. Ask learners to identify the pattern (counting in 5s and 10s).
- Randomly choose a 2 digit number and a 3 digit number (draw it out of a packet, ask a learner, use the date, etc.) and, using the numbers, count forwards and backwards in 5s.

Choose from the following (to make up the 10 mins.):

- Tell learners that you are going to clap and that each clap counts as 10 e.g. 1 clap is 10, 2 claps are 20, 3 claps are 30 etc. Learners listen to the number of claps and then tell you how much it represents.
- Repeat the activity, but this time if you click your fingers it counts as 5. If you do the following: *6 claps and 2 clicks*, learners need to be able to say the number is 70 (6x10 plus 2x5)
- Give learners to objects they grouped together in Week 5 and let them count them i.e. as grouped objects in 5s, 10s, etc.
- Play “10 questions”. Tell learners you are thinking of a number that is between 10 and 20. They are allowed to ask only 10 questions in order to identify the number. If they identify the number, the class gets 1 point and if they don’t, you get the point☺ Here is an example:
  1. Is it an even or an odd number? (even)
  2. Is it between 12 and 16? (no)
  3. Is it more than 15? (yes)
  4. Is it a multiple of 2? (yes)
  5. Is it 20? (no) and so on.

  Tip: *Play this game a few times every day this week making sure everyone has a chance to ask questions. Use it to assess learners who are not able to work out the numbers and record those learners. This activity is part of Assessment Task 3.*

DAY 1 (to take no more than 20 minutes)

- Learners count out 40 counters each. Draw 2 circles on the board and ask learners to put out the same number of counters. Tell them to count out another group that is 1 more i.e. 3. Draw a picture with 3 circles on the board and ask if this is what they have done. Learners continue to put out groups adding 1 more counter each time until there is a group of 10 and you draw the groups on the board. Your drawings and the learners counters should look like this:

  ○ ○○
  ○○ ○○ ○○

  Call a learner to come and write the number of counters in each group under the group i.e. 2, 3, 4, 5 etc. Call another learner to write how many counters were added each time (at the top). e.g.

  +1 ○ +1 ○○
  ○○ ○○ ○○
  2 3 4

  Ask who can come and record how the pattern increases e.g. by 1 each time and what the next number will be.

  +1 ○ +1 ○○ +1
  ○○ ○○ ○○
  2 3 4

  2+1→ 3+ 1→ 4**+1**→ and so on.

DAY 2 (to take no more than 20 minutes)

- Repeat the activity from Day 1, but instead of using counters, learners draw the groups in their books and record the number sequences.
- Give the learners a worksheet to complete (or write the work on the board) where they have to add and subtract two 2-digit numbers. Use a table so that you can assess other skills as well

	+10	x2	-12	+35	-25	halve
26						
38						
64						

***Tip**: Use this activity towards Assessment Task 3*

DAY 3 (to take no more than 20 minutes)

- Give each learner an A5 sheet of squared paper. There should be at least 12 rows with 20 squares in each row as well as a margin. You will give the learners a repeated addition number sentence which they will record on the first line. Learners will draw the pictures for this underneath in the next row. They will also write the multiplication number sentence in the margin. Do 3 number sentences. This is what it will look like

4x2	2	+	2	+	2	+	2	=	8						
	*	*	@	@	#	#	^	^							
	5	+	5	+	5	=									

***Tip**: Use this activity towards Assessment Task 3.*

DAY 4 (to take no more than 20 minutes)

- Give learners a number of counters and, working in pairs, they count the number. They then group (structure) the counters into 2s or 5s or 10s, count the number of groups and record e.g. 74 → 7x10 +4, 10+10+10+10+10+10+10+4, etc. OR 74→ 14x5 +4 etc.
- Give each learner a A5 sheet of squared paper. There should be at least 12 rows with 20 squares in each row as well as a margin. Working together, learners will write the multiplication number sentences in the margin and then colour (or use symbols to show the correct number) the correct number of blocks to show the answer. In the next row, learners record the repeated addition, e.g.

2x2	*	*	#	#						
	2	+	2	=	4					
2x5	*	*	*	*	*	#	#	#	#	#
	5	+	5	=	10					

DAY 5 (the whole lesson)

- Give learners a template of a net to construct a pyramid. Use thin cardboard instead of paper if possible as it holds its shape better. Learners cut and fold the net according to instructions and then glue the tabs to form the shape. Provide magazines, newspapers and scissors and tell learners to cut out as many faces of people as they need to paste one on each flat surface of the pyramid. Once these are cut out, learners paste them on each face of the pyramid. Remember that the base is also a face*!* Learners then use their pyramids and draw the shape of each face that they see as they turn the pyramid. In the end learners will have drawn 4 triangles and a square.

  ***Tip**: Use this as one of the activities for Assessment Task 3*

ASSESSMENT	**Formal: Recorded Assessment Task 3:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Number knowledge and mental computation: - Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3= - Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25= - Calculates the multiplication of two single-digit numbers e.g. 6x5=, 9x2= • Knows or can easily establish addition and subtraction facts e.g. 15+14 =29; 29–11=8, 48+20= etc. • Demonstrates understanding of 2D shape and 3D objects including orientation and position

WEEK 7: GROUP TEACHING

Week 7	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- **Assessment Task 3 will be completed this week.**

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

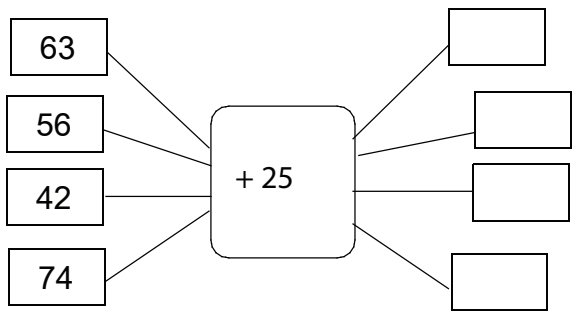
- Complete a table

Chairs	6	7	8	9
Legs				

- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square.
- Number patterns e.g. 31+3=; 32+3=; 33+3=; 34+3=; and 60-3=; 59-3=; 58-3= etc.
- Complete the table by counting forwards and backwards

Count back					Count forwards				Use these intervals
				149					Count in 1s
				95					Count in 2s
				115					Count in 5s
				107					Count in 10s

- Use a spider diagram and table where the input number is given.



	63	56	42	74
+25				

***Tip**: You can use any of these written activities for assessment purposes.*

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 159. Ask them to show the number as expanded notation i.e. 100 and 50 and 9. Discuss what numbers are used to make the number 159. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Ask learners to build a 3-digit number e.g.127. Once they have expanded it and then built it up again, ask them to do the following:
  - Show the number you will get when you add 10 to 127. What is the new number? 137. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you add 30 to 127. What is the new number? 157. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you take 5 away from 127. What is the new number? 122. Which number changed? Why did the 7 change and not the 100 or the 20? Repeat the activity using other 3 digit numbers.

  ***Tip**: This is one of the activities for Assessment Task 3*
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one doubling and one halving and on Wednesday you will ask one grouping and one sharing word problem.

  ***Tip**: You need to assess problem solving as part of Assessment Task 3. You could, therefore, do the flard cards on day 1 and do problem solving on the day2.*

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 159. Ask them to show the number as expanded notation i.e. 100 and 50 and 9. Discuss what numbers are used to make the number 159. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Ask learners to build a 3-digit number e.g.127. Once they have expanded it and then built it up again, ask them to do the following:

- Show the number you will get when you add 10 to 127. What is the new number? 137. Which number changed? Why did the 20 change and not the 100 or the 7?
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- Show the number you will get when you take 5 away from 127. What is the new number? 122. Which number changed? Why did the 7 change and not the 100 or the 20? Repeat the activity using other 3 digit numbers.

***Tip**: This is one of the activities for Assessment Task 3*

- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one doubling and one halving and on Wednesday you will ask one grouping and one sharing word problem.

  ***Tip**: You need to assess problem solving as part of Assessment Task 3. You could, therefore, do the flard cards on day 1 and do problem solving on the day 2.*

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 159. Ask them to show the number as expanded notation i.e. 100 and 50 and 9. Discuss what numbers are used to make the number 159. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Ask learners to build a 3-digit number e.g.127. Once they have expanded it and then built it up again, ask them to do the following:
  - Show the number you will get when you add 10 to 127. What is the new number? 137. Which number changed? Why did the 20 change and not the 100 or the 7?
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  - Show the number you will get when you take 5 away from 127. What is the new number? 122. Which number changed? Why did the 7 change and not the 100 or the 20? Repeat the activity using other 3 digit numbers.

  ***Tip**: This is one of the activities for Assessment Task 3*
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 175. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be one doubling and one halving and on Wednesday and Thursday you will ask one grouping and one sharing word problem.

  ***Tip**: You need to assess problem solving as part of Assessment Task 3. You could, therefore, do the flard cards on day 1 and do problem solving on each of the other days..*

Assessment	**Formal: Recorded Assessment Task 3:** During the whole class and group teaching activities as indicated rate the learners against the following • Number knowledge and mental computation: - Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3= - Solves and explains solutions to practical problems that involve equal sharing and grouping with solutions where the remainder becomes a fraction - Solve different types of problems and explain solutions to problems including money problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below - building up and breaking down numbers - doubling and halving - number lines

SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY FOURTH TERM

TASK 3 : WEEK 7

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Number knowledge and mental computation: - Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3= - Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25= - Calculates the multiplication of two single-digit numbers e.g. 6x5=, 9x2= • Knows or can easily establish addition and subtraction facts e.g. 15+14 =29; 29–11=8, 48+20= etc. • Demonstrates understanding of 2D shape and 3D objects including orientation and position	Wk 7	• Use the daily oral activities to assess learners' ability to establish number facts quickly. • Use the written activity on Day 2 to assess the addition and subtraction of two 2-digit numbers. • Use the written activities on Day 3 to assess the calculation of single digit numbers. • Use the practical activities on Day 5 to assess understanding the orientation and position of 3-D objects.
PROBLEM SOLVING	- Solves and explains solutions to practical problems that involve equal sharing and grouping with solutions where the remainder becomes a fraction - Solve different types of problems and explain solutions to problems including money problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below - building up and breaking down numbers - doubling and halving - number lines	Wk 6	• Use the practical working with flard cards for assessing place value and expanded notation. • Use the problem solving activities to assess learners understanding of grouping and sharing where the remainder is a fraction.

FOURTH TERM: WEEK 8 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Counts out objects to 100.
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting from 100 to 200
• Rote counting in 1s starting and stopping at any number between 100 and 200
• Rational counting in 5s and 10s from any number between 1 and 150</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,3,4
LO3 AS 1,2
LO 4 AS1,3,4</td><td rowspan="2">• Number knowledge and mental computation:
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3=
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=, 54-25=
- Copies and extends number sequences to 200
- Calculates the multiplication of two single-digit numbers e.g. 6x5=, 9x2=
• Uses hours and minutes to calculate time.</td><td colspan="5">Daily:
• Identifies the numerosity of numbers to 100
• Time
• Knows or can easily establish number facts to 20</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>• Solve different types of problems and explain solutions to problems including money problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td>Number patterns

Multiplication of single digit numbers</td><td>Number patterns

Multiplication</td><td>Number patterns

Add and subtract two 2-digit numbers</td><td>Number patterns

Multiplication</td><td>Whole class activity

Measurement</td></tr>
<tr><td></td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-200; Group 2 works in 1-150; Group 3 works in 1-100</td><td></td></tr>
<tr><td></td><td>Group 1 and 3 work with teacher, one group at a time.
Ask one addition and one time word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one addition and one time word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one combination and one grouping word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask one combination and one grouping word problem.
Group 1 works on its own.</td><td></td></tr>
</table>

WEEK 8: WHOLE CLASS

WEEK 8	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- You have been building up the understanding of multiplication leading to the understanding of the equivalence of number sentences i.e. 2x5=5x2
- You are also extending learners' understanding of number patterns and their ability to identify patterns in different contexs.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 1 to 100 – with learners counting normally but clapping on every 5th number. Ask learners to identify the pattern (counting in 5s).
- Repeat the activity with learners clicking their fingers as they say every 10th number.
  Tip*: Learners may find it difficult to click their fingers, but it is a very good fine muscle activity and learners enjoy it.*

Choose from the following (to make up the 10 mins.):

- Tell the learners to write down as many multiples of 2/5/10 as possible while you time 1 minute. At the end of the minute let learners indicate how far they got. Walk around and observe that the learners are recording correctly
- Each group is given a random set of numbers from 50 to 100 and a set of cards with instructions. Each learner in the group takes one number and writes it in his/her book. He/she then takes one card and follows the instructions, writing the number sentences in the numeracy books. e.g.

Write 2 numbers that can be added together to make your number. Write 5 numbers that can be added together to make your number. Write 3 numbers that can be taken away from 100 to make your number. How many 2s in your number? What is double your number?		Write 4 numbers that can be added together to make your number. Write 3 numbers that can be taken away from each other to make your number. How many 5s in your number? Is it an odd or an even number? What is half of your number?

- Group the class into 4 teams. Call one learner from each team to the board and ask them to write any 2-digit number. Then call another learner from each team and ask them to write the number names. Repeat the activity until everyone has had a turn to write on the board.
- Make up a short story every day involving time e.g.
  - Mom started cooking at 5 o'clock
  - She finished peeling the vegetables at half past 5.
  - At 6 o'clock the vegetables were cooked and she started to fry the meat.
  - At half past 6 she called the family to come and eat.
  - How long did it take to prepare the whole meal?

DAY 1 (to take no more than 20 minutes)

- Give each learner a A5 sheet of squared paper. There should be at least 12 rows with 20 squares in each row as well as a margin. You will give the learners a multiplication number sentence e.g. 4x2, which they will record in the margin and draw the pictures for this in the same row. In the next row write the number sentence the other way, i.e. 2x4. Learners write this multiplication number sentence in the margin and draw the pictures. This is what it will look like

4x2	*	*	@	@	#	#	^	^
2x4	*	*	*	*	@	@	@	@

Discuss the similarities and differences between the 2 rows i.e. why the 2 rows have the same number of drawings and why the groupings of the drawings is different.

- Write the following numbers on the board and learners copy them into their books.

  2 3 5 8 12 17 23

  Once everyone has done this, let learners work in their groups to identify the pattern. They record the pattern as they did in Week 7 i.e.

  2 3 5 8 12 17 23

  2 **+1**→3 **+2**→5 **+3**→ 8 **+ 4** →12 etc.

DAY 2 (to take no more than 20 minutes)

- Using the paper from Day 1, give the learners another set of multiplication number sentences e.g. 3x2 and 2x3. They will record these in the margin and draw the pictures for them as for Day 1

3x2	*	*	@	@	#	#
2x3	*	*	*	@	@	@

Discuss the similarities and differences between the 2 rows i.e. why the 2 rows have the same number of drawings and why the groupings of the drawings is different.

- Write the following numbers on the board and learners copy them into their books.

  1 2 4 7 11 16 22

  Once everyone has done this, let learners work in their groups to identify the pattern. They record the pattern as they did in Day 1. Now write just the first number of the sequence e.g.

3 and learners complete the increasing pattern using the same rule as for the first set of numbers. Learners must record the sequence.

DAY 3 (to take no more than 20 minutes)

- Using the paper from Day 1, give the learners another set of multiplication number sentences e.g. 3x2 and 2x3. They will record these in the margin and draw the pictures for them as for Day 1

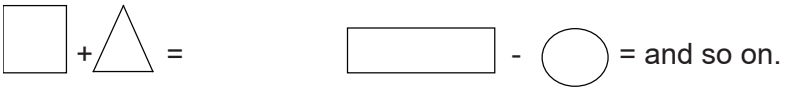
5x2	*	*	@	@	#	#	^	^	&	&
2x5	*	*	*	*	*	@	@	@	@	@

Discuss the similarities and differences between the 2 rows i.e.why the 2 rows have the same number of drawings and why the groupings of the drawings is different.

- Draw a few different shapes on the board and give them each a value e.g.



Now write some shape number sentences and let the learners work out the answers e.g.



DAY 4 (to take no more than 20 minutes)

- Give each learner a clean piece of squared paper and encourage them to write their own multiplication number sentences and illustrate them as for Days 1, 2 and 3.
  ***Tip**: This is leading learners towards an understanding of the commutative property of multiplication i.e. the equivalence of multiplication number sentences 2x5=5x2*
- Let every learner count out 9 counters and then ask them to arrange them in a square. All the counters must be used. Once everyone has got it correct discuss what they done i.e. each row and each column of the square have 3 counters. Write this on the board i.e. 3 rows of 3=9 and 3 columns of 3 =9. Now ask learners to make a square that has 4 in each row and 4 in each column. As they build this they will discover that they need 16 counters. Now let learners build other square numbers e.g. 5 by 5, 10 by 10, etc.

DAY 5 (the whole lesson)

- For this activity learners will need to work in threes. One learner lies on the floor while the other two measure the learner using a piece of string/wool from head to feet. Cut the string the correct length and call it a lie-down. Once all three learners have their own lie-down string, they help each other to use their individual lengths of string to do the following activities:
  - How many lie-downs from your table to the door?
  - How many lie-downs from your table to the staff room?
  - How many lie-downs from your classroom to the playground? and so on.

As they complete each activity they compare their results e.g. *are the measurements the same? If not, do you know why?, etc.*	
ASSESSMENT	**Formal :** Formal, recorded Assessment **Informal:** Unrecorded assessment of learners oral responses and ability to participate.

WEEK 8: GROUP TEACHING

Week 8	**GROUP TEACHING COMPONENT (Concept Development and Problem Solving)**

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- You will use the group teaching time for assessing learners ability to solve problems. By this time in the year you will expect learners to be able to record their thinking using numbers and not only drawings. Although you are assessing during the problem solving activity, learners may still have access to counters, number grids, etc.

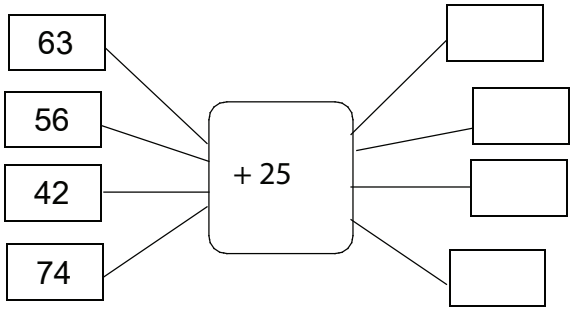
DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Expanded notation of 2 and 3 digit numbers.
- Complete the number sentences – addition and subtraction of two 2-digit numbers
- Create own number patterns
- Complete the table by counting forwards and backwards

Count back					Count forwards				Use these intervals
				149					Count in 1s
				95					Count in 2s
				115					Count in 5s
				107					Count in 10s

- Use a spider diagram and table where the input number is given.



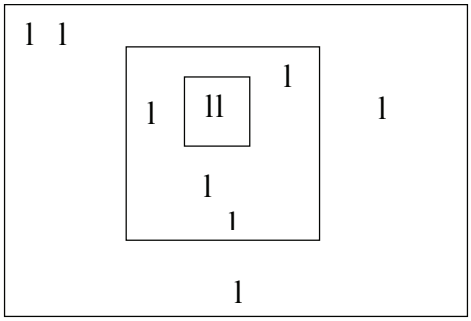
	63	56	42	74
+25				

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Place an open newspaper on the floor, a magazine on top of the newspaper and an exercise book on top of the magazine. Learners take turns to throw 10 toothpicks/matches/buttons at once onto the collection. Anything landing on the newspaper counts as 100, anything landing on the magazine counts as 10 and the exercise book as a single digit. E.g.



In this diagram, the learner would have a score of 442 (4 counting 100 each, 4 counting 10 each and 2 counting 1 each). The learner with the highest score is the winner.

- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 200. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one addition (equalize) and one using time and on Wednesday you will ask one grouping and one combination word problem.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Give each learner a 10x10 grid without numbers. Write the number sentence 34+18=∏. Using counters, learners will cover the correct number of blocks i.e. first indicating 34 blocks (3 rows and another 4 blocks). Starting on the next row they will cover 18 blocks i.e. 1 row

- and 8 blocks on the following row. Learners count row by row i.e. 10, 20, 30, 34, 44, 45, 46, 47, 48, 48, 50, 51, 52 (3 rows of 10→30+4→34+10→44+8→52). Now let the learners record the picture by recording all the 10s first e.g. 10+10+10+10→40+4+8=52
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be one addition (equalize) and one using time and on Thursday you will ask one grouping and one combination word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Learners set out their flard cards in sequence. Once you have revised a few 2 digit numbers, ask the learners to make a 3 digit number e.g. 159. Ask them to show the number as expanded notation i.e. 100 and 50 and 9. Discuss what numbers are used to make the number 159. Repeat using other 3 digit numbers. Each time ask the learners to make the number, then to break up the number and to show all the numbers separately and then to build the 3 digit number again.
- Ask learners to build the number 127. Once they have expanded it and then built it up again, ask them to do the following:
  - Show the number you will get when you add 10 to 127. What is the new number? 137. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you add 30 to 127. What is the new number? 157. Which number changed? Why did the 20 change and not the 100 or the 7?
  - Show the number you will get when you take 5 away from 127. What is the new number? 122. Which number changed? Why did the 7 change and not the 100 or the 20? Repeat the activity using other 3 digit numbers.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be one addition (equalize) and one using time and on Wednesday and Thursday you will ask one grouping and one combination word problem.

Assessment	**Formal :** Formal, recorded Assessment **Informal :** Unrecorded assessment of learners oral responses and ability to participate

FOURTH TERM: WEEK 9 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Says number names in sequence
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting from 100 to 200
• Rote counting in 1s starting and stopping at any number between 100 and 200
• Rational counting in 2s and 10s from any number between 1 and 150</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,5
LO3 AS 2,3
LO 4 AS1,3,4</td><td rowspan="2">• Number knowledge and mental computation:
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3=
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=
- Copies and extends number sequences to 200
- Creates own patterns
• Data handling</td><td colspan="5">Daily:
• Develops number relationships up to 100
• Calculates time</td></tr>
<tr><td>DAY 1

Copies and extends number sequences

Creates and describes own patterns</td><td>DAY 2

Copies and extends number sequences

Adds single digit to 3-digit numbers</td><td>DAY 3

Describes observed patterns

Magic squares</td><td>DAY 4

Use geometric patterns in nature or own culture to decorate a plate</td><td>DAY 5

Whole class activity

Collect data and draw pictograph</td></tr>
<tr><td rowspan="2">GROUP TEACHING

LO 1
AS7,10,11,12</td><td rowspan="2">• Solve different types of problems and explain solutions to problems including money problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-200; Group 2 works in 1-150; Group 3 works in 1-100</td><td rowspan="2"></td></tr>
<tr><td>Group 1 and 3 work with teacher, one group at a time.
Ask one array and one rate type word problem.
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Ask one array and one rate type word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one repeated addition and one sharing with a fraction word problem.
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Ask one repeated addition and one sharing with a fraction word problem.
Group 1 works on its own.</td></tr>
</table>

WEEK 9: WHOLE CLASS

WEEK 9	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- You are continuing to develop an understanding of patterns in different contexts.
- This week there are the activities that engage learners in looking at square numbers e.g. 3x3 and 4x4 etc. in a practical way, This is an extension of multiplication patterns.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 100 to 200 – with learners counting normally but clapping on every 5th number and clicking their fingers on every 10th number.
- Giving different learners an opportunity to choose, get a starting number, an ending number and a multiple to count in e.g. start at 112, count in 5s, end at 157, or start at 96, count in 2s and end at 42.

Choose from the following (to make up the 10 mins.):

- Count in 2s and do the following actions:

Touch your head	2	12	22
Touch your shoulders	4	14	24
Touch your knees	6	16	26
Touch your feet	8	18	28
Clap your hands	10	20	30

***Tip**: You can also do this when counting in 5s or 10s.*

- Play “10 questions”. Tell learners you are thinking of a number that is between 50 and 100. They are allowed to ask only 10 questions in order to identify the number. If they identify the number, the class gets 1 point and if they don’t, you get the point. Here is an example:
  1. Is it an even or an odd number? (even)
  2. Is it between 60 and 70? (no)
  3. Is it more than 70? (yes)
  4. Is it a multiple of 5? (yes)
  5. Is it 75? (no) and so on.
- Make 2 different coloured sets of cards – one set (e.g. blue) has a statement on and the other set (e.g. yellow) has a number on. Hand out the cards and learners with the blue cards take turns to hold up their card. Learners with the matching yellow card hold it up. Some examples are:

Blue cards
25 is half of
33 plus 11 is
9 times 5 is
42 is double

Yellow cards
21
45
50
44

For example, the learner with the blue card saying “25 is half of” holds it up and the learner with the matching yellow card (50) holds it up.

DAY 1 (to take no more than 20 minutes)

- Let every learner count out 9 counters and then ask them to arrange them in a square. All the counters must be used. Once everyone has got it correct discuss what they done i.e. each row and each column of the square have 3 counters. Write this on the board i.e. 3 rows of 3=9 and 3 columns of 3 =9. Now ask learners to make a square that has 4 in each row and 4 in each column. As they build this they will discover that they need 16 counters. Now let learners build other square numbers e.g. 5 by 5, 10 by 10, etc.
- Write the following numbers on the board and let the class identify the pattern.

  5 6 5 7 5 8 5 9

  5 **+1**→6**- 1**→5**+2**→7**-2** → 5**+3**→8**-3**→5**+4**→9

  Once the pattern has been identified let learners record it underneath the numbers.

DAY 2 (to take no more than 20 minutes)

- Give each learner a sheet of squared paper. Tell them they are going to make squared numbers by colouring in the correct number of squares. Tell them that the first number that they must make uses 9 blocks. Learners can make this square anywhere on their piece of paper and write the repeated addition in both directions e.g.

	3+									
	3+									
	3=9					4+				
		3+	3+	3=9		4+				
						4+				
						4=16				
							4+	4+	4+	4=16

Learners should use a different colour for each number. Encourage learners to say how many blocks are needed for each square number.

- Let learners choose their own 3-digit numbers and add or subtract single digits to make a pattern e.g.

140+1=141	138-1=137	150+1=151
140+2=142	138-2=136	160+1=161
140+3=143	138-3=135	170+1=171
140+4=144	138-4=134	180+1=181 etc.

DAY 3 (to take no more than 20 minutes)

- Working in pairs, each learner writes a set of number making up his/her own pattern. Once everyone has written a pattern, they swop their papers and the partner identifies the pattern. ***Tip****: Allow learners to choose their own partner. Learners will be at different levels of development so by being able to write their own pattern, some patterns will be easy and other patterns will be more complicated.*
- Revise magic squares by doing one on the board with the class. Then write the following on the board which learners will copy into their books and complete.

4		
	5	7
	1	

Magic number= 15

	1	
4		2

Magic number =

8		
1	5	
	7	

Magic number = 15

DAY 4 (to take no more than 20 minutes)

- Give each child a paper plate and allow learners to decorate the plate using patterns and designs from their own culture. Keep these plates to use in Week 10, so learners must write their names on the back of their plate.

DAY 5 (the whole lesson)

- Let learners work in pairs for this activity. Give each pair some squared paper. Tell learners they are going to find out some interesting things about others in their class. Discuss the kind of facts learners want to know about others, choose some interesting ones and write them on the board e.g. How many learners in the class:
  - can stand on their heads
  - can whistle
  - can swim
  - can ride a bike
  - have more than 2 brothers
  - like to drink cold water
  - can make tea or coffee

  Learners choose 4 things to find out, collect the data and draw the pictures to make their own graph e.g.

How many learners can

stand on their heads?				
ride a bicycle?				
can swim?				
can whistle?				

ASSESSMENT	**Formal :** No formal, recorded Assessment **Informal:** Unrecorded assessment of learners oral responses and ability to participate.

WEEK 9: GROUP TEACHING

Week 9	**GROUP TEACHING COMPONENT (Concept Development and Problem Solving)**

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- Although it is close to the end of the year, you need to keep the daily routine as structured as possible in order to maintain discipline. Young children respond well to a structured day and like the security of the routine at school.

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Cards and counters e.g.

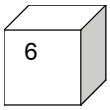
Estimate how many counters there are.
Count them and write the number.
Write the number name.
Compare the estimated number with the actual number.
My estimation was more or less
Write the number that is 5 more.
Write the number that is 5 less.
This number comes between _____ and _____.

- Complete a table e.g.

	+10	- 5	double	halve
24	34	19	48	12
16	26	11	32	8
42	52	37	84	21

- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.

47
21
76
59



47+6→47+3+3→50+3=53
21+6=27
76+6→76+4+2→80+2=82
59+6→59+1+5→60+5=65

An example of recording.

- Spider diagrams with 2 operations (see week 9 and 10 of Term 3)

Working with the groups
GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Put 60 structured objects (grouped e.g. 10 beds on a string) in the middle of the group and give learners a moment to look at them, then cover them up. Ask learners to estimate and write down how many more objects will be needed to make 100. Count the structured objects, and let learners say how close their estimate is.
- Give learners each a set of flard cards and a group of counters. Learners count their counters, build the number using flard cards and then record the expanded notation of the number and the number name e.g. count out 67, show the cards 60 and 7, write 67=60+7 as well as sixty seven.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 200. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be one array and one rate type and on Wednesday you will ask one repeated addition and one sharing with a fraction word problems.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Put 70 structured objects (grouped e.g. 10 beds on a string) in the middle of the group and give learners a moment to look at them, then cover them up. Ask learners to estimate and write down how many more objects will be needed to make 100. Count the structured objects, and let learners say how close their estimate is.
- Give learners each a set of flard cards and a group of counters. Learners count their counters, build the number using flard cards and then record the expanded notation of the number and the number name e.g. count out 67, show the cards 60 and 7, write 67=60+7 as well as sixty seven.

- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be one array and one rate type and on Thursday you will ask one repeated addition and one sharing with a fraction word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Put 80 structured objects (grouped e.g. 10 beds on a string) in the middle of the group and give learners a moment to look at them, then cover them up. Ask learners to estimate and write down how many more objects will be needed to make 100. Count the structured objects, and let learners say how close their estimate is.
- Give learners each a set of flard cards and a group of counters. Learners count their counters, build the number using flard cards and then record the expanded notation of the number and the number name e.g. count out 67, show the cards 60 and 7, write 67=60+7 as well as sixty seven.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be one array and one rate type and on Wednesday and Thursday you will ask one repeated addition and one sharing with a fraction word problem.

Assessment	**Formal :** Formal, recorded Assessment **Informal :** Unrecorded assessment of learners oral responses and ability to participate

FOURTH TERM: WEEK 10 OVERVIEW

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING

LO 1 AS 1,2,</td><td>• Says number names in sequence from 1 to at least 200
• Counts forwards and backwards from any number in 1, 2, 5, 10 up to 200.</td><td colspan="5">Daily:
• Rote counting from 100 to 200
• Rote counting in 1s starting and stopping at any number between 100 and 200
• Rational counting in 2s and 10s from any number between 1 and 150</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS 2,3,5
LO3 AS 5
LO 4 AS1,3,4
LO5
AS1,2,3,4,5</td><td rowspan="2">• computation:
- Develops number relationships e.g. 25 is quarter of 100 or 5 less than 30 or half of 50, etc.
- Uses flard cards to add and subtract single digit numbers to a three digit number e.g 240+3=
- Writes number sentences using addition and subtraction of two 2-digit numbers e.g. 26+37=
- Copies and extends number sequences to 200
- Creates own patterns
• Demonstrates understanding of 2D shape and 3D objects including orientation and position</td><td colspan="5">Daily:
• Develops number relationships
• Patterns</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS7,10,11,12</td><td>• Solve different types of problems and explain solutions to problems including money problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td>Number mobiles using 3-digit numbers</td><td>Patterns using symmetry to make a paper doily</td><td>Making paper chains</td><td>Using 2D shapes and 3D objects in a practical situation</td><td>Whole class activity

Number games</td></tr>
<tr><td></td><td colspan="5">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-200; Group 2 works in 1-150; Group 3 works in 1-100</td></tr>
<tr><td></td><td>Group 1 and 3 work with teacher, one group at a time.
Ask two equalize type word problems.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask two equalize type word problem.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask one grouping with a remainder and one sharing word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
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Group 1 works on its own.</td><td></td></tr>
</table>

WEEK 10: WHOLE CLASS

WEEK 10	WHOLE CLASS COMPONENT (Counting and Mental/Number sense)

Notes to the teacher:

- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- Although this is probably the last week of the year, keep the class occupied with structured activities using the knowledge and skills they have gained over the year.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)

These must be done daily:

- Rote count from 100 to 200 – with learners whispering the odd numbers and saying the even numbers aloud.
- Working with partner, learners count the number of footsteps to the office and back, the number of tiles on the verandah outside the classroom, the number of tyres on the teachers' cars, etc.

Choose from the following (to make up the 10 mins.):

- Play "10 questions". Tell learners you are thinking of a number that is between 50 and 100. They are allowed to ask only 10 questions in order to identify the number. If they identify the number, the class gets 1 point and if they don't, you get the point. Here is an example:
  1. Is it an even or an odd number? (even)
  2. Is it between 60 and 70? (no)
  3. Is it more than 70? (yes)
  4. Is it a multiple of 5? (yes)
  5. Is it 75? (no) and so on.
- Write a number between 75 and 99 on the board. Each learner tells you a different number fact about the number.
- Tell the learners to write down as many multiples of 2/5/10 as possible while you time 1 minute. At the end of the minute let learners indicate how far they got. Walk around and observe that the learners are recording correctly

DAY 1 (to take no more than 20 minutes)

- Working in groups of not more than 6, learners make a mobile of 6 numbers that, when added together, make 100. They will need cardboard, crayons, scissors, string/wool, and a wire coat hanger. Learners decide on the numbers they will each make. Using the cardboard for the numbers, they draw, colour and cut out the numbers. They thread the string/cotton/wool through the top of the number and tie it to the coat-hanger. They will have to make sure their hanger balances when hung up.

DAY 2 (to take no more than 20 minutes)

- Give each learner half an A4 piece of paper. These are decorated as desired. When everyone has finished decorating their paper, they fold it in half, then in half again and then in half again. Working with only the outside edges, learners tear or cut out small pieces. When open, the paper will have a pattern of shapes.

DAY 3 (to take no more than 20 minutes)

- Give each group some paper, crayons, scissors and glue. Learners cut out strips of paper that they decorate using geometric patterns. The strips are folded into a circle and the ends glues together. Once the first circle has been made, each of the other strips is first threaded through the previous circle in order to make a chain. Use these chains to decorate the classroom.
  ***Tip**: Remind learners to each bring a piece of fruit to school tomorrow.*

DAY 4 (to take no more than 20 minutes)

- Learners will each cut the fruit they brought into different shapes. If some learners did not bring anything, let them share e.g. half an apple each. Combine the shapes into a special fruit salad which they can share and enjoy.
- Give each learner 2 Marie biscuits and a marshmallow. Learners leave the marshmallow in the sun until it is soft and they then press it between the 2 biscuits to make a marshmallow sandwich.

DAY 5 (the whole lesson)

- Take the class outside making sure each learner has a magazine or a newspaper. Each learner finds is/her own space and sits on the magazine. At the command, they skip around and when you blow the whistle each learner must find a magazine/newspaper to sit on. Each time you will remove one magazine so that there is always one short. The learner without something to sit on joins you to watch for the next one out. The winner is the last learner to sit on a magazine.

ASSESSMENT	**Formal :** Formal, recorded Assessment **Informal:** Unrecorded assessment of learners oral responses and ability to participate.

WEEK 10: GROUP TEACHING

Week 10	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- Although this is probable the last week of the term, you need to keep learners meaningfully occupied while you are working with a group.

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learner's Book, worksheets, work cards, work charts etc.*

- Complete a sequencing activity e.g. fill in the missing numbers on a number line, dot-to-dot etc.
- Complete a table e.g.

	25	26	27	28
+10	35			

- Doubling and halving activities.

84

33	33

Half		Double
	16	

- Make cards for a friend.
- Use any of the activities done during the year.

Working with the groups

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Put 40 structured objects (grouped e.g. 10 beds on a string) in the middle of the group and give learners a moment to look at them, then cover them up. Ask learners to estimate and write down how many more objects will be needed to make 100. Count the structured objects, and let learners say how close their estimate is.
- Give learners each a set of flard cards and a group of counters. Learners count their counters, build the number using flard cards and then record the expanded notation of the number and the number name e.g. count out 67, show the cards 60 and 7, write 67=60+7 as well as sixty seven.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 200. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be two equalize type and on Wednesday you will ask one grouping with a remainder and one sharing word problems.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes*.

- Put 50 structured objects (grouped e.g. 10 beds on a string) in the middle of the group and give learners a moment to look at them, then cover them up. Ask learners to estimate and write down how many more objects will be needed to make 100. Count the structured objects, and let learners say how close their estimate is.
- Give learners each a set of flard cards and a group of counters. Learners count their counters, build the number using flard cards and then record the expanded notation of the number and the number name e.g. count out 67, show the cards 60 and 7, write 67=60+7 as well as sixty seven.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be two equalize type and on Thursday you will ask one grouping with a remainder and one sharing word problem.

GROUP 3

*This group works with the teacher **every day** for 25 minutes.*

- Put 60 structured objects (grouped e.g. 10 beds on a string) in the middle of the group and give learners a moment to look at them, then cover them up. Ask learners to estimate and write down how many more objects will be needed to make 100. Count the structured objects, and let learners say how close their estimate is.
- Give learners each a set of flard cards and a group of counters. Learners count their counters, build the number using flard cards and then record the expanded notation of the number and the number name e.g. count out 67, show the cards 60 and 7, write 67=60+7 as well as sixty seven.
- Make sure each learner has access to paper, writing tools, counters and a number line. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. This group works in the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be two equalize type and on Wednesday and Thursday you will ask one grouping with a remainder and one sharing word problem.

Assessment	**Formal :** Formal, recorded Assessment **Informal :** Unrecorded assessment of learners oral responses and ability to participate

Annexures

Annexure 1: Addition grid

Annexure 2: Market Research Questionnaire

Annexure 1

An example of an addition grid.

add	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Annexure 2

Market research questionnaire: Week 3

Cell phone provider	
Banks	
Favourite supermarket	
Favourite fast food outlet	
Favourite family restaurant	
Favourite store for children's clothing	

Cell Phones	MTN	TALLY	Total
	Vodacom		
	Cell C		
	Virgin Mobile		
	None		
Banks	ABSA		
	FNB		
	Standard		
	Nedbank		
Clothing Stores	Mr Price		
	Edgars		
	Ackermans		
	Pep		
	Woolworths		
Supermarket	Checkers		
	Pick & Pay		
	SPAR		
Favourite eating out	John Dory		
	KFC		
	Spur		
	Nando's		
	Wimpy		

Notes:

Notes:

Notes: