Foundations For Learning

Foundation Phase Numeracy Lesson plans

Second term

Grade 3

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SECOND TERM OVERVIEW

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Counting	Rote counting in 1s to 500 Rote counting in multiples of 2, 5 , 10, 20, 100									
	Daily rational counting in 2s, 5s, 10s, 20s,100s forwards and backwards, starting and ending at any number as indicated.									
					Counting in 3s			Counting in 4s		
				Orders number						Orders number

Concept Development and Number Sense	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
	Identifies number patterns using addition, subtraction and multiplication to 500									
	Identifies the numerosity of numbers to 100									
	Knows, reads and writes number name and symbol for 1 to 500									
	Decomposes three digit numbers as expanded notation using flard cards to 500, eg. 498 = 400 + 90+ 8							Add and subtract a three-digit numbers to 500 using flard cards eg. 341+20; 426-20		
	Addition and subtraction of two 2-digit numbers where one is a whole 10				Addition and subtraction of any two 2-digit numbers					
	Revision of multiplication of 2, 5 and 10				Completes number sentences using repeated addition and subtraction of 3, 20, 25,50,100 to 500 Calculations using multiples of 2,3, 5 and 10					
					Fractions				Fractions	
			Division – problem solving					Calculates division of two digit numbers by one digit number. Eg. 25 5 =		
					Solves money problems where cents are converted to rands					
	Symmetry of 2-D shapes		Investigating mass					Data Handling Constructing 3-D objects Measurement :Time		
	Problem solving Work with 3 ability groups developing concepts at their own level Concepts of addition, subtraction, multiplication, division, fractions and money are developed through problem solving activities in ability groups 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			
WEEK 3			
WEEK 4	Oral activity dealing with counting in multiples Practical activity dealing with counting out to 100 Practical activity counting in multiples of 2, 5 and 10 starting at any number	Practical and written work dealing with addition and subtraction of one-digit and two-digit numbers Oral and written activities dealing with doubling and halving of odd and even numbers. Practical activity to assess ordering of numbers.	Recorded solutions to word problems dealing with addition and subtraction. Practical activities dealing with mass.
ASSESSMENT TASK 1 COMPLETED			
WEEK 5			
WEEK 6			
WEEK 7	Oral, practical and recorded activities dealing with counting in multiples and number patterns Oral activity dealing with the numerosity of numbers to 100	Written activity dealing with repeated addition and subtraction. Practical and written work with flard cards dealing with addition and subtraction of three digit numbers Written activities dealing with addition and subtraction of two 2-digit numbers.	Practical work with flard cards to assess decomposition of three digit numbers Solving money word problems.
ASSESSMENT TASK 2 COMPLETED			
WEEK 8			
WEEK 9	Oral work dealing with multiplication in context of counting in multiples.	Oral and written work to assess the identification of the numerosity of numbers to 100. Practical and written activities dealing with addition and subtraction of two and three digit numbers. Practical activities to assess expanded notation of three digit numbers using flard cards. Written work dealing with division of two digit numbers by a one digit number. Written work dealing with repeated addition and subtraction.	Oral, practical and written activities dealing with solving problems using grouping and sharing where the remainder is a fraction (also deals with division). Oral, practical and written activities dealing with solving problems and explaining solutions
ASSESSMENT TASK 3 COMPLETED			
WEEK 1O			

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

SECOND TERM: WEEK 1

<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
LO2 AS 2</td><td>• Says number names in sequence to at least 500
• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500
• Counts forwards and backwards in 10s starting at any number from1 to 500 287; 297; 307</td><td colspan="5">Daily :
• Rote count in 1s from 250 to 350 .
• Rote counting in multiples of 2, 5 and 10 to 500 .
• Counting in 10s and 100s starting at any number.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS5,8,9,10
LO 2 AS2
LO3 AS4</td><td rowspan="3">Number knowledge and mental computations:
• Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8
• Calculates using addition and subtraction of whole tens e.g. 37+50=?
• Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=?
• Calculates the multiplication of 2, 5, 9, 10 and 11 to at least 100
• Identifies number patterns using addition, subtraction and multiplication to 500</td><td colspan="5">Daily:
• Estimate
• Multiplication of 2, 5 and 10
• 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>Revision:
multiplication of 2

Even and Odd numbers.

Expanded notation of three digit numbers.</td><td>Revision: of multiplication of 5

Counting in 5s and 10s

Expanded notation</td><td>Revision:
multiplication of 2 and 5

Expanded notation of two and three digit numbers.

Addition and subtraction of 10</td><td>Revision:
multiplication of 2 and 5

Addition and subtraction of two digit numbers.</td><td>Revision:
Addition and subtraction of 2 digit and 1 digit numbers

WHOLE CLASS ACTIVITY

Symmetry of 2D shapes</td></tr>
<tr><td>GROUP TEACHING

LO1 AS8,11</td><td>• Solve different types of problems and explain solutions to problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate techniques</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number ranges: Group 1 works in 1-250; Group 2: 1-200; Group 3: 1-150</td></tr>
<tr><td></td><td></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1 sharing with a remainder word problem
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1 sharing with a remainder word problem
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher one group at a time.
Ask 1 repeated addition and 1 grouping word problem
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher one group at a time.
Ask 1 repeated addition and 1 grouping word problem
Group 1 works on its own.</td><td></td></tr>
</table>

WEEK 1 : WHOLE CLASS

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

Notes to the teacher:

- Week 1 will be spent doing revision and consolidation of the concepts covered in Term 1.
- The Numeracy time allocation is an hour and forty-five minutes (1H45) per day. It would be ideal to have all this time together. The Numeracy time is divided into 3 components viz. Counting (10 minutes), Mental and Number sense (20 to 30 minutes) and group teaching (30 minutes per group). Time is also allowed for handing out books and settling the class, etc.
- Ensure that you have all the resources required for every lesson. All other teaching aids must be made or organized before the day commences. It is not good practice to make resources like charts during instruction time. A well organized educator has very little discipline problems and ensures that maximum time is spent with the learners.
- Counting at the beginning of the day helps learners to focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Always ensure that all learners have their writing materials - pencils, crayons, rulers, books etc. before commencing the lesson.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Rote count from any given number, e.g.: 95 – 161, 169 – 210, 300 – 527, 441 – 650, 350 - 500.
- Learners count in 2s to 200, forwards and backwards, 5s up to 200 and 10s up to 1000.

Choose from the following to make up 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Tell learners you want them to count objects in 2s to 500. Ask how they can do this as you don't have enough counters for the whole class. Let them investigate counting body parts together, in 2s e.g. 2 eyes, 2 ears, 2 hands, 2 knees and 2 feet →can count up to 10 in 2s with 1 learner, so how many learners will I need to count up to 500?
- Each pair of learners is given counters. Ask questions such as doubling and halving small numbers, 6, 10, 12, 18, 22, 30.
- Let the learners read and write the following numbers: 126 is one hundred and twenty six.
- Let learners work in pairs. Give each pair flard cards and counters. Count 27 counters. Ask learners to show different ways in which 27 can be represented with counters, e.g. 5+5+5+5+5+2 or 10+10+ 5+2 and then with cards: 20 + 7 = 27
- Using numbers in the range 1-10, take any number and:
  - double it then multiply the answer by 2.
  - multiply by 10 and halve the answer.
  - multiply by 5 and double the answer.

DAY 1 (to take no more than 20 minutes)

- Revise the multiplication table of 2: take each number from 1 to 10 in turn and double it. Explore the relationship between multiplying by 2 and doubling.
- Using numbers in the range 100-500 you write a number on the chalkboard (e.g. 136) and ask the learners to expand number in their books (e.g. 100+30+6). Once you have done 5 numbers, the learners then swap their books and mark each other's work. If there is time, repeat the activity.

DAY 2 (to take no more than 20 minutes)

- Revise the multiplication table of 5 by letting each group of learners sit in a circle. Let one learner start the counting by saying "5". The next learner says "10" ... and so on. See how far the group can go in 2 minutes. Time them and then ask the last person what number they said e.g. 620. This group with the highest number wins 2 points. Repeat the activity 3 times and add up the scores to find the winner.
  ***Tip**: You can vary the counting interval e.g. count in 5 or 2, as well as the range e.g. start at 270 and count in 10.*
- Using flard cards, let learners work in groups of 2 to 4. Ask the group to find the cards for two 2-digit numbers e.g. 36 and 48 and place them in front of them. Ask learners to show the numbers in expanded notation and say what the numbers are e.g. 30 and 6 and 40 and 8. Now ask the groups to add the numbers together and find the new number. Give a few learners a chance to explain what they did to get the answer. Tell learners to use the same two numbers, but this time subtract them. Once answers have been found ask learners to explain what they did to get the answer. Repeat a few times using other numbers.
  ***Tip**: It is a good idea for you to record the method as the learner is speaking. This helps to clarify how the answer was achieved and makes the learners think about their own thinking.*

DAY 3 (to take no more than 20 minutes)

- Place learners in groups of 2 to 4 and ask them to use flard cards to expand the numbers e.g. 32, 59, 153, 289 and 407. Learners must record the expanded notation in their workbooks e.g. 32 = 30+2; 59 = 50+9 etc.
- Working in pairs let the learners solve routine word problems. Encourage the learners to use expanded notation when solving the problems.

  Example: I have 27 marbles and I buy 13 more. How many do I have now?

  ***Tip :** Learners may use whatever strategies they wish e.g. using counters, drawings etc.*

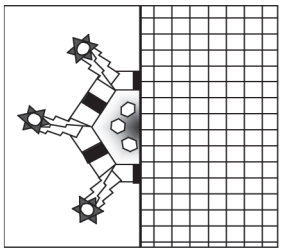
DAY 4 (to take no more than 20 minutes)

- Start with 60. Add 2; add 3; subtract 5; add 3; add 2 subtract 10. What is the answer? Use a few more examples.
- Flash two and three digit number cards to the learners and they must read them, then write the number and number name.

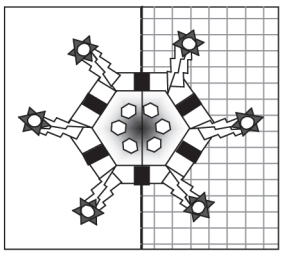
- Ask the shortest learner to choose any 2 digit number, e.g. 37, and the tallest learner to choose any whole ten up to 50 e.g. 40. Tell learners to add the numbers, then to keep adding the whole 10 (i.e. 40) and as they give you the answer, record it on the board, e.g. 37+40→77+40→117+40→157+40→197+40→237+40→277 etc.
  As soon as someone can identify a pattern stop adding and discuss the pattern. Choose 2 different numbers and repeat the activity, but this time subtract the numbers until a pattern can be identified.

DAY 5 (to take no more than 45 minutes) – whole class

- Collect pictures from magazines or colouring-in books. Then cut the pictures in half as shown in this example. Paste one half in a learner's classwork book or on a clean piece of paper.



Now ask the learners to copy the half-picture so as to make a whole picture.



- Make some extra worksheets for learners who finish their tasks quickly.

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

WEEK 1 : GROUP TEACHING

WEEK 1	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

- For the first part of the lesson (about 30 minutes) do the counting and number sense activities with the whole class. Then explain the activities they will do while you are busy with a group. This is the Independent work suggested. Have extra activities, such a jig-saw puzzle, ready for the quick workers. Work with 2 groups a day for about 30 minutes and develop concepts at their level.
- Do not be afraid to ask learners to solve a problem. They come to school already being good problem solvers! You are not asking them to write down expressions. You are giving them a problem situation and asking them to solve it through talking to each other, using concrete apparatus, drawing pictures and then explaining how they solved the problem and what their solution is. Learners are working in 3 mixed ability groups.

DAILY ACTIVITIES

Examples of activities to be done independently.

- Use the multiplication table of 2 to fill in the missing numbers:

0 x 2	=	5 twos	=
4 x 2	=	10 twos	=
2 x 2	=	1 two	=
1 x 2	=	0 twos	=

In 18 there are_____ twos
In 2 there are_____ twos
In 20 there are_____ twos
In 14 there are_____ twos
In 4 there are_____ twos

- Write as expanded notation

14 = ___+ ____	168 = ___+____+____
23 = ___+____	146 = ___+____+____
42 = ___+____	176 = ___+____+____
57 = ___+____	391 = ___+____+____
39 = ___+____	410 = ___+____

- Write the following as one number:

40 + 3 = _____	100 + 20 + 5 = ____
50 + 9 = _____	100 + 30 + 1 = ____
20 + 7 = _____	200 + 70 + 4 = ____
60 + 8 = _____	8 + 300 + 40 = ____

- Write the answers:

46 add 10 =	59 minus 10 =
87 add 10 =	64 minus 10 =
95 add 10 =	120 minus 10 =
115 add 10 =	107 minus 10 =

- Write number names and symbols e.g.
  36 _____ 42_____
- Write the number next to the number name

One hundred and thirty three _____
Two hundred and twenty five_____
One hundred and fourteen_____
One thousand_____

- Annexures 1, 2, 3 and 4 to be done independently.
- For additional work over the four days, select exercises from *a Learners*' Book, worksheets and work cards. Exercises which you design can be written on the chalkboard

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes.*

- Learners take a handful of counters each, estimate how many counters they have taken, record and then count and record. Let the learners count what they have estimated and make piles of 10 so that you and the learners can see their total.
- Make sure that each learner has a pack of flard cards and let them set them out in an ordered way. Write a few numbers on a whiteboard/ chalkboard/ piece of paper and each time learners build the number using their cards. E.g. you write 369 and learners use the cards 300 and 60 and 9 to build up the number 369. Once they have built up the number, ask them to show you all the numbers making up the number and they break it down into 300 and 60 and 9. Tell them to put each card away in its place before you give them the next number.
- By now the learners should know to bring their problem solving workbook, pencils, counters, abacus and number chart to the carpet. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 250. On Monday give learners one multiplication and one grouping problem, e.g. types 21. and 37 and on Wednesday the word problems will be 1 multiplication and 1 grouping with a remainder, e.g. types 22 and 35. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 2

*On **Tuesday and Thursday** this group works with the teacher for 30 minutes.*

- Learners take a handful of counters each, estimate how many counters they have taken, record and then count and record. Let the learners count what they have estimated and make piles of 10 so that you and the learners can see their total.
- Make sure that each learner has a pack of flard cards and let them set them out in an ordered way. Write a few numbers on a whiteboard/ chalkboard/ piece of paper and learners build each number using their cards. E.g. you write 241 and learners use the cards 200 and

40 and 1 to build up the number 241. Once they have built it up, ask them to show you all the numbers making up the number and they break it down into 200 and 40 and 1. Tell them to put each card away in its place before you give them the next number.

- By now the learners should know to bring their problem solving workbook, pencils, counters, abacus and number chart to the carpet. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 200. On Tuesday give learners one multiplication and one grouping problem, e.g. types 21. and 37 and on Thursday the word problems will be 1 multiplication and 1 grouping with a remainder, e.g. types 22 and 35. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- Learners take a handful of counters each, estimate how many counters they have taken, record and then count and record. Let the learners count what they have estimated and make piles of 10 so that you and the learners can see their total.
- Make sure that each learner has a pack of flard cards and let them set them out in an ordered way. Write a few numbers on a whiteboard/ chalkboard/ piece of paper and each time learners build the number using their cards. E.g. you write 195 and learners use the cards 100 and 90 and 5 to build up the number 195. Once they have built it up, ask them to show you all the numbers making up the number and they break it down into 100 and 90 and 5. Tell them to put each card away in its place before you give them the next number.
- By now the learners should know to bring their problem solving workbook, pencils, counters, abacus and number chart to the carpet. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 250. On Monday and Tuesday give learners one multiplication and one grouping problem, e.g. types 21 and 37 and on Wednesday and Thursday the word problems will be 1 multiplication and 1 grouping with a remainder, e.g. types 22 and 35. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

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

SECOND TERM: WEEK 2

<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
LO2 AS2</td><td>• Says number names in sequence to at least 500
• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500
• Counts forwards and backwards in 10s starting at any number from1 to 500 287; 297; 307</td><td colspan="5">Daily :
• Rote counting in 10s from 200.
• Count in multiples of 2 and 20, from a given number to any number forwards and backwards
• Counting in multiples of 5 and 50, from any number to any number forwards and backwards</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS3,5,8,9,10</td><td rowspan="3">Number knowledge and mental computations:
• Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8
• Calculates using addition and subtraction of whole tens e.g. 37+50=?
• Calculates the multiplication of 2, 5 and 10 to at least 100
• Doubles and halves numbers to 100
• Knows, reads and writes number names and symbols to 200</td><td colspan="5">Daily:
• Number patterns
• Counts odd and even 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>Consolidate

Decompose three digit numbers

Addition and subtraction of whole tens e.g. 37+50=?</td><td>Consolidate

Decompose three digit numbers

Addition and subtraction of whole tens e.g. 37+50=?

Multiplication of 5</td><td>Doubles and halves

Decompose three digit numbers

Multiplication of 5</td><td>Doubles and halves

Multiplication of 5</td><td rowspan="2">WHOLE CLASS ACTIVITY

Number games – rotating groups</td></tr>
<tr><td>GROUP TEACHING

LO1
AS8,11,12</td><td>• Solve different types of problems and explain solutions to problems with whole numbers to at least 100, involving addition, subtraction and multiplication using appropriate techniques</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 – 250; Group 2 works in 1 – 200; Group3 works in 1-150</td></tr>
<tr><td></td><td></td><td>Groups 1 and 3 each work with teacher, one group at a time
Ask 1 addition and 1 multiplication word problem.
Groups 2 work on its own</td><td>Groups 2 and 3 work with teacher.
Ask 1 addition and 1 multiplication word problem.
Group 1 work on its own</td><td>Groups 1 and 3 work with teacher.
Ask 1 subtraction and 1 multiplication word problem.
Group 2 work on its own</td><td>Groups 2 and 3 work with the teacher.
Ask 1 subtraction and 1 multiplication word problem.
Group 1 works on its own</td></tr>
</table>

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

Notes to the teacher:

- The Numeracy time allocation is an hour and 45 min. per day. It would be ideal to have all this time together. The Numeracy time is divided into 3 components viz. Counting (10 minutes), Mental and Number sense (20 minutes) and group teaching (30 minutes per group). This only adds up to 1 hour and 30 minutes. The remaining 15 minutes are used for classroom organization, supervising work, etc.
- Ensure that you have all the resources required for every lesson. All other teaching aids must be made or organized before the day commences. It is not good practice to make resources like charts during instruction time. A well organized educator has very little discipline problems and ensures that maximum time is spent with the learners.
- Counting at the beginning of the day helps learners to focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- **It is very important that you ask questions linked to the counting to prevent it simply becoming a rote counting exercise with no meaning.**
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1
- Every learner needs to have a set of counters. Examples of counters can be white kidney beans, milk bottle tops, cooldrink bottle tops, any plastic bottle tops. If you have a budget buy "smile" or "depicts" counters. Count out 100 counters and place in a plastic money bag so that all learners or pairs of learners have their own bags of counters. This is cheap and can be used very easily by the learners. You could also put a few learners, captains, in charge of handing out the bags of counters when needed.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Learners rote count from 10 to 200
- Counting in multiples of 5 to 100 using a number grid, and 50 to 1000. Always ask questions to encourage thinking so that this does not become a rote counting exercise. Some examples are:
  - Count in 5s and stop when I clap my hands e.g at 60. How many 5s in 60? If 12 fives are 60, how much are 13 fives? If 12 fives are 60, how many fives in 55?
  - Count in 5s and stop when you have counted 7 fives. How much are 7 fives? How many fives in 35? If 7 fives are 35, how much are 14 fives? How do you know?
  - Count in 5s starting at 35 and stopping at 165. When you get to a multiple of 50 clap your hands (50, 100, etc.) How many multiples of 50 between 35 and 165? What will the next multiple of 50 be?
- Count in 10s to 500
- Count odd and even numbers between 7 and 38, or 89 and 102, or 366 and 401, etc.

Choose from the following to make up 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Ask learners to look for the number e.g. 211 on a numberline and ask what comes before and after the number. Do this with several numbers.
- Take the number 211 again and ask what is 10 more and 10 less. Do this with several numbers.
- Use the same number 211 and ask learners to each tell you something different about the number i.e. where the answer is 211.

DAY 1 (to take no more than 20 minutes)

- Learners will need a set of flard cards. Do a quick consolidation of expanding two digit numbers with the cards, e.g.
  - Which cards do you need to make 34? 30+4=34.
  - Add 10 to 34 and show the new number – 44. Which number did you change? Why?
  - Now change 44 to make 64. Which number changed? Did you add or subtract? How much did you add?
  - Show me the number 3 less than 64. Which number changed? Why did that number change?

  Repeat using different numbers: 15, 26, 37, 85, 99
- Now ask the learners to make 146 using the cards. Ask them to select the cards they will need, i.e. 100, 40 and 6. Write on the board 100+40+6=146. Do similar activities to those you did with 2-digit numbers, e.g. add 10 to 146 and show the new number. Which number changed? Why did that number change? and so on.
  Repeat using other 3-digit numbers e.g. 176, 199, 265, 289, 412, 678, 750, 806

DAY 2 (to take no more than 20 minutes)

- Consolidate expanding three digit numbers with learners. Give the learners a few numbers to show as expanded notation: 453, 768, 398, 508, 290 etc.
- Working in pairs, learners expand their own three digit numbers using the cards and taking turns to say the number which the partner will build up. Let the learners record their numbers: 400 + 50 + 3 = 453.
- Using matchsticks, learners take a handful and count how many they have. Ask them to put them into piles that will make it easier for them to count. Some learners will make piles of 10, while others will make piles of 2. One is not better than the other at this stage. Learners must now record what they did e.g. 10+10+10+3=22 etc. or 2+2+2+2+2+2+2+2+1=17 etc.
- Using the same number of matchsticks, learners put them into groups of 5 and count them i.e. 5, 10, 15, etc. pointing to each group as they count. They then record this as repeated addition.

DAY 3 (to take no more than 20 minutes)

- Today start the lesson by letting the learners work in pairs and give each pair 30 counters. They must group the counters and see how many groups of 5 they have. Thereafter let them count out 35 counters and group them, asking how many groups? 25 counters – how many

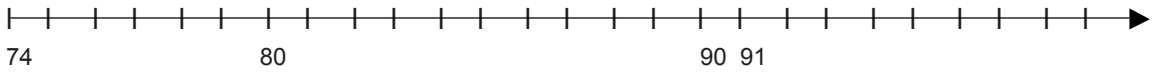
groups? 15 counters – how many groups? Each time let them count e.g. 5 + 5 + 5 + 5 + 5 = 25, therefore 5x5 = 25. Encourage learners to say what they are doing, e.g. "I am adding the 5 five times. Learners then record as many number facts about multiplying by 5 as they can each time saying how they found the answer e.g.

1x5=5	I just know it
2x5=10	Double 5
3x5=15	5+5+5
4x5=20	Double 2x5
5x5=25	I just knew it
and so on.	

- If possible, there should be a large 1000 number chart in the classroom. Have the learners look at the number chart and ask the following questions. What comes before, after and in between two numbers, what number is 10 more, 10 less than a given numbers etc.
- Let all the learners stand behind their chairs/desks. You will point to a number from 1 to 100 on the number grid, say double or half, then call a name and that learner must tell you the correct number. The class decides if it is correct or not by showing the thumbs up or thumbs down sign. If the answer is correct, the learner sits down but remains standing if the answer is incorrect. Keep asking until everyone is sitting down.
  Tip: *If a learner is having difficulty, use smaller numbers. This type of informal assessment will then help you when planning the group teaching components.*

DAY 4 (to take no more than 20 minutes)

- Today the learners will be working with number lines. Each learner should have their own number line with numbers 0 to 100 or make shorter ones e.g. numbers 1 to 20, 20 to 40, 40 to 60 and so on and a few "empty" number lines. You must prepare the number lines for the learners or use tape measures. Ask learners in which direction they move on the number line if they are adding (move forwards) and why (because the numbers get bigger). Do the same for subtraction. Learners are now going to add using the number line, but by first working towards the nearest 10. Ask learners to put a counter on any number, say 74, and ask what 74 plus 17 is. Learners say the number 74 in their heads and then count on another 6 to 80, then 10 to 90 and then 1 to 91, and put a second counter. Their working will look like this:



- In groups, learners write down as many number facts about multiplication of 5 as possible in 3 minutes. Ask one learner to say one fact e.g. 7x5=35. Use this fact to ask questions such as
  - *If 7 fives are 35, what are 6 fives? How do you know?*
  - *If 7 fives are 35, what are 8 fives? How do you know?*

- *If 7 fives are 35, what are 14 fives? How do you know? (double)*
- *If 7 fives are 35, what are 7 tens? How do you know?*

• Let each learner choose his/her own number between 1 and 100, and either double or halve it. Give each learner a chance to answer e.g. my number is 38 and double this is 72, or my number is 99 and half this is $49\frac{1}{2}$.

DAY 5 (The whole lesson with the whole class)

• Let the learners count in two, threes and tens from any given number.
• Put the learners into four teams, each team has a captain. Each team must write 5 problems. The rules for designing the problems are :
  - Start with a number between 200 and 300.
  - Use any of the 4 operations and include doubling and halving.
  - Don't give more than 6 instructions for each number.
  - Make sure you know the correct answer.

  e.g. Start with 208. Add two, subtract ten, add two, add two, subtract three, double – what is the answer.
• In order to play the game, use the following rules:
  - Each group has a turn to ask one of their 5 problems.
  - The other groups decide on an answer and write it on a whiteboard/slate/piece of paper.
  - The first group to hold up the correct answer wins 5 points, the second group to hold up the correct answer gets 3 points and the third group gets 1 point. If you have more than 4 groups, the rule still stands that only the first three correct answers get points.
  - You (the teacher) will keep score on the chalkboard for everyone to see.
  - Once all the groups have asked all their questions, add up the scores and find the winner. This group gets a 'prize' e.g. goes out first at playtime or home time, chooses the story you will read to the class, gets a stamp on their hands, etc.

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

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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Working in a small group situation allows you to work at the learner's own level and pace. That is why you should work with at least three ability groups in your class. These groups are not static and learners can move between the groups as they develop or need more help.
- You may find that all the groups are doing the same work and it is just the number range that is different. However, it is not just the number range that should separate groups – it is the developmental level of the learners.

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learners' Book, worksheets, workcards, work from the board, etc.*

1. Colour in the numbers you will use to make the following numbers:
   - 324: 200, 300, 100, 30, 20, 10 2, 3, 4
   - 582: 500, 700, 300, 50, 80, 40, 5 , 7, 2
   - 863: 200, 800, 300, 80, 60, 40, 9, 7, 3
   - 208: 100, 200, 70, 9, 8, 1
   - 569: 800, 500, 60, 80, 6, 9
2. Write the following numbers like the example:
   - Three hundred and forty-one, 341 = 300 + 40 + 1
   - Six hundred and thirty-two, ____ = ___+____+ ___
   - Nine hundred and ninety-five, ____= ___+___+____
   - Two hundred and fifty-six, _____= ____+___+_____
   - Three hundred and forty-one, ___=____+____+____
3. Mixed workcards e.g.

1. Complete the number sentence:

46 add 10 _____ 69 minus 10_____

87 add 10 _____ 64 minus 10 _____

2. Halve these numbers:

66 _____ 54_____ 30_____

26_____ 44_____ 40_____

3. Write these numbers

105= one hundred and five

96 = _____

124 = _____

200 = _____

4. Fill in the missing numbers on the number line.

155,_____,_____,158,___,___,161,_____,_____

200,____,202,_____,_____,205,_____,_____,_____

_____,396,397,_____,_____,_____,401,_____,_____

_____,_____,_____,238,239,_____,_____,242,_____

891,890,___,___,,887,___,___,894,_____

4. Use the following examples by writing them on the chalkboard for the learners to write in their classwork books.

1. 3 x 5 = 5 + 5 + 5 = 15
2. 5+5+5+5= x =20
3. 5 x 5 = 5 + 5 + 5 + 5 +5 =
4. 7 x 5 = + + + + + + =

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes.*

- Give each learner a chance to throw two dice. The group add the two numbers together and then multiply by 5. The thrower decides if the answer is correct or not. Allow learners to use counters, number lines, etc. to reach answer if needed.
  ***Tip**: Make your own dice with numbers in the number range the group is working in.*
- Repeat the activity, but this time the answer is doubled or halved according to your instructions.
- By now the learners should know to bring their problem solving workbook, pencils, counters, abacus and number chart to the carpet. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 250. On Monday give learners one addition and one multiplication problem, e.g. types 11 and 24 and on Wednesday the word problems will be 1 subtraction and 1 multiplication e.g. types 12 and 30. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 2

*On **Tuesday and Thursday** this group works with the teacher for 30 minutes.*

- Throw one dice and learners multiply the number by 5. e.g. The dice lands on 4, multiply 4 by 5. Make sure each learner has a chance to answer.
- Each learner has a chance to throw 2 dice. The group add the two numbers then double the answer. Repeat the activity, but this time halving the answer.
  ***Tip**: Make your own dice with numbers in the number range the group is working in.*
- By now the learners should know to bring their problem solving workbook, pencils, counters, abacus and number chart to the carpet. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 to 200. On Tuesday give learners one addition and one multiplication problem, e.g. types 11 and 24 and on Thursday the word problems will be 1 subtraction and 1 multiplication e.g. types 12 and 30. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- Throw one die (singular for dice) and learners multiply the number by 5. e.g. the die lands on 4, multiply 4 by 5. Make sure each learner has a chance to answer.
- Each learner has a chance to throw 2 dice. The group add the two numbers then double the answer. Repeat the activity, but this time halving the answer.
  ***Tip**: Make your own dice with numbers in the number range the group is working in.*
- By now the learners should know to bring their problem solving workbook, pencils, counters, abacus and number chart to the carpet. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 150. On Monday give learners one addition problem and on Tuesday give one multiplication problem, e.g. types 11 and 24. On Wednesday and Thursday the word problems will be 1 subtraction and 1 multiplication e.g. types 12 and 30. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

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

SECOND TERM: WEEK 3

<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
LO2 AS2</td><td>• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500
• Compares structured and unstructured collections of objects up to 500,</td><td colspan="5">Daily :
• Rote count from 100 to 1000
• Counting from a given number in 5s and 50s to 500(change number); counting forwards and backwards using a number card
• Counting in multiples of 10, using objects, number grids, etc.
• Count in 100s from 100 to 1000</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS3,4,5,8,9, 10
LO2 AS1,2
LO4 AS5</td><td rowspan="3">• Orders and compares 3-Digit numbers to at least 500 to say which is bigger or smaller.
Number knowledge and mental computations:
• Calculates using addition and subtraction of whole tens
• Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=?
• Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80
• Is able to calculate the multiplication of 2, 5, 10
• Develops number relationships of numbers to 100 e.g. 46 is: double 23, 40+6, 50-4, 20+20+10-4, etc.
• Identifies number patterns using addition, subtraction and multiplication to 500
• Investigates and compares mass</td><td colspan="5">Daily:
• Number patterns using addition, subtraction and multiplication
• 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>Expanded notation of three digit number

Addition and subtraction using whole 10s

Multiplication of 10</td><td>Expanded notation of three digit numbers

Addition and subtraction using whole 10s

Multiplication of 10</td><td>Revision of number names and symbols

Addition and subtraction</td><td>Addition and subtraction

Ordering numbers - position</td><td rowspan="3">WHOLE CLASS ACTIVITY

Investigating mass</td></tr>
<tr><td>GROUP TEACHING

LO1
AS5,7,8,11,12</td><td>• Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8
• Solves problems, and explains solutions, using number charts and counters if needed with numbers from 1 – 300</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-250 and Groups 2 works in 1 – 200 and 3 work in 1-150.</td></tr>
<tr><td>Group 1 and 3 work with teacher.
Ask 1 subtraction and 1 grouping word problem.
Groups 2 and 3 works on its own</td><td>Group 2 and 3 work with teacher.
Ask 1 subtraction and 1 grouping word problem.
Group1 works on its own</td><td>Group 1 and 3 work with teacher.
Ask 1 addition and 1 sharing word problem.
Group 2 works on its own</td><td>Group 2 and 3 work with teacher.
Ask 1 addition and 1 sharing 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:

- Ensure that you have all the resources required for every lesson. All other teaching aids must be made or organized before the day commences. It is not good practice to make resources like charts during instruction time. A well organized educator has very little discipline problems and ensures that maximum time is spent with the learners.
- Counting at the beginning of the day helps learners to focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- **It is very important that you ask questions linked to the counting to prevent it simply becoming a rote counting exercise with no meaning.**
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Every learner needs to have a set of counters. An example is to use white kidney beans as counters. Count out 100 and place in a plastic money bag. This is a cheap and can be used very easily by the learners. Matchsticks, toothpicks, bread tags, etc are all good examples of counters to use in Grade 3.
- **In these lessons, matchsticks are used as counters just as an example!** Any counters can replace the matchsticks.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Learners rote count from 1 to 500
- Counting forwards from a given number to 100, 200, 300, 400, 500 and counting backwards from a given number to a given number.
- Encourage learners to look for number patterns when they count in 2s, 5s and 10s e.g.
  - Count in 2s and when you say a number that is a multiple of 5, clap your hands i.e. 2, 4, 6, 8, 10 (clap), 12, etc.
  - Which numbers did you clap on? (10, 20, 30, etc.)
  - Are these numbers multiples of any other number?
  - Why did you only clap on even numbers?
  - If you counted in 5s and clapped on multiples of 2, which numbers do you think you will clap on? Let's try.

Choose from the following to make up 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Counting in multiples of 5 to 100 using a number grid, and in multiples of 50 to 1000. Always ask questions to encourage thinking so that this does not become a rote counting exercise. Some examples are:

- Count in 5s and stop when I clap my hands e.g. at 60. How many 5s in 60? If 12 fives are 60, how much are 13 fives? If 12 fives are 60, how many fives in 55?
- Count in 5s and stop when you have counted 7 fives. How much are 7 fives? How many fives in 35? If 7 fives are 35, how much are 14 fives? How do you know?
- Count in 5s starting at 35 and stopping at 165. When you get to a multiple of 50 clap your hands (50, 100, etc.) How many multiples of 50 between 35 and 165? What will the next multiple of 50 be?

- Learners work with a 200 number chart. Ask the learners to look for a number e.g. 53 on the chart.
  - Ask what comes before and after 53.
  - Ask what is 10 more than a 53.
  - Ask what is 10 less than 53.
  - Ask what is 100 more than 53.
  - Ask what is 100 less than 153.
  - Use your own examples.
- Let the learners use the 200 number chart to solve the following patterns. Encourage them to look for patterns with the numbers they are using. For example: 2 + 7 =?; 3 + 6 =?; 2 + 17 =?; 3 + 16 =?; 2 +27 =?; 3 + 26 =?; 2 + 37 =?; 3 + 36 =?; 2 + 47 =?; 3 + 46 =?;

  Tip: *Work as far as you can using the number chart. If there are learners who need a challenge, let them use bigger numbers without the number chart. Include your own examples. The learners will need a lot of practice with identifying patterns – they are very necessary.*

DAY 1 (to take no more than 20 minutes)

- Put a pile of matchsticks/counters, etc. in the middle of the group and ask the group to count how many in the pile. Now tell them to group the matchsticks so that it will be easy to count. Leave the learners to do it their own way. Ask the different groups how they grouped their matchsticks. If no group grouped the matchsticks into 10, tell everyone to now do it. Discuss which grouping is the quickest to add.
- Write any 2-digit number on the board and learners must write the number in their books showing how many 10s there are e.g. 38=10+10+10+8, 42=10+10+10+10+2 etc.

DAY 2 (to take no more than 20 minutes)

- Write 2-digit numbers on small pieces of paper and put them in a container. Place a pile of matchsticks/toothpicks/counters in the middle of each group. Working in pairs, learners all have a chance to pick a number out of the container and build the number with their matchsticks. Encourage them to group the matchsticks for easy counting, preferably in groups of 5 or 10. Partners check that the number of matchsticks matches the number on the piece of paper.

- Let learners swop their pieces of paper with other learners so that they each build 5 different numbers.
- Now let them choose a number again and this time give them a number to add or subtract e.g. Count out 53 and group the counters for easy counting. Now add 10, take away 10, add 20, take away 20, etc. Each time elicit an answer. Ask questions such as:
  - Is it easy to work if your counters are grouped in 2s? 5s? 10?
  - Which grouping allows you to work the quickest? **No answer is wrong!** Learners will work with groups that they feel most comfortable with.

    Tip: Consolidation of all concepts is vitally important and to make sure that learners understand the concept that has been taught before moving onto a new concept. You cannot skim over concepts!!

DAY 3 (to take no more than 20 minutes)

- Revision of number names and symbols:e.g 124 = One hundred and twenty four. Play a team game with the class. Divide the class into two – Team A and Team B or have an interhouse competition and put the learners in their house teams. Write a number on the chalkboard and call one member from each team to come and write the number name on the board for all to see. If he/she gets it correct his/her team gets one point. Do this till all members of the team have had a turn. Count the number of points for each group and the highest number wins.
- Ask learners to make up their own number pattern and write it in their books. After 5 minutes tell them to stop and swap their books with the person sitting next to them and they mark each others books. Ask a few learners to describe the pattern their partner wrote.

DAY 4 (to take no more than 20 minutes).

- Ordering of numbers e.g. Write the following numbers from the smallest to the biggest:
  - 298, 321, 952, 463,
  - 213, 123, 453, 345 etc.
- Learners must take out their matchsticks/counters. Call out a number and learners build the number with their matchsticks and put them into groups of 10. Learners count the matchsticks pointing to the groups as they count e.g. 10, 20, 30, 31, 32, 33, etc. Extend the activity by asking questions such as:
  - If you add one matchstick, how many will you have?
  - If you add 10 matchsticks, how many will you have?
  - If you take away 1 matchstick, how many will you have?
  - If you take away 10 matchsticks, how many will you have?

  Once this has been done practically, learners can record the numbers in their books i.e. 36= 10+10+10+6→36+1=10+10+10+6+1→36+10=10+10+10+10+6

DAY FIVE (Whole lesson)

- Let each learner choose his/her own number between 50 and 100 and write it down in large writing on an A4 size paper. They write 10 different number facts about this number i.e.

- number sentences where the answer is the chosen number e.g.

65	
65=60+5	70-5=65
Double 30 +5	65=20+20+20+3+2
100-20-20+5=65 etc.	

Allow learners to use counters, number grids, etc. if they need to. Once they have finished they may decorate the number.

- Divide the class into groups of not more than 6 per group. Make sure you have enough material for each group to be able to do the activity. Each group will make an equal arm balance scale as follows:
  - Use a plastic coat hanger, 2 paper cups and 2 equal lengths of string. First make two holes opposite each other in the paper cups and thread the string through one hole, over the coat hanger and through the second hole. Tie knots in the end of the string so that the string makes a handle for the cup and the cup hangs from the bar of the coat hanger. Make sure the cups are the same distance from the centre of the coat hanger.
- Hang the coat hanger so that the cups are hanging freely. Learners investigate the mass of different objects by placing them in the two cups e.g.
  - How many little beans will be needed to balance a small stone?
  - How many toothpicks will be needed to balance 10 matchsticks?
  - How many buttons will be needed to balance 2 unifix cubes?
  - How many shells will be needed to balance 5 small beans? Etc.

  ***Tip**: Keep the balance constructions in a safe place as you will use them when assessing mass next week.*

Assessment	**Formal:** No formal recorded assessment. **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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Working in a small group situation allows you to work at the learner's own level and pace. That is why you should work with at least three ability groups in your class. These groups are not static and learners can move between the groups as they develop or need more help.
- You may find that all the groups are doing the same work and it is just the number range that is different. However, it is not just the number range that should separate groups – it is the developmental level of the learners.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.

DAILY ACTIVITIES

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

- Give the learners a worksheet which gives them practise in writing number names and symbols. Example of worksheets to make:

Write these number names:

114 = one hundred and fourteen

128 = _____

264=_____

345 =_____

239=_____

176=_____

Write the number:

Four hundred and fifty = 450

Two hundred and forty two = _____

Three hundred and thirty one = _____

Five hundred and fifty five = _____

One hundred and forty six =_____

Nine hundred and eighty two = _____

- Addition and subtraction with whole 10s e.g. 67+10, 67-20, etc.
- Addition and subtraction number sentences using two 2-digit numbers e.g. 87-29, 46+38, etc.
- Halving and doubling activities.
- Expanded notation of 3-digit numbers e.g. 354=300+50+4

Working with the group

GROUP 1

*On **Monday and Wednesday** this group works with the teacher for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? (300 and 50 and 1).Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?
  - Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number – 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).

  ***Tip**: Repeat these using other numbers, but do not spend too long doing this as you must make sure you leave enough time for problem solving.*
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 to 250. On Monday give learners one subtraction and one grouping problem, e.g. types 14 and 23 and on Wednesday the word problems will be 1 addition and 1 sharing e.g. types 7 and 36. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? (300 and 60 and 8). Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.

- Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number – 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).

***Tip**: Repeat these using other numbers, but do not spend too long doing this as you must make sure you leave enough time for problem solving. If your learners are able to do the following activity, do it with them making sure they understand which numbers are being changed, and why.*

- Make the number 351. Which numbers did you use? (300 and 50 and 1).Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?

• Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 to 200. On Tuesday give learners one subtraction and one grouping problem, e.g. types 14 and 23 and on Thursday the word problems will be 1 addition and 1 sharing e.g. types 7 and 36. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

• Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number – 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).

***Tip**: Repeat these using other numbers, but do not spend too long doing this as you must make sure you leave enough time for problem solving.*

• Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 150. On Monday and Tuesday give learners one subtraction and one grouping problem, e.g. types 14 and 23 and on Wednesday and Thursday the word problems will be

1 addition and 1 sharing e.g. types 7 and 36. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.	
Assessment	**Formal:** No formal recorded assessment. **Informal**: Unrecorded assessment of learners' oral responses and ability to solve problems.

SECOND TERM: WEEK 4

<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,
LO2 AS 2</td><td>• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500
• Counts forwards and backwards in 10s starting at any number from1 to 500 287; 297; 307</td><td colspan="5">Daily :
• Rote count in 5s,10s and 100s to 500
• Count in 2s, 5s, 10s, 20s and 100s starting from any number in the number range 385 to 495.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS3,4,8,10
LO2 AS2
LO4 AS5</td><td rowspan="3">• Orders and compares 3-digit numbers to at least 500 to say which is bigger or smaller.
Number knowledge and mental computations:
• Calculates using addition and subtraction of whole tens
• Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=?
• Develops number relationships to numbers to 100 e.g. 56= 60-4
• Doubles and halves odd and even numbers to 100
• Estimates, measures and compares mass using non-standard and standard measures</td><td colspan="5">• Number patterns – e.g. add 212 + 2; 222 + 2; 232+ 2 etc.: 209 + 2; 219 + 2; 229 + 2; 239 + 2
• Relationship of numbers 50 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>Counting in multiples of 2.

Doubling and halving numbers</td><td>Counting in multiples of 5.

Orders numbers to 500</td><td>Counting in multiples of 10.

Addition of whole tens e.g. 37+50 = ?</td><td>Counting in multiples of 20.

Subtraction of whole tens e.g.
57 -10 = ?</td><td>WHOLE CLASS ACTIVITY

Investigating mass.</td></tr>
<tr><td rowspan="2">GROUP TEACHING

LO1 AS8,11</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 techniques</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 - 300; G roup 2 works in 1-250; Group 3 works in 1-200</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 multiplication and 1 grouping word problem
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 multiplication and 1 grouping word problem
Group 1 works on its own.</td></tr>
</table>

WEEK 4 : WHOLE CLASS

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

Notes to the teacher:

- Ensure that you have all the resources required for every lesson. All other teaching aids must be made or organized before the day commences. It is not good practice to make resources like charts during instruction time. A well organized educator has very little discipline problems and ensures that maximum time is spent with the learners.
- Counting at the beginning of the day helps learners to focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- **It is very important that you ask questions linked to the counting to prevent it simply becoming a rote counting exercise with no meaning.**
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Every learner needs to have a set of counters. An example is to use white kidney beans as counters. Count out 100 and place in a plastic money bag. This is a cheap and can be used very easily by the learners. Matchsticks, toothpicks, bread tags, etc are all good examples of counters to use in Grade 3.
- **Assessment Task 1** will be done during this week. The Assessment activities form part of daily activities.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 15 minutes)

To be done daily:

- Learners rote count in 5s, 10s, and 100s from 1 to 500.
- Counting from a given number to 500, counting forwards from a given number and counting backwards from a given number in 2s, 5s, 10s and 20s e.g. 386 to 450.
  Tip*: This is an activity towards Assessment Task 1 so every day give a few learners an opportunity to count on their own until you have assessed all the learners.*

Choose from the following to make up 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Learners close their eyes and listen to the number of knocks you make on the board and the instructions you give before recording their answer. After each one, ask a number of learners what the answer is, even though the first answer may be correct. This makes each learner listen carefully, work out the answer and become confident in what they are doing. Use the following examples, as well as making up your own :
  - 9 knocks, then ask what number is double this (18)
  - 5 knocks, then ask what 5 times this number will be, then halve the number ($12\frac{1}{2}$)
  - 2 knocks, then ask what 10 times this number will be, and then halve it (10)
  - 14 knocks, then ask what number is 4 more, then double the number (36)

  Tip*: Use this as an activity to assess doubling and halving as part of Assessment Task 1. Learners can use a thumbs up or thumbs down sign to indicate whether they have it correct or not. You can easily observe what the learners are doing. Remember, you only need to record those learners who are not able to double or halve.*

- Write the following number patterns on the board, only stopping when someone can identify the pattern : 212 + 2 = ; 222 + 2 = ; 232 + 2 = etc.; 209 + 2 = ; 219 + 2 = ; 229 + 2 = etc.

DAY 1 (to take no more than 20 minutes)

- Put a pile of counters in the middle of each group. Ask learners to estimate how many there are before counting them. Learners to work together with a partner to count the pile of counters by putting them in groups of 2, then counting them.
  ***Tip**: This is one of the activities towards Assessment Task 1, so you will need to do it every day this week while you observe and record learners who are able to count in multiples up to 500 objects.*
- Using a number grid, point to a number then write it on the board. Learners record the number and then record what double the number is. After 5 numbers, learners swap books and mark the books after telling you what double the number on the board is. Repeat using a different 5 numbers, but this time learners halve the number. After the 10th number, learners with all ten correct stand and the class gives them a clap. You can repeat the activity if there is time.
  ***Tip**: This is one of the activities towards Assessment Task 1.*

DAY 2 (to take no more than 20 minutes)

- Put a pile of counters in the middle of each group. Ask learners to estimate how many there are before counting them. Learners to work together with a partner to count the pile of counters by putting them in groups of 5, then counting them.
  ***Tip**: This is one of the activities towards Assessment Task 1, so you will need to do it every day this week while you observe and record learners who are able to count in multiples up to 500 objects.*
- Put learners in a line and number them. Ask: *who is fourth? who twentieth? who is twenty-fifth etc*. Give random learners something to hold or put on, e.g. put a hat on, hold a ball etc. and ask – who in the line has a hat on? The learners must answer – the eighteenth learner! etc.
  ***Tip**: Use this towards Assessment Task 1.*

DAY 3 (to take no more than 20 minutes)

- Put a pile of counters in the middle of each group. Ask learners to estimate how many there are before counting them. Learners to work together with a partner to count the pile of counters by putting them in groups of 10, then counting them. Now let them make groups of 20 and count them.
  ***Tip**: This is one of the activities towards Assessment Task 1, so you will need to do it every day this week while you observe and record learners who are able to count in multiples up to 500 objects.*
- Give each learner a piece of paper and ask them to write a number between 300 and 400. Let some learners write even numbers and others odd numbers. Place all the pieces of

paper in a box. Now take the class outside and let each learner take a number from the box. When everyone has a number, tell them to stand in the correct order from smallest number to biggest number. Some numbers will be missing and that is why you will be able to assess who is not able to put themselves in the correct order. Collect all the numbers and repeat the activity, but put a time limit on e.g. 5 minutes.

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

DAY 4 (to take no more than 20 minutes)

- Give different learners an opportunity to point to a number on the number grid or number line and ask a question such as: *what number is 20 more? What number is 10 less? What is the number if you add 30 to this number? What is the number if you take 20 away from this number?*
- Give the learners a worksheet (or write it on the chalkboard) with addition and subtraction number sentences using a whole 10 and ask them to complete it by themselves. An example:

- Fill in the answer

27+20=	35+40=	68+10=
49-10=	71-20=	99-40=

- What number is missing?

43+__=53	68+__=98	22+__=32
87-__=77	59-__=29	73-__=3

- There is a ☐ instead of the correct sign. Can you help choose the missing sign by putting a box around the correct sign?

35☐20=55	=	-	x	+
42☐10=32	=	-	x	+
61+30☐91	=	-	x	+
29☐59-30	=	-	x	+

Tip: *Mark this activity as it is part of Assessment Task 1*

DAY 5 (Whole lesson)

- Let each learner choose their own number between 50 and 100 and write it down in large writing on an A4 size paper. They write 10 different number facts about this number i.e. number sentences where the answer is the chosen number e.g.

65	
65=60+5	70-5=65
Double 30 +5	65=20+20+20+3+2
100-20-20+5=65 etc.	

Allow learners to use counters, number grids, etc. if they need to. Once they have finished they may decorate the number.

- Using the equal arm balance made last week, take the class outside and, working in the same groups as the previous week, let them first estimate, then investigate the mass of different objects by placing them in the two cups, recording their estimates and answers e.g.
  - How many pieces of chalk are needed to balance
    - two marbles?
    - 5 bottle tops?
    - 1 plastic 500ml bottle?
  - How many paper clips are needed to balance
    - 2 pencils?
    - 1 marble?
    - 3 pieces of chalk?
  - How many match boxes are needed to balance
    - 7 paper clips?
    - 3 pencils?
    - 4 marbles?

An example of a recording sheet can be

Objects needed	To balance	My estimate	Actual number needed
Chalk	2 marbles		
	5 bottle tops		
	1 plastic bottle		
Paper clips	2 pencils		
	1 marble		
	3 pieces of chalk		

***Tip**: This activity is for assessment purposes as part of Assessment Task1.*

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 forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500 • Counts forwards and backwards in 10s starting at any number from1 to 500 287; 297; 307 • Orders and compares 3-digit numbers to at least 500 to say which is bigger or smaller. Number knowledge and mental computations: • Calculates using addition and subtraction of whole tens • Develops number relationships to numbers to 100 e.g. 56= 60-4 • Doubles and halves odd and even numbers to 100 • Estimates, measures and compares mass using non-standard and standard measures

WEEK 4 : GROUP TEACHING

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

Notes to teacher:

- By now you have established 3 groups. Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. A number of types of activities are provided and you should do ALL the types each time you work with that group; but remember, although examples are provided, you should look for your own examples that will suit your learners. You will also 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.**
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- **Assessment Task 1** will be done this week.

DAILY ACTIVITIES

Examples of activities to be done independently. *Work from a Learners' Book, worksheets, work cards, work from the board, etc.*

- Multiplication (2 times, 5 times, 10 times) number sentences to be completed.
- Expanded notation of two and three digits
- Addition and subtraction of whole 10
- Completing number lines filling in multiples of 2, 5, 10 and 20.
- Ordering numbers.
- Double and halving numbers 50 to 100.

  ***Tip**: Any of these activities can be used towards Assessment Task 1.*

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? 300 and 50 and 1.Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?

- Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number i.e. 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).

***Tip**: Repeat these using other numbers. Do not keep the numbers simple as you want to extend the learners' thinking about numbers.*

- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 300. On Monday give learners one addition and one subtraction problem, e.g. types 13 and 18 and on Wednesday the word problems will be 1 multiplication and 1 grouping e.g. types 24 and 26. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? 300 and 50 and 1.Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?
  - Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number – 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).

  ***Tip**: Repeat these using other numbers.*
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 250. On Tuesday give learners one addition and one subtraction problem, e.g. types 13 and 18 and on Thursday the word problems will be 1 multiplication and 1 grouping e.g. types 24 and 26. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? 300 and 50 and 1. Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?
  - Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number – 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).

  ***Tip**: Repeat these using other numbers.*
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range of 1 – 250. On Monday and Tuesday give learners one addition and one subtraction problem, e.g. types 13 and 18 and on Wednesday and Thursday the word problems will be 1 multiplication and 1 grouping e.g. types 24 and 26. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

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 forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500 • Counts forwards and backwards in 10s starting at any number from1 to 500 287; 297; 307 • Orders and compares 3-digit numbers to at least 500 to say which is bigger or smaller. Number knowledge and mental computations: • Calculates using addition and subtraction of whole tens • Develops number relationships to numbers to 100 e.g. 56= 60-4 • Doubles and halves odd and even numbers to 100 • Estimates, measures and compares mass using non-standard and standard measures

SUGGESTED ASSESSMENT TASKS: GRADE 3 NUMERACY SECOND TERM

TASK 1: WEEK 4

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500 • Counts forwards and backwards in 10s starting at any number from1 to 500 287; 297; 307 • Orders and compares 3-digit numbers to at least 500 to say which is bigger or smaller. Number knowledge and mental computations: • Calculates using addition and subtraction of whole tens • Develops number relationships to numbers to 100 e.g. 56= 60-4 • Doubles and halves odd and even numbers to 100 • Estimates, measures and compares mass using non-standard and standard measures	Wk 4	• Use the oral activities during the week as well as relevant written activities to assess learners' knowledge of the multiples of 2, 5 and 10. • Use the daily oral activity and the written activity on Day 1 to assess learners' ability to double and halve odd and even numbers. • Use practical work on Days 1, 2 and 3 to assess knowledge of counting in multiples of 2, 5, 10 and 20. • Use the practical activities on Days 2 and 3 to assess learners' understanding of the order of numbers. • Use oral and written work on Day 4 to assess learners' ability to add and subtract whole 10s to and from a number. • Use written work done independently during group teaching time for assessment.
PROBLEM SOLVING	• Calculates using addition and subtraction of whole tens e.g. 37+50=? • Doubles and halves odd and even numbers to 100 • Estimates, measures and compares mass using non-standard and standard measures	Wk 4	• Any word problem can be used to assess understanding of addition and subtraction as well as doubling and halving. • Use the practical activity on Day 5 to assess mass.

Concepts need to be assessed in different contexts, so do not be afraid to assess the same concept orally, practically and in a written form. The more times you are able to assess a concept, the better you will know if the learners can use their knowledge in different situations. Your aim is not for learners to learn things 'off by heart', but rather that they can confidently apply their knowledge in different contexts.

SECOND TERM: WEEK 5

<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
LO2 AS2</td><td>• Says number names in sequence to at least 500
• Counts forwards and backwards in multiples of 2s, 3s, 5s, 10s, 20, 50s and 100s to at least 500</td><td colspan="5">Daily :
• Counting in 1s to 400.
• Counting in multiples of 2, 3, 5 and 10 to 400.
• Counts from given number e.g. 256 to 310, 378 to 400, 310 to 391 etc..</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO 1 AS 3,8,9,10
LO 2 AS 2</td><td rowspan="3">• Orders and compares fractions according to size
Number knowledge and mental computations:
• Calculates multiplication of 3
• Calculates using addition and subtraction of two 2-digit numbers e.g. 37+54=?
• Doubles and halves numbers to 100
• Identifies number patterns using addition, subtraction and multiplication to 500</td><td colspan="5">Daily :
• Filling missing numbers on number line
• Recognise and complete number patterns of 10
• Build up concept of numerosity of numbers to 100
• Doubles and halves.</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>Count in 3s

Fractions – half and quarters
(practical lesson)</td><td>Count in 3s

Fractions – half and quarters
(practical lesson)</td><td>Count in 3s

Fractions – half and quarters</td><td>Count in 3s

Fractions – half and quarters
(practical lesson)</td><td rowspan="3">WHOLE CLASS ACTIVITY

Number games.</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS5,7,11,12</td><td>• Solves and explains solutions to practical problems that involve equal sharing and grouping with solutions including remainders and/or fractions
• 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 drawings, 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 1-300; Group 2 works in 1-250; Group 3 works in 1-200</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 sharing with remainder word problem
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 sharing with remainder word problem
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 2 different types of multiplication word problems
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 2 different types of multiplication word problems
Group 1 works on its own.</td></tr>
</table>

WEEK 5 : WHOLE CLASS

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

Notes to the teacher:

- Counting at the beginning of the day helps learners develop a sense of numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Learners will learn about working with numbers and build a solid number knowledge if you present them with a range of similar tasks, but with different contexts and different concrete resources to use.
- Estimating is an important component of learning about number.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

Daily Activities.(to take no more than 10 minutes)
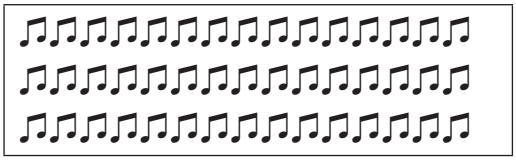
To be done daily:

- Learners rote count in 1s from any given number to 400.
- Count in 2s and 20s to 100, forwards and backwards between 100 and 200
- Count in 5s starting at any number e.g. 76

Choose from the following to make up the 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Each learner has his/her own pile of counters and sorts them into piles of 3, then counts the number of counters as well as the number of piles. Give learners a chance to tell you how many they have and record it on the board e.g. 4 threes are 12, 6 threes are 18, etc.
- Learners place a piece of paper on every third number on the number grid or numberline. Let them count in 3s as they point to the number.
- Learners use counting cards and count the number of objects on the card e.g.



DAY 1 (to take no more than 20 minutes)

- Working in pairs, learners count out any number of objects e.g. a pile of stones, a pile of buttons, a pile of screws, a pile of bottle tops, etc. Once the pair has their objects, tell them to share them equally. Learners should already know about halves and quarters, so this is revision. Ask if anyone can show you how to write the symbols for half and quarter. Now ask each pair how many counters they had and how many each of them got. Record the answers in the Half column, writing the symbol for a half ($\frac{1}{2}$):

Half	Quarter
$\frac{1}{2}$ of 16 is 8 $\frac{1}{2}$ of 30 is 15 $\frac{1}{2}$ of 100 is 50	

- Repeat the activity, but this time work in groups of 4 and share the objects between the four learners in the group. Ask how many each got and if they each got half the number of objects as before. Learners should be able to tell you that they did not get half, because half is when something is divided in 2. They shared the counters between 4 and if something is divided into four it is called quarter ($\frac{1}{4}$):

Half	Quarter
$\frac{1}{2}$ of 16 is 8	$\frac{1}{4}$ of 16 is 4
$\frac{1}{2}$ of 30 is 15	$\frac{1}{4}$ of 30 is 7, with 2 over
$\frac{1}{2}$ of 100 is 50	$\frac{1}{4}$ of 100 is 25
$\frac{1}{2}$ of 40 is 20	$\frac{1}{4}$ of 40 is 10

***Tip**: Encourage learners to look for the relationship between half and quarter i.e. $\frac{1}{2}$ of 16 is 8, $\frac{1}{4}$ of 16 is 4, 4 is half of 8. Therefore quarter is less than half.*

DAY 2 (to take no more than 20 minutes)

- Call 5 learners to the front of the class. Ask the first learner to hold up 3 fingers – ask how many fingers there are. Ask the next learner to hold up 3 fingers and ask how many fingers there are. Make sure you ask questions to encourage thinking e.g. *how many learners are holding up fingers? 2. How many fingers can you see? 6. If one more learner holds up 3 fingers, how many will there be? 9, etc.*
- Give each learner a square of paper and ask them to fold it in half. They write $\frac{1}{2}$ in each side, cut the paper and glue it into their books. Ask why they have done this. It is not just because you told them to! It is a representation that 2 halves make a whole.
- Give them a second square of paper and ask them to fold it in half and then half again. Discuss how many sections they have – 4 – and let them write $\frac{1}{4}$ in each section. They cut the paper into 4 and glue the 4 pieces into their books. Ask why they have done this.

DAY 3 (to take no more than 20 minutes)

- Give each learner a strip of paper (you should get 6 strips cut lengthways from an A4 paper) and let them fold it in half, in half again and in half again so that there are 8 blocks. Working in pairs, they make a number-line counting in 3s i.e. learner 1 starts writing 3 in the 1st block, 6 in the 2nd and so on. When the 8th number has been written (24), the 2nd learner carries on counting in 3s, writing the numbers on his/her strip ending with the 16th 3 (48). Learners keep their number-lines for the next lesson.
- Put a pile of magazines, a few pairs of scissors and some glue in the middle of each group. Learners cut out a picture, then either cut it in half or into quarters, glue the pieces into

their books and write the correct symbol next to each piece. Discuss the meaning of cutting the picture into two or four pieces. The pieces must be pasted so that the picture can be recognised!

DAY 4 (to take no more than 20 minutes)

- Working in pairs and using the number-lines made on Day 3, learners put counters on the number indicating the answer to questions you ask e.g. How much are four threes? Learners place a counter on 12. If four threes are 12, how much are eight threes? Learners place a counter on 24, etc.
- Design a worksheet with shapes on and give it to the learners, or let the learners draw their own shapes in their books. Give the following type of instructions :
  - Draw a line to divide the circle in half and colour one half red.
  - Draw a line to divide the square into quarters and colour each quarter a different colour.
  - Draw a line to divide the triangle in half and colour one half green and the other half yellow.

  Learners can make up their own shapes and divide them into halves or quarters, indicating what they have done by writing the correct symbol in the shape.

DAY 5 (whole lesson)

- Put the learners into groups of 6. Have 5 different working stations arranged in the classroom. Each station must have a different number activity or game. Rotate groups after 15 minutes if time allows. Examples of number games:
  - Snakes and ladders;
  - Dominoes;
  - Throw 2 dice and multiply by 5, 10;
  - Bingo – addition/subtraction/multiplication;
  - Memory games, etc.
- Learners write a short paragraph about one of the games and whether or not they enjoyed the activity.

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

WEEK 5 : GROUP TEACHING

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

Notes to teacher:

- By now you have established 3 groups. Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. A number of types of activities are provided and you should do ALL the types each time you work with that group; but remember, although examples are provided, you should look for your own examples that will suit your learners. You will also 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.
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle

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

Circle the bigger number:	
105 – 115	120 – 113
16 - 61	124 – 212
Circle the smaller number:	
91 – 19	99 – 190
79 – 98	110 – 210

- Continue with fractions – halves and quarters – design a worksheet for learners.
- Multiplication number sentences of 2, 5 or 10 to be completed.
- Expanded notation of two and three digits.
- Addition and subtraction of whole 10.
- Completing number lines filling in multiples of 3.
- Estimation worksheet:

	Estimate	Actual
0000000000000000000000000000000000 0000000000000000000000000000000000	55	70
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxx		

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes.*

- When you say GO! learners draw circles on the whiteboard/piece of paper as fast as they can until you say STOP! Learners estimate how many circles they have drawn, and then count them.

- Let one learner choose a number between 57 and 77. Each member of the group tells a different number fact about the number. Learners may not give a fact said by someone else.
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 300. On Monday give learners one addition and one sharing with a remainder problem, e.g. types 3 and 35 and on Wednesday the word problems will be 2 different multiplication ones e.g. types 27 and 30. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

  ***Tip**: Here are examples of sharing with a remainder.*

  1. *There are 83 apples in a box. They must be put into 6 packets. How many apples can you put into each packet?*
  2. *There are 295 oranges in a bag. They must be put into 20 boxes. How many oranges can you put into each box?*

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes*.

- Put a ruler and some paper clips in front of the group. Ask learners to estimate how many paper clips, put end to end, will be needed to make the length of the ruler. Learners write down their estimate then count as you place the paper clips next to the ruler. Ask who estimated too many or too few, and by how much their estimates were out.
- Let one learner choose a number between 37 and 47. Each member of the group tells a different number fact about the number. Learners may not give a fact said by someone else.
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 250. On Tuesday give learners one addition and one sharing with a remainder problem, e.g. types 3 and 35 and on Thursday the word problems will be 2 different multiplication ones e.g. types 27 and 30. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- When you say GO! learners draw circles on the whiteboard/piece of paper as fast as they can until you say STOP! Learners estimate how many circles they have drawn, and then count them.

  ***Tip**: Use this opportunity to assess whether the learners in this group can work as quickly as the learners in Group1. If they do, then they should be in Group 1! However, you will probably find that the number of circles drawn by this group will be less than those of Group 1.*

- Let one learner choose a number between 25 and 39. Each successive member of the group will add 10 onto the number said by the previous learner e.g. the number chosen is 31 so the next learner adds 10 and says 41, the next learner adds 10 and says 51, etc.
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 200. On Monday and Tuesday give learners one addition and one sharing with a remainder problem, e.g. types 3 and 35 and on Wednesday and Thursday the word problems will be 2 different multiplication ones e.g. types 27 and 30. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

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

SECOND TERM: WEEK 6

<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
LO2 AS2</td><td>• Says number names in sequence to at least 500
• Counts forwards and backwards in multiples of 2s, 3s, 5s, 10s, 20, 50s and 100s to at least 500</td><td colspan="5">Daily :
• Rote counting in 1s, 2s, 5s, 10s to 500.
• Counting in 2s from 212 to 264 using a number line or number grid.
• Counting in 5s and 50s forwards and backwards from any given even or odd number to 500.
• Counts in 3s using a number-line or number grid.</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1 AS 3,8,9,10
LO 2 AS 2</td><td rowspan="2">Number knowledge and mental computations:
• Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8
• Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=?
• Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80
• Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20+20=?
• Develops number relationships of numbers to 100 e.g. 46 is: double 23, 40+6, 50-4, 20+20+10-4, etc.
• Identifies number patterns using addition, subtraction and multiplication to 500</td><td colspan="5">Daily :
• Adds, subtracts and multiplies to at least 40 to do quick mental calculations
• Recognise and completes number patterns of 10
• Build up concept of numerosity of numbers to 100
• Repeated addition and subtraction of 20,25, 50 and 100</td></tr>
<tr><td>DAY 1

Number patterns

Addition and subtraction of two 2-digit numbers

Double and halve numbers.</td><td>DAY 2

Number patterns

Addition and subtraction of two 2-digit numbers.</td><td>DAY 3

Number patterns

Repeated addition to 500</td><td>DAY 4

Number patterns

Repeated subtraction to 500</td><td>DAY 5

WHOLE CLASS ACTIVITY

Number games</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS5,7,8,11,12</td><td>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 200 and beyond
• Solves problems using grouping and sharing where the remainder is 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 1-300; Group 2 works in 1-1250; Group 3 works in 1-200.</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 subtraction and 1 sharing with a remainder as a fraction 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></tr>
</table>

WEEK 6 : WHOLE CLASS

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

Notes to the teacher:

- Counting at the beginning of the day helps learners to develop number sense. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting.
- Counting in threes and the multiplication of the three times table have been introduced. Learners need to be extended as they have been counting in twos, fives and tens since Grade One.
- Estimation, halving and doubling should be done everyday either with counters or drawing on the whiteboard.
- The best activities for weighing are those that have a real purpose. For example:
  - What are the heavy objects in the classroom?
  - Can we carry the cupboard to the passage – why not?
  - What do we need to weigh ourselves, large objects, luggage at the airport?
- Whenever possible, use weighing activities that learners may find useful in their daily lives.
- Some learners may still need to compare two things at a time to see which is heavier or lighter. Allow learners to weigh themselves and compare their weights. This may be a sensitive activity to do with overweight learners, but use the opportunity to integrate this with Life Orientation LO 1 and LO 3.
- It is important for learners to have some experiences in measuring weights. Have a baking activity where learners must weigh the different ingredients. Let them weigh everyday things eg. butter, flour, sugar, fruit etc

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Learners rote count in multiples of 2, 5, 10 and 100 in the number range 1 to 1000.
- Count in 3s from 1 to 100, using a number line or number grid.

Choose from the following to make up the 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Count forwards in 10s from 5 to 85, 27 to 107, 109 to 209. Ask learners to count backwards as well.
- Play "I spy with my little eye", e.g.
  - A number which is more than 7 fives but less than 19 twos and is an even number
  - A number which is half of 100 plus two 10s.
  - A number which is more than double 14 but less than half of 60, etc.
- Ask learners to work with a partner and to take a handful of counters, estimate how many there are and then count. Watch to see which learners can count in 2s, 5s and 10s to reach their answer.

DAY 1 (to take no more than 20 minutes)

- Use a sorting table to sort numbers by two rules (criteria). Draw the table on the board for the whole class. Here is an example: *Sort the numbers from 45 to 60 into numbers that are odd or even, and numbers that are or are not in the 3s counting pattern.* Give each learner an empty table to work in. They can do one sorting table **each day** this week. This is the answer to the example:

	Odd	**Even**
In the 3s pattern	45, 51, 57	48, 54, 60
Not in the 3s pattern	47, 49, 53, 55, 59	46, 50, 52, 56, 58

Ask if learners can predict what the next odd and even number in the 3s pattern will be. How will they know what the correct number will be?

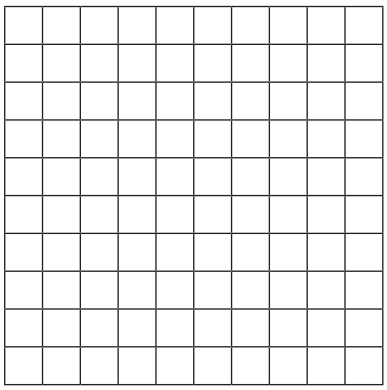
- Write some single-digit addition number sentences on the board e.g. 7+9=?, 6+5=?, 8+8=? Etc. Revise building the number towards a whole 10 i.e. 7+9→7+(3+6) →(7+3)+6 →10+6=16. Draw 5 columns on the board and call 5 learners to stand one at each column. Ask them to write the number sentence 17+19=☐ and to work it out, writing down each step. You will expect something like this:
  17+(10+6+3)→(17+3)+(10+6)→20+16=36 OR
  19+(1+16)→(19+1)+16→20+16=36
  Repeat with another 5 learners and different numbers.

DAY 2 (to take no more than 20 minutes)

- Learners count in 5s and every time they say a number which is a multiple of 2 they clap their hands. Repeat, but add that this time if the number is a multiple of 10 they must stamp their feet. Ask what pattern they find.
- Write some subtraction number sentences on the board e.g. 87-30=? 65-20=? Let learners tell you how to find the answer and record this on the board, for example, 87-30 could be 87-10-10-10→ 87, 77, 67, 57 or 87-20-10 →87, 67, 57 and so on. Now write 87-39=? on the board and let learners work in pairs to find the answer. Ask a few learners to record their working on the board telling the class how they worked it out. You should get something similar to this:
  87-30→57-9→57-7-2→50-2=48 OR
  39+**1**→40+**40**→80+**7**→87 1+40+7=48 87-39=48
  NB: These are only two examples and there are many other methods which are correct. The method used by the learners will depend on their sense of number and level of development. These methods MUST NOT be shown to learners as you want them to develop their own methods of computation. These methods have been provided as an example of what you can expect in your classroom.

DAY 3 (to take no more than 20 minutes)

- Each learner must have an empty 100 number square.



Learners must fill in the numbers 1 – 100.

- Ask questions and learners colour in the number which is the answer. Use questions such as:
    - Double 33
    - Half of 90
    - Quarter of 100
    - Ten threes etc.
- Call out 10 learners and let them stand in a line in front of the class. Each learner must add the number 20 to the previous number. Starting with the number 15, they take turns to say what the answer is when 20 is added e.g. 15, 35, 55, 75, etc. Repeat, working in the opposite direction and subtracting 20. Play the game again with another 10 learners, but choosing a different number to be added (5, 25, 30, etc) and a different starting number.

DAY 4 (to take no more than 20 minutes)

- Working in groups of 4, learners count out 30 counters from a pile taking turns to count out 3 i.e. 3, 6, 9, 12, etc.. Encourage learners to find different patterns of grouping the counters.
- Give each pair of learners a long strip of paper. Let them choose a number which is a whole 10 (10, 20, 30, etc.) and, starting with the number 34, they keep adding their number while you time 1 minute. Ask them to count how many times they added their number and what their answer is. Repeat the activity using the other side of the paper, but this time they start with the number 254 and keep subtracting their number.

DAY 5 (whole lesson with whole class)

- Put the learners into groups of 6. Have 5 different working stations arranged in the classroom. Each station must have a different number activity or game. Rotate groups after 15 minutes if time allows. Examples of number games:
    - Snakes and ladders;
    - Dominoes;
    - Throw 2 dice and multiply by 5, 10;
    - Bingo – addition/subtraction/multiplication;
    - Memory games, etc.

• Learners write a short paragraph about one of the games and whether or not they enjoyed the activity.	
ASSESSMENT	**Formal :** No formal, recorded Assessment **Informal :** Unrecorded assessment of learners oral responses and ability to participate

WEEK 6 : GROUP TEACHING

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

Notes to teacher:

- Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. A number of types of activities are provided and you should do ALL the types each time you work with that group; but remember, although examples are provided, you should look for your own examples that will suit your learners. You will also give the learners at least 2 different word problems to solve every time you work with them. **However, it is better to engage learners in working with only one problem if they have to think hard about the problem as well as the solution**.
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle

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

- Learners will work in pairs and use their flard cards. Each pair of learners can draw a table like this in their exercise books or use the worksheet provided. Learners complete the table.

My number	Cards that I have	Cards that I need
127	20	

- Independent work – Annexures 11 and 12 to be done while you are working with a group on the carpet.
- Ask learners to complete these counting activities. They can use their number squares and counters if they like.
  - Counting in 5s and 20s. Fill in the numbers:

25, _, _, 55, _, _, _, _, 105, _, _, _
220, _, _, _, 300, _, _, _, _, _, _, 440, _
155, _, _, _, _, _, 185, _, _, _, _, _,210
195, _, _, _, _, 170, _, _, _, 150
430, _, _, _,350,_, _, 290, _, _, _

  - Write the answers.

46 add 10	65 subtract 10
77 add 10	44 subtract 10
33 add 10	75 subtract 10
68 add 10	124 subtract 10
125 add 100	300 subtract 10

- Halve these numbers.

42_____	20_____	34_____
62_____	40_____	44_____
32_____	60_____	64_____
22_____	70_____	84_____

- Write these numbers.

112 = one hundred and twelve

84 = _____

138=_____

240= _____

300= _____

129 = _____

- Expanded notation of two and three digits.
- Addition and subtraction of whole 10.
- Completing number lines filling in multiples of 3.
- Use work from learners' "Learner's Book", worksheets, workcards etc.

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes*.

- Let learners take a handful of counters and share amongst 3 learners. Ask : how many counters? how many groups? any left over?
- Ask learners to set out their flard cards and then to use them to show you the numbers that you put onto a blank number board using counters. Here is an example:

101									
121									
								●	
									150
		●							
									200

Learners will find the numbers 100, 30 and 9 to make 139 for the first number and 100 and 70 and 3 to make 173 for the second number. Repeat using other numbers.

- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 300. On Monday give learners one subtraction and one sharing with a remainder as a fraction problem, e.g. types 10 and 36 and on Wednesday the word problems will be 1 addition and 1 grouping with a remainder e.g. types 40 and 39. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes*.

- When you say GO! learners draw circles on the whiteboard/piece of paper as fast as they can until you say STOP! Learners estimate how many circles they have drawn, and then count them.
- Ask learners to set out their flard cards and then to use them to show you the numbers that you put onto a blank number board using counters. Here is an example:

101									
121									
								●	
									150
		●							
									200

Learners will find the numbers 100, 30 and 9 to make 139 for the first number and 100 and 70 and 3 to make 173 for the second number. Repeat using other numbers.

- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 250. On Tuesday give learners one subtraction and one sharing with a remainder as a fraction problem, e.g. types 10 and 36 and on Thursday the word problems will be 1

addition and 1 grouping with a remainder e.g. types 40 and 39. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

GROUP 3 -

*This group works with the teacher **every day** for 30 minutes.*

- Put a ruler and some paper clips in front of the group. Ask learners to estimate how many paper clips, put end to end, will be needed to make the length of the ruler. Learners write down their estimate then count as you place the paper clips next to the ruler. Ask who estimated too many or too few, and by how much their estimates were out.
- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? (300 and 60 and 8). Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? 300 and 50 and 1.Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?
  - Make the number 34. Now double the number and show the cards you will use as well as explain how you doubled the number i.e. 30 and 4 for 34 and 60 as double 30 and 8 as double 4. Now halve the number and show the cards you will use (15 →10 and 5 as half of 30, and 2 as half of 4 →10+5+2 is 17, so the cards will be 10 and 7).
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 200. On Monday and Tuesday give learners one subtraction and one sharing with a remainder as a fraction problem, e.g. types 10 and 36 and on Wednesday and Thursday the word problems will be 1 addition and 1 grouping with a remainder e.g. types 40 and 39. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

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

SECOND TERM: WEEK 7

<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
LO 2 AS2</td><td>• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500
• Counts forwards and backwards in 10s starting at any number between 0- 500</td><td colspan="5">Daily :
• Rote counting in multiples 2, 5, 10 and 20 to 500.
• Counts in multiples of 2, 5, 10, 20, 100 starting at any number using a number line, number grid, etc.
• Counts in 3s to 100.</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO 1 AS 3,6,8,9,10
LO 2 AS2</td><td rowspan="2">• Identifies and compares the value of coins and notes in our money system
Number knowledge and mental computations
• Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=?
• Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20+20=?
• Develops number relationships of numbers to 100
• Identifies number patterns using addition, subtraction and multiplication to 500</td><td colspan="5">Daily :
• Identifies the numerosity of numbers to 100.
• Identifies number 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 AS 5,6,8,11,12</td><td>• Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8
• Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80
• Solves money problems where cents are converted to rands</td><td>Numerosity of numbers to 100

Identifies number patterns using multiplication.</td><td>Numerosity of numbers to 100

Repeated addition and subtraction</td><td>Money; cents and rands; change

Identifies number patterns using addition and subtraction</td><td>Consolidation of money: Adding and subtracting – getting change.</td><td rowspan="3">WHOLE CLASS ACTIVITY

Let’s go shopping</td></tr>
<tr><td colspan="5">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-300; Group 2 works in 1-250; Group 3 works in 1-200</td></tr>
<tr><td colspan="2"></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem involving money.
Group 2 work on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem involving money.
Group 1 work on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 2 different types of addition word problems
Group 2 work on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time
Ask 2 different types of addition word problems
Group 1 work on its own.</td></tr>
</table>

WEEK 7 : WHOLE CLASS

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

Notes to the teacher:

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Learners will enjoy estimating. These are important skills to develop for the data handling process. So, although it might appear that learners are just having fun, these activities build their reasoning skills.
- It is important that the learners work with money and the real cost of things and not unrealistic prices.
- **Activities for Assessment Task 2** will be found as part of the everyday teaching and learning activities.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Learners rote count in multiples of 2, 5, 10, 20, 50 and 100 in the number range 1 to 1000.
- Let learners choose any number between 1 and 100. Each learner in the class tells a different number fact about that number. If your class is large, choose a number and let ten learners tell you facts about the number, then choose another number and let another ten learners have a chance. You may have to choose 3 or 4 different numbers each day otherwise it becomes too difficult for the learners if the class is big.
  Tip: This is an assessment activity, so make sure everyone has a turn each day. Don't always let the same learner start! The activity should not take long – about 5 minutes – as learners should know these numbers very well by now.

Choose from the following to make up the 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Ask individuals to count, each taking turns, from say 300 to 310 then 311 to 321 then 322 to 332 until you reach 500.
- Count forwards and backwards in tens from any given number.
- Let learners use 200 grid and solve the following problems: Encourage them to look for patterns.
  3 + 6 =?; 4 + 5 =?; 3 + 16 =?; 14 + 5 =?; 3 + 26 =?; 24 + 5 =?; etc.

DAY 1 (to take no more than 20 minutes)

- Let each learner choose their own number between 50 and 100 and write it down in large writing. They write 10 different number facts about this number i.e. number sentences where the answer is the chosen number e.g.

92
92=90+2 99-7=92 Double 46 is 92, etc.

Allow learners to use counters, number grids, etc. if they need to. Once they have finished they may decorate the number.

Tip: *Use this as one of the activities for Assessment Task 2.*

- Write the following five number sequences on the board e.g.

- 184, 186, 188, 190, 192, 194, 196, 198.
  I am counting in ----------.
- 470, 480, 490, 500, 510, 520, 530.
  I am counting in ----------.
- 275, 280, 285, 290, 295, 300, 305, 310, 315, 320.
  I am counting in ----------.
- 103, 102, 101, 100, 99, 98, 97, 96, 95.
  I am counting in ----------.
- 350, 335, 365, 340, 360, 345, 355
  Put these numbers in the correct sequence from smallest to biggest.
  I am counting in ----------.

Learners copy these sequences into their books. They must identify the pattern and write what they think each sequence is.

Tip: *As this is an assessment activity, learners should work on their own.*

DAY 2 (to take no more than 20 minutes)

- Working in pairs, one learner chooses an even number as the starting number between 100 and 110 and the other learner chooses an even number between 320 and 330 to stop at but with the same last digit e.g. child 1 chooses 104 and child 2 chooses 324. These numbers are written at either end of a narrow strip of paper (use an A4 sheet and cut strips lengthwise – you will get approximately 8-10 strips from one page). Each pair has two strips of paper with the numbers written on. Learners will use +20 to do repeated addition from the first to the final number e.g. Child 1 starts the addition by saying 104 plus 20 and writes +20 next to the first number. Child 2 adds 20 onto 104 and says 124 and writes 124 on the other strip. They carry on doing this till the final number is reached. They then count the number of times they added 20 and record it on the back of the paper e.g. eleven 20s from 104 to 324 e.g.

104 +20 + 20 +20+20 +20 +20 +20+20 +20 +20 +20 =324

104, 124, 144, 164, 184, 204, 224, 244, 264, 284, 304, 324

***Tip**: This activity forms part of Assessment Task 2. You could also use +5 or +25 depending on the level of your class.*

- Repeat the activity, but this time using subtraction. This means that learner 1 must choose a number between 320 and 330 and learner 2 chooses a number between 100 and 110. Learners can choose to subtract multiples of 5, 25, or 50.
  ***Tip**: This activity forms part of Assessment Task 2.*

DAY 3 (to take no more than 20 minutes)

- Each learner should have sheets with different denominations of the money from cents to rands to cut out and use OR in the class room, there should be containers to be shared – 1 container to 2 children – and in the container should be counters, a clock, unifix blocks and photocopied coins and coloured prints of the paper money or let learners put coins under a piece of white paper and rub the coin with their pencils and cut out the coin.
- Ask the learners to identify each denomination and how to recognize the different coins and paper money by their symbols. Discuss size, colour and value of coins. Let learners sort out the coins in the different denominations.
- Ask learners to find different ways to make up an amount eg 68c = 20c 20c 20c 5c 2c 1c or 50c 10c 2c 2c 2c 2c or 50c 5c 5c 5c 2c 1c. Repeat using different amounts. Try and use the least possible amount of coins – circulate around the classroom while learners are doing this so that you can assess their understanding of the different denominations.
- Write the following on the board:

26+10=	26+20=	359-5=	553-50=
36+10=	126+20=	358-5=	543-50=
46+10=	226+20=	357-5=	533-50=

Learners copy this into their books and extend the patterns by writing at least 10 number sentences in all.

***Tip**: This is an activity towards Assessment Task 2, so learners need to complete this on their own. They can complete it during group teaching time when they are working independenly.*

DAY 4 (to take no more than 20 minutes)

- Let's go shopping
  - Let the learners work in groups.
  - They must set up their own shops at their desks.
  - Choose what they want to sell and for how much.
  - Put a price tag on each item.
  - Let some learners be the "shopkeepers" and some be the "buyers"
  - The learners must use their money that they made in **DAY 3**.
- Learners make shopping lists using realistic prices. Each learner must write out their own shopping list e.g

- 1 litre milk R18.00
- 1 tub of margarine R10.00
- 500g of cheese R31.50

• Learners add up the shopping lists, using their "money"

DAY 5 (whole lesson)

• Today learners will set up shop, price items, sell items by weight (comparing weights), puts realistic prices on items.
• Learners can have their own "cake and candy sale"
• Learners must be put in groups of 4 and organize duties amongst themselves.
• Learners must record what is sold and for how much and total amounts at the end of the sale.

Tip: *Use all these activities for Assessment Task 2. Observe the learners and then record your observations.*

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: • Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=? • Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20+20=? • Develops number relationships of numbers to 100 • Identifies number patterns using addition, subtraction and multiplication to 500

WEEK 7 : GROUP TEACHING

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

Notes to teacher:

- By now you have established 3 groups. Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. A number of types of activities are provided and you should do ALL the types each time you work with that group; but remember, although examples are provided, you should look for your own examples that will suit your learners. You will also give the learners at least 2 different word problems to solve every time you work with them.
- It is through solving problems that learners build up their own understanding of numbers, computations, fractions etc. Therefore you do not first teach, for example, addition and subtraction and then expect learners to use this knowledge to solve problems. Learners rather use the solving of problems to develop an understanding of the various mathematical concepts. **This is particularly important when working with learners who think more slowly.** Thinking is harder for these learners, but it is important that they are given the same opportunities to develop their own understanding of mathematical concepts.
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- **Assessment Task 2** will be done this week.

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

Use these worksheet examples for your formal assessments.

100c = R1,00

200c = R2,00

315c = R3,15

Complete the following exercise:

500c = R_____	920c = R_____
410c = R_____	222c = R_____
627c = R_____	648c = R_____
195c = R_____	1000c = R_____
362c = R_____	850c = R_____

Can you write the following in cents? Use this as an extension for the learners who understand money and work quickly!

R5,62 _____	R2,96 _____
R3,40 _____	R7,43 _____
R3,59 _____	R8,74 _____
R9,10 _____	R2,41 _____
R10,00 _____	R8,07 _____

Add the following cents:

32c + 46c + 11c=

62c + 12c + 10c =

44c + 13c + 11c =

Add the following rands and cents:

R10,00 + 50c + R2,00 =
R23,00 + R14,00 + 96c =
R40,00 + R35,00 + 20c + 10c =
R50,00 + 65c + R10,00 + 11c =

Subtract the following cents:

86c – 33c =	44c – 20c =
75c – 25c =	37c – 12c =
94c – 31c =	25c – 20c =
55c – 15c =	100c – 50c =

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? 300 and 50 and 1.Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?
  - Make the number 262. Which numbers did you use? 200 and 60 and 2.Show the new number you will get if you add 200. 462. Which number changed? Why did the 200 change? Why did the 60 not change?

  ***Tip**: Use this practical activity as part of Assessment Task 2.*
- Use counters to represent rands. Work in problem solving books. Write the following on a card and show the group, then ask them to work out how much they would pay for different flowers:

Joyce's Flower Shop

One rose costs R8,00
One tulip costs R10,00
One lily costs R6,00

How much will you pay for the following?

5 roses _____

2 roses + 3 tulips _____

8 tulips _____

5 roses + 5 lilies _____

6 lilies + 5 tulips _____

4 roses + 4 lilies _____

11 tulips + 2 roses _____

4 lilies + 2 roses _____

100 roses + 1 tulip_____

1 lily + 10 tulips _____

- You can also ask the following problem:
  Your school stationery cost R75,50. You paid with R100. How much change did you get?
  Learners should discuss the problems, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.
  ***Tip**: Use these problems as part of Assessment Task 2 to assess learners' understanding of money.*

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes*.

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
  - Make the number 97. Which cards did you use? 90 and 7. Show the new number if you take 30 away from 97. What is the new number? 67. Which number changed? 90. Why did the 90 change? Because 90 take away 30 is 60. Why did the 7 not change? It didn't need to.
  - Make the number 351. Which numbers did you use? 300 and 50 and 1.Show the new number you will get if you add 20. 371. Which number changed? Why did the 50 change? Why did the 300 not change?
  - Make the number 262. Which numbers did you use? 200 and 60 and 2.Show the new number you will get if you add 200. 462. Which number changed? Why did the 200 change? Why did the 60 not change?

  ***Tip**: Use this practical activity as part of Assessment Task 2.*
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5 roses + 5 lilies _____
6 lilies + 5 tulips _____
4 roses + 4 lilies _____
11 tulips + 2 roses _____
4 lilies + 2 roses _____
100 roses + 1 tulip_____
1 lily + 10 tulips _____

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  ***Tip**: Use these problems as part of Assessment Task 2 to assess learners' understanding of money.*

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- Learners put out their flard cards and do the following type of activities:
  - Make the number 368. Which cards did you use to make the number? 300 and 60 and 8. Do this a few times using different numbers.
  - Make the number 65. Which cards did you use? 60 and 5. Show the new number you will get if you add 10 to 65. What is the new number? 75. Which number changed? 60. Why did the 60 change? Because 60+10=70. Why did the 5 not change? It didn't need to.
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- Make the number 262. Which numbers did you use? 200 and 60 and 2.Show the new number you will get if you add 200. 462. Which number changed? Why did the 200 change? Why did the 60 not change?

***Tip**: Use this practical activity as part of Assessment Task 2.*

- Use counters to represent rands. Work in problem solving books. Write the following on a card and show the group, then ask them to work out how much they would pay for different flowers:

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4 roses + 4 lilies _____
11 tulips + 2 roses _____
4 lilies + 2 roses _____
100 roses + 1 tulip_____
1 lily + 10 tulips _____

- You can also ask the following problem:
  Your school stationery cost R75,50. You paid with R100. How much change did you get? Learners should discuss the problems, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.
  ***Tip**: Use these problems as part of Assessment Task 2 to assess learner's understanding of money.*

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: • Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8 • Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80 • Solves money problems where cents are converted to rands

SUGGESTED ASSESSMENT TASKS: GRADE 3 NUMERACY SECOND TERM

TASK 2: WEEK 7

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Calculates using addition and subtraction of two two-digit numbers e.g. 92-26=? • Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20+20=? • Develops number relationships of numbers to 100 • Identifies number patterns using addition, subtraction and multiplication to 500	Wk 7	• Use the oral activity during the week and the written activity on Day 1 to assess learners' ability to identify the numerosity of numbers to 100. • Use the activities on Day 1 and day 3 to assess learners' ability to identify patterns. • Assess learners' knowledge of repeated addition and subtraction using the activity on Day 2.
PROBLEM SOLVING	• Decomposes three-digit numbers as expanded notation using flard cards to 500 e.g. 498=400+90+8 • Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80 • Solves money problems where cents are converted to rands.	Wk 7	• Written work done independently can also be used for assessment purposes. • Flard card work during group teaching time will be used to assess the addition and subtraction of three-digit numbers as well as the decomposition of three-digit numbers. • Solving money problems is assessed throughout the week.

SECOND TERM: WEEK 8

<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
LO2 AS2</td><td>• Counts to at least 300 objects reliably
• Counts out unstructured collections of objects (pictures and marks) up to at least 500 by structuring them (grouping into different multiples).</td><td colspan="5">Daily :
• Rote counting in multiples of 2, 5 and 10 to 500.
• Counting in multiples of 10, 20, 25, 50 to 500 and 100 to 1000 using number cards etc.
• Count in 10s and 100s starting at any number</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1
AS4,8,9,10
LO2 AS 2
LO3 AS3
LO4 AS1,2
LO5 AS1</td><td rowspan="2">• Orders and compares 3-Digit numbers to at least 500
• Number knowledge and mental computations:
- Adds, subtracts and multiplies to at least 40 to do quick mental calculations
- Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80
- Calculates the multiplication of 2, 5,10 to at least 100
- Develops number relationships of numbers to 100 e.g. 46 is: double 23, 40+6, 50-4, 20+20+10-4, etc.
- Calculates division of two digit numbers by one digit numbers e.g. 25÷5=?
• Reads and writes analogue and digital time</td><td colspan="5">Daily :
• Multiplication of 2,3, 5, and 10
• Numerosity of numbers to 100</td></tr>
<tr><td>DAY 1

Add and subtract two and three digit numbers up to 500

Division of 2-digit numbers by one-digit numbers

Introduce Time-the seasons</td><td>DAY 2

Division of 2-digit numbers by one-digit numbers

Time – months, days</td><td>DAY 3

Add and subtract two and three digit numbers up to 500

Time</td><td>DAY 4

Addition of three digit numbers –

Division of 2-digit numbers by one-digit numbers

Time – day and nights, 24 hours in a day.</td><td>DAY 5

WHOLE CLASS ACTIVITY

Each learner must share a clock with movable hands .
Introduce “hour”. O’clock and “Half Hour”. Half past

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

LO1
AS5,6,7,8,11, 12</td><td rowspan="2">• Decomposes two and three digit numbers as expanded notation i.e. 26=20+6; 348=300+40+8 using flard cards
• Solves and explains solutions to practical problems that involve equal sharing and grouping with solutions including remainders and/or fractions</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-400; Group 2 works in 1-300; Group 3 works in 1-250.</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem involving money.
Group 2 work on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem involving money.
Group 1 work on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 grouping and 1 sharing word problem.
Group 2 work on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 grouping and 1 sharing word problem.
Group 2 work on its own.</td></tr>
</table>

WEEK 8: WHOLE CLASS

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

Notes to the teacher:

- Counting at the beginning of the day helps learners develop a sense of numbers and aids the development of addition, subtraction and multiplication skills. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Counting in 4s is not a milestone but you must keep extending and challenging the learners.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Over the next weeks you will be dealing with time. It is important that the learners become aware of the time during the day.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Rote count from a given number to a given number e.g. from 460 to 550 and from 510 to 620. count forwards and backwards.
- Give learners a worksheet with pictures and each day they count the number of pictures and then group them according to your instructions e.g. in 5s, 10s, etc.
  Tip*: See Annexure 13 for an example.*
- Count in 3s using an abacus, number-line, number grid, etc.

Choose from the following to make up the 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Ask the learners how many chairs there are in the classroom. Now ask how many chair legs there are. Ask if anyone can find an easy way to count the number of chair legs. Continue asking questions such as : *Will counting in 2s help us? Will counting in 5s help us? Which will be better – to count in 2s or 5s? etc.*
- Have a number pattern ready everyday. Let learners use counters, numberchart and numberlines. Write a pattern on the chalkboard. Learners must complete it in their books, e.g. counting in 4s:
  4, 8, _,_ _ 24, _, _, _, _
  48, 52, _, _, _, _,72, _, _, _
  112, _, 120, _, _, _, 136, _, _, _
  224, 228, _, _, _, _, _, _, _, _, _,_
- Learners work in their group. You will tell the learners the first number (start with an even number) and they will go round in the group doubling the number each time, e.g.
  6, 12 , 24, 48, 96, 192 ……
  4, 8, 16, 32, 64,128…….
  Discuss what pattern is noticed, and why this is so.

- Repeat this activity starting with an odd number e.g.
  5, 10, 20, 40, 80, 160……..,.
  7, 14, 28, 56, 112, 124…….
  Discuss what pattern is noticed and why this is so.

Day 1 (to take no more than 20 minutes)

- Let learners count in 2s, starting at 2 and only stopping when you clap your hands e.g. at 20. Ask questions that will develop an awareness of multiplication and division such as:
  - *How many 2s in 20?*
  - *How much are 10 2s?*
  - *If 10 2s are 20, how much are 11 2s?*
  - *If 10 2s are 20, how much as 9 2s?*
  - *If I put 20 apples into piles of 2, how many piles will I have?*
  - *If I put 20 apples into 2 piles, how many apples will be in each pile?*
- Today you will find out and revise what learners already know about time.
  - Discuss the seasons and the weather as an introduction.
  - Discuss what types of sport are played in each season.
  - Make two different graphs, one for the seasons and one for types of sport. Give each learner a small piece of paper (that will fit onto one block of your graph) and ask them to draw their favourite season on one piece and their favourite sport on the other piece. As they finish they put their paper on the graph in the correct place.
  - Once everyone has finished, discuss the graphs.

Day 2 (to take no more than 20 minutes)

- Let learners count in 5s, starting at 5 and only stopping when you clap your hands e.g. at 60. Ask questions that will develop an awareness of multiplication and division such as:
  - *How many 5s in 60? (☐ x5=60)*
  - *How much are 12 5s?(12x5=60)*
  - *How much are 5 12s? (☐ x12=60)*
  - *If 12 5s are 60, how much are 11 5s?(11x5=55)*
  - *If 12 5s are 60, how much as 13 5s?(13x5=65)*
  - *If I put 60 buttons into piles of 5, how many piles will I have? (60÷5=12)*
  - *If I put 60 buttons into 5 piles, how many buttons will be in each pile?(60÷☐=5)*

  You can record the answers on the board, gradually introducing learners to the division sign.
- Today you will discuss and revise the months of the year. This will be a good sequencing exercise.
  - Ask the learners to name the months of the year in the correct order.
  - Ask the learners what months come before, after and in between a month. E.g. what month comes before March, what month comes after July, what month comes in between August and October, what month comes between April and June?

- Ask the learners the months of the terms, which months school terms start, end and during which months do they have holidays.
- Make a birthday graph. Write the names of the months on a large piece of paper. Let the learners write their names under the month when their birthday is.
- Look at the months where most birthdays are, the least are, and then arrange in order from the most to the least.

DAY 3 (to take no more than 20 minutes)

- Use your own set of flard cards and put any 2 numbers of a 3-digit number on the board. Tell the learners what the 3-digit number is and say you cannot find all the cards – you need them to help you! They must write down the missing number, e.g. you put up the cards 3 and 2 0 0 and tell the class you want the number 283 – what is missing? Learners write down the number 80. Repeat this a few times using your own numbers, putting them in any order, and leaving out different values.

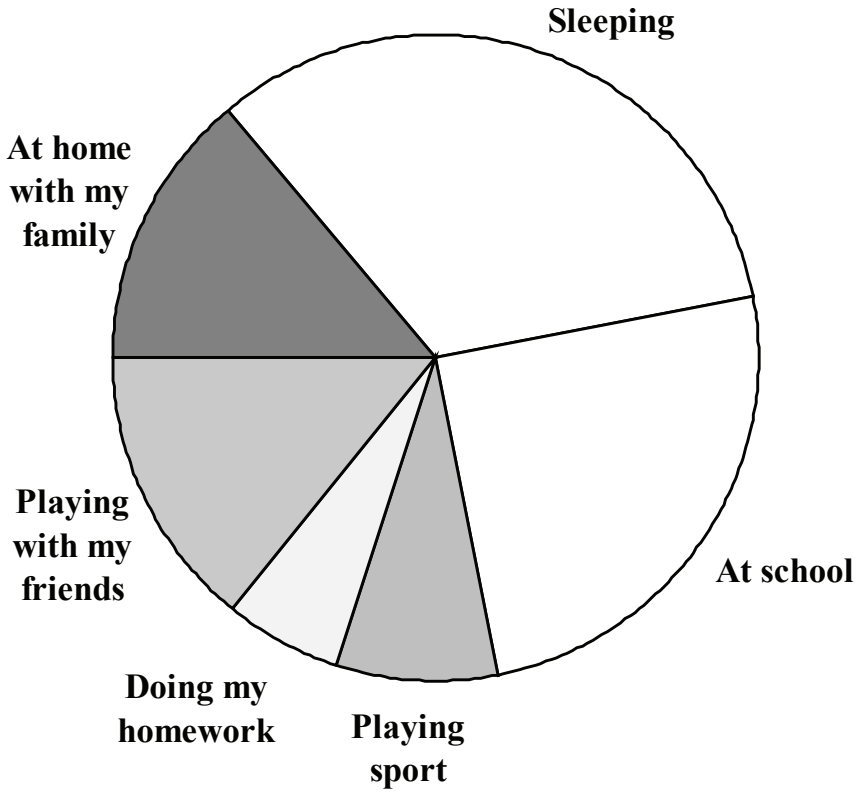
  ***Tip**: Each time ask what number is missing and learners mark their own work. You can walk around and observe who cannot manage, but allow learners to take responsibility for marking their own work. This is not a test!*
- Today you will discuss and revise the days of the week, how many weeks in the months and in a year. This will also help with sequencing – ordering the days of the week.
  - Ask the learners how many days in a week, then ask them to write down the names of the days in the correct order.
  - Name the days of the school week. How many days?
  - Find out from the learners how many days there are in each month, and how many weeks there are in a year. Show them how to find out which months have 30 days and which months have 31 days. (Do they know how many days February has?) Method: make a fist with the left hand. Touch the first knuckle with the right forefinger and say "January". The knuckle is higher so January has 31 days. Now move the finger and touch the "valley" between the first and second knuckles. Say "February". The valley is lower so this month has 28 days (and not 30, which is what all the other valley-months have). When they get to the fourth knuckle they count it twice (July and August both have 31 days) and return towards the first knuckle.
  - Find out if they know how many days there are in a year and discuss what a leap year is. Every four years there is a leap year and February gets an extra day and so has 29 days.

    ***Tip**: If the year is divisible by 100, it is not a leap year, but if it is divisible by 400 then it is a leap year.*
  - Give each learner a blank piece of paper. With a ruler let them draw blocks, 7 across and 5 down. At the top above the 7 across, they must write down the names of the days starting with Sunday.
  - Choose a month and mark the numbers from 1 to 30/31 depending on the month in each block. Find out on which day the month starts.

- Colour in the block of important dates for that month

DAY 4 (to take no more than 20 minutes)

- Write a 3-digit number on the board and ask a learner to write the expanded notation under the number, e.g. you write 437 and the learner writes 400 + 30 + 7= 437. Tell the learners that you have changed your mind, and you now want the number 467. Can they help you - what must you do? Let a learner show you i.e. rub out the 30 and make it 60, then write 463, explaining what he/she is doing - and why. Repeat this using your own numbers and changing the value of any of the numbers.
- Today you will discuss how many hours in a day.
  - Discuss day and night. What do you do during the day, and what do you do during the night.
  - Explain to the learners that there are 24 hours in the day and that the day starts at midnight and ends 24 hours later.
  - Ask the learners what time they get up, have breakfast, go to school, etc.
  - Ask learners what their favourite time of the day is.
  - Draw a pie chart and show the learners how your day if divided up. Now ask the learners to draw their own pie graph and colour in the different things they do during the day and they can see how much time they spend doing different things.
    Here is an example of a pie chart. It is based on a 24 hour clock and the proportions are approximately sleep (8 hrs or $\frac{1}{3}$), school (6 hrs or $\frac{1}{4}$), homework and playing sport (1 hr each, $\frac{1}{24}$), playing with friends (about 3 hrs) and time with family (about another 3 hrs).



DAY 5 (the whole lesson)

- Each learner must make their own clock, one that they can manipulate easily without breaking as they will have to move the hands to show the times.
- Use a paper plate or cut out a circle on a piece of cardboard, and let learners draw the clock face. Give each learner 2 strips of cardboard for the hands and they prestik them into place (or use split pins if you have). Collect empty cereal boxes or any other box, open them up and use them for the clocks.

  Tip: *As from now, the clocks must be taken out every day and what ever time the teachers says, the learners must show it on their clock.*
- Start off by introducing the hour hands, hour – o'clock and half past. Explain that 60 minutes is in one hour and when the long hand points on the six, it becomes half past!
- Explain 60 minutes in 1 hour and 60 seconds in 1 minute. Ask how many minutes there are between each number and which hand indicates this. Ask how many hours between the numbers and which hand indicates this.
- Explain that when the hour hand has moved half way, 30 minutes have passed and that is half an hour. When the minutes hand is on the 12 – we say o'clock and when the minute hand it on the 6 it is half past as half an hour has passed. When it is half past, the hour hand has moved half way between two numbers.

  This will be a very practical lesson today.

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

WEEK 8: GROUP TEACHING

Week 8	GROUP TEACHNG COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

1. Although you have established 3 ability groups, remember that they are not static. Learners will move between the groups as their number sense develops and their confidence grows.
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Learners must complete ALL the work that you have set for the lesson.

DAILY ACTIVITIES

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

- Arrange each set of 4 numbers from smallest to biggest and biggest to smallest:
  389, 241,675,436
  828,562,192,877
  312,231,213,123
  476,391,931, 764
  809,701,910,615
  261,666,815,521
- Learners will work in pairs and use their flard cards. Each pair of learners can draw a table like this in their exercise books or use the worksheet provided. Learners complete the table.

My number	Cards that I have	Cards that I need
127	20	

- Expanded notation of two and three digits.
- Addition and subtraction of two 2-digit numbers.
- Completing repeated addition and subtraction number sentences.

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes*.

- Place some cards with pictures of people in front of the learners, e.g. a man on 1 card, 2 women on 1 card, 4 children on 1 card. Let them briefly look at the cards, cover the cards and ask learners to estimate how many fingers there are. Once everyone has written down their estimate, uncover the pictures and count the number of people and multiply by 10 to find out the number of fingers.

- Let the shortest learner choose a 3-digit number, e.g. 291, and the tallest learner must choose the multiple to count in e.g. 25. Starting anywhere in the group, each learner adds the multiple to the previous number. As learners say the numbers, record it for them to see e.g. 291+25→316+25→341 etc. Tell learners that as soon as they see the pattern they must tell you what it is.
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 400. On Monday give learners one addition and one subtraction problem, e.g. types 17 and 12 and on Wednesday the word problems will be 1 sharing and 1 grouping e.g. types 22 and 23. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

  Tip: *It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.*

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes*.

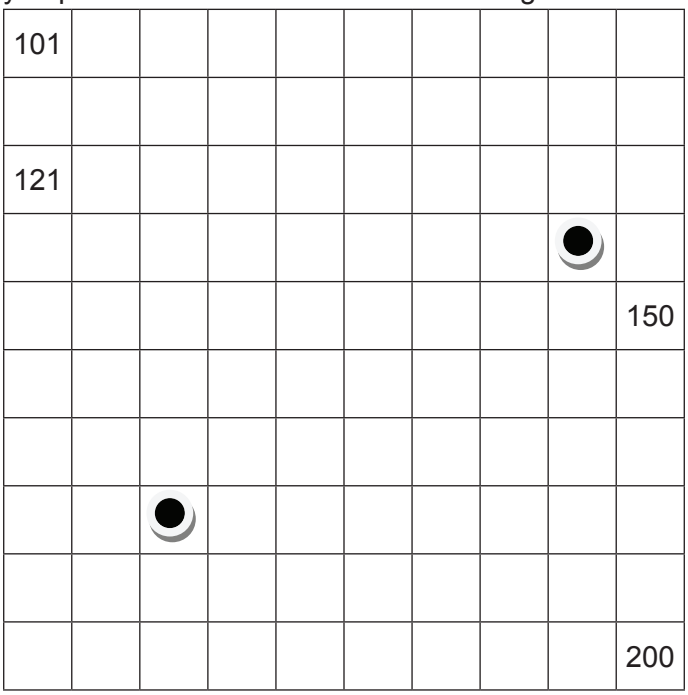
- Place some cards with pictures of people in front of the learners, e.g. a man on 1 card, 2 women on 1 card, 4 children on 1 card. Let them briefly look at the cards, cover the cards and ask learners to estimate how many hands there are. Once everyone has written down their estimate, uncover the pictures and count the number of people and multiply by 2 to find out the number of hands.
- Let the shortest learner choose a 3-digit number, e.g. 291, and the tallest learner must choose the multiple to count in e.g. 10. Starting anywhere in the group, each learner adds the multiple to the previous number. As learners say the numbers, record it for them to see e.g. 291+10→301+10→311 etc. Tell them that as soon as they discover the pattern they must tell you what it is.
- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 300. On Tuesday give learners one addition and one subtraction problem, e.g. types 17 and 12 and on Thursday the word problems will be 1 sharing and 1 grouping e.g. types 22 and 23. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

  Tip: *It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.*

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- Place some cards with pictures of people in front of the learners, e.g. a man on 1 card, 2 women on 1 card, 4 children on 1 card. Let them briefly look at the cards, cover the cards and ask learners to estimate how many hands there are. Once everyone has written down their estimate, uncover the pictures and count the number of people and multiply by 2 to find out the number of hands.
- Ask learners to set out their flard cards and then to use them to show you the numbers that you put onto a blank number board using counters. Here is an example:



Learners will find the numbers 100, 30 and 9 to make 139 for the first number and 100 and 70 and 3 to make 173 for the second number. Repeat using other numbers.

- Give the learners paper, writing tools, counters and a number square. The learners must be given two problem solving activities to do each time they work with you. Use the number range 1 to 250. On Monday and Tuesday give learners one addition and one subtraction problem, e.g. types 17 and 12 and on Wednesday and Thursday the word problems will be 1 sharing and 1 grouping e.g. types 22 and 23. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

  ***Tip:** It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.*

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

SECOND TERM: WEEK 9

<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
LO2 AS2</td><td>• Counts to at least 300 objects reliably
• Counts out unstructured collections of objects (pictures and marks) up to at least 500 by structuring them (grouping into different multiples).</td><td colspan="5">Daily :
• Rote counting in 1s between 498 and 902.
• Counting in multiples of 2 and 20 to 400, 5 and 50 to 700, 10 and 100 to 1000 using number cards etc.
• Count in 2s, 5s, 10s starting at any number</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL

LO1 AS 5,8,9,10
LO2 AS 2
LO 3 AS 3
LO4 AS1,2</td><td rowspan="2">• Number knowledge and mental computations
- Adds and subtracts two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=?
- Calculates the multiplication of 2, 3, 5,10 to at least 100
- Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20=?
- Develops number relationships of numbers to 100
- Calculates division of two digit numbers by one digit numbers e.g. 25÷5=?
• Reads and writes analogue and digital time</td><td colspan="5">Daily :
• Multiplication of 2, 5 and 10
• 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>GROUP TEACHING

LO1
AS5,7,8,11,12</td><td>• Solve different types of problems and explain solutions with whole numbers to at least 100, involving addition, subtraction and multiplication using drawings, appropriate symbols and the techniques listed below
- building up and breaking down numbers
- doubling and halving
- number lines</td><td>Expanded notation three digit numbers

Repeated addition and subtraction.</td><td>Numerosity of numbers to 100

Repeated addition and subtraction.

Multiplication of 2, 5 and 10</td><td>Division of two digit numbers by a one digit number

Addition and subtraction of two- and three-digit numbers</td><td>Division of two digit numbers by a one digit number.

Addition and subtraction of two- and three-digit numbers</td><td rowspan="2">WHOLE CLASS ACTIVITY

Design and construct own clock</td></tr>
<tr><td colspan="5">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-400; Group 2 works in 1-300; Group 3 works in 1-250</td></tr>
<tr><td colspan="2"></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask repeated addition and subtraction word problems
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask repeated addition and subtraction word problems.
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 multiplication and 1 sharing word problem.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 multiplication and 1 sharing 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:

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Activities for **Assessment Task 3** will be done this week.
- Many different opportunities are provided for assessing learners. Assess in as many ways as possible to ensure that your assessment is valid.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily: (Choose a few for each day of the week)

- Rote count from a given number to a given number e.g. from 397 to 546, or from 537 to 789.
- Count in 10s to 500 and in 100s to 1000, forwards and backwards.
- Count all the even numbers between 200 and 300.
- Count all the odd numbers between 400 and 500.

Choose from the following to make up the 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Give learners a worksheet with pictures and each day they count the number of pictures and then group them according to your instructions e.g. in 5s, 10s, etc.
  Tip*: See Annexure 13 for an example.*
- Play games with different multiples. Here are some examples:
  "Work out the secret number. My number is more than 315 and less than 330. It is in the 20s pattern. What is my number?"
  "Work out the secret number. My number is more than 315 and less than 330. It is in the 25s pattern. What is my number?"
  "Work out the secret number. My number is more than 315 and less than 360. It is in the 50s pattern. What is my number?"
- Write a 2-digit number on the board and learners write as many number facts about the number as possible in 1 minute. Swap the books and the partner marks the work. Make this a game so that it is fun for the learners, even though you will use this for assessment.
  Tip*: Do this every day this week as you will check 10 books each day until you have assessed every learner. This activity is part of Assessment Task 3.*

DAY 1 (to take no more than 20 minutes)

- Hand out one flard card to each learner (1-9, 10-90, 100-900, 1000-5000). If you have a large class some learners will have the same number e.g. 3 learners may have the card 20. Take the class outside and sit in a big circle so that everyone can see. Call out a number and learners with the correct values will display their cards. For example, if you call out the number 956, the learners with the 900, the 50 and the 6 will show their cards. Repeat this until everyone has had a turn to display their numbers. You can also ask the following:
  - Show me the cards which make 20 more than 345.
  - Show me the cards which make 50 less than 455.
  - Show me the cards which make 7 tens and 3 fives.
  - Show me the cards which are 200 more than 571.
  - Show me the cards which are 6 less than 664.

  ***Tip**: You can use this activity for assessment, recording only those learners who are not able to do it.*
- Still using the cards, do some repeated addition and subtraction with learners displaying the correct answer with their cards, e.g.
  - Show me the number 250.
  - Now show me the number that is 50 more (300), and another 50 (350) and another 50 (400) etc.
  - Show me the number 846.
  - Now show me the number that is 20 less (826), and another 20 less (806), etc.

  ***Tip**: Make sure that only the numbers making the correct answer are shown! Once learners have shown 200 and 50 for 250, both learners will put their numbers down and only the learner with the number 300 will hold up a card when asked what is 50 more than 250, etc. You will observe the learners for assessment purposes.*

DAY 2 (to take no more than 20 minutes)

- Ask the learners the following questions:
  - How many fingers do we each have? 10
  - How many hands do we each have? 2
  - How many hands will we need to have 10 fingers altogether? 2
  - Show me 10 fingers. How many hands?
  - Show me 40 fingers. How many hands? Etc.
- All learners hold up their fingers and count in 10s as you touch a learner's shoulder (the touch says 'add 10'). Now, as you touch a shoulder, learners say 'plus 10' and then the answers when you stop i.e. they say 10, plus ten, plus ten, plus ten – that makes 40, so 4 tens are 40. When all learners fingers have been counted in 10s, go back to 1st learner and this time say 10 is1 x 10 = 10, 2 x 10 = 20, etc.
- Repeat this, but this time count in 5s, touching each hand – 5, 10, 15, 20 etc.
- Let learners complete this worksheet on their own:

Number of learners	Number of hands	Number of fingers	We write	We write
1	2	10	1x10=10	2x5=10
2	4	20	2x10=20	4x5=20
		40		
		80		
		70		
		30		
		60		

Tip: *Use this as an assessment activity for Assessment Task 3.*

DAY 3 (to take no more than 20 minutes)

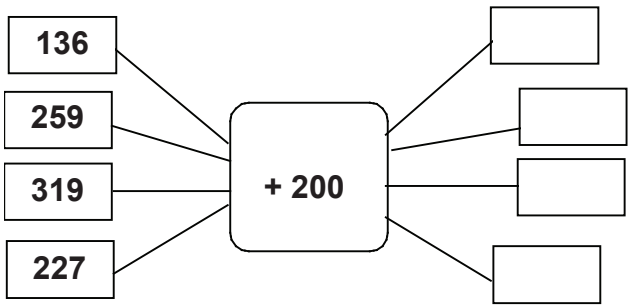
In this lesson the learners will learn how to divide by five.

- Put the learners into groups of five. Each group must have a variety of objects to share; counters, beans, bottle tops etc. One learner in each group must be chosen to record the findings. Ask the learners first to estimate and record how many objects they have in their pile. They must now share the objects equally and add up in the following way;
  If each learner has eight, add the 8 objects from each of the five learners, or multiply eight by five = 40. Then they say, "40 divided by five is equal to eight" and record it as 40÷5=8. If there are any left over, they say so and add the remainders to their answers to record the actual amount. They continue with different objects and record their findings each time
- Now let the learners count out 35 counters, share them amongst each other and on their own work out that 35 divided between the 5 members of the group means that each one gets 7. They record it as 35÷5=7. Repeat this activity, each time counting out counters which are a multiple of 5.

DAY 4 (to take no more than 20 minutes)

- Let learners count in 5s, starting at 5 and only stopping when you clap your hands e.g. at 60. Ask questions that will develop an awareness of multiplication and division such as:
  - *How many 5s in 60? (☐ x5=60)*
  - *How much are 12 5s?(12x5=60)*
  - *How much are 5 12s? (☐ x12=60)*
  - *If 12 5s are 60, how much are 11 5s?(11x5=55)*
  - *If 12 5s are 60, how much as 13 5s?(13x5=65)*
  - *If I put 60 buttons into piles of 5, how many piles will I have? (60÷5=12)*
  - *If I put 60 buttons into 5 piles, how many buttons will be in each pile?(60÷☐=5)*
- Give learners a worksheet to complete. Use the following as an example:

Complete the spider diagram.



Fill in the answers.

2x5=	10÷5=
3x5=	15÷5=
4x5=	20÷5=
5x5=	25÷5=

Can you do these? Show me!

120+20+20+20=	150+50+50+50=
87+5+5+5+5+5=	399+100+100+100=
550-50-50-50-50=	490-10-10-10-10-10=
276-20-20-20-20=	325-5-5-5-5-5=

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

DAY 5 (the whole lesson)

- This is a fun and practical day. Use a demonstration clock and revise reading hours, half hours and quarter hours. Review hour hand and minute hand. Remind learners how many hours in a day, how many seconds in a minute, how many minutes in an hour and how many hours in a day.
- All learners have to draw their own clock in their workbooks. Learner should use a saucer to draw around to have perfect circle drawn in their books. Together with you do the following:
  - Make a dot in the center of the circle
  - With a ruler find the middle/equal halves of the clock and with a dot mark the top and the bottom for 12 and 6.
  - Turn ruler sideways and repeat. Now mark 9 and 3.
  - Carefully and evenly spaced mark in 1, 2 4,5 7,8 10,11
  - Fill in the numbers 1 to 12
  - Remind learners what the long and the short hand mean – the long hand tells the minutes and the short hand tells the hour.
  - Rule a line from the 12 to the 6 so that the clock is divided into half. Discuss this, reminding learners of how to write the symbol for half.

- Now rule a line from the 9 to the 3. The clock is now divided into quarters. Each quarter is equal to 15 minutes. Ask how many minutes there are from the 12 to the 3. Then ask if anyone knows how to say the time if the minute hand of the clock is on the 3 i.e. quarter past. Ask how we say the time when the minute hand is on the 9 i.e. quarter to. Ask what we say when the minute hand is on the 6 i.e. half past. - Ask how many hours go past between 2 and 7, 12 and 3, 3 and 5, 7 and 11, 9 and 3? - Learners draw hands to indicate their favourite time of the day and then write a few sentences why that is their favourite time of the day and what they do then.	
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 computations - Adds and subtracts two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? - Calculates the multiplication of 2, 3, 5,10 to at least 100 - Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20=? - Develops number relationships of numbers to 100 - Calculates division of two digit numbers by one digit numbers e.g. 25÷5=?

WEEK 9 : GROUP TEACHING

Week 9	GROUP TEACHNG COMPONENT (Concept Development and Problem Solving

Notes to teacher:

- Although you have established 3 ability groups, remember that they are not static. Learners will move between the groups as their number sense develops and their confidence grows.
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Activities for **Assessment Task 3** will be done this week.

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

Day 1	**Day 2**
With this number – 164	With this number - 48
1. Expand 2. Double 3. Halve 4. add 100 5. minus 50	1. Add 200 2. Minus 70 3. Write the number 4. Expand 5. Multiply by 3
Day 3	**Day 4**
With this number 70	With this number 250
1. Double 2. Add 100 3. Write the number name 4. Minus 30 5. Halve	1. Write the number name 2. Add 50 3. Double 4. Minus 100 5. Divide by 5
***Tip**: this exercise could be used as an assessment task.*	

6. Write the following in Rands and cents

- 500c = R_____ 550c = R_____
- 1000c = R_____ 420c = R_____
- 250c = R_____ 270c = R_____
- 300c = R_____ 999c = R_____
- 120c= R_____ 637c = R_____

7. Money

33c + 40c + 15c = 83c – 34c =

62c + 8c + 39c = 68c – 23c =

43c + 30c +12c = 77c – 44c =

52c + 18c + 29c = 56c – 50c =

3. Ask learners to write the number names for various numbers, e.g. 463; 207; 89; 399.

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes*.

- Learners set out their flard cards and do the following:
  - Make the number 380. Which cards did you use? Why did you use 80 and not 8?
  - Make the number 420. Which cards did you use? Show me the new number you will get if you add 100 to 420. Which number did you change? Why did you change the 400?
  - Make the number 177. Which cards did you use? Show me the new number you will get if you take away 20? Which number did you change? Why did you change the 70?
  - Make the number 354. Which cards did you use? Change your number and then tell me what you did e.g. my new number is 394 because I added 50, etc.

  ***Tip**: Use this towards Assessment Task 3.*
- 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 and so on. Use the number range 1 to 400. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be 1 repeated addition and 1 repeated subtraction, using types 40 and 41 and on Wednesday you will ask 1 multiplication and 1 sharing word problems, using types 32 and 26. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

  Tip: These problem solving activities form part of Assessment Task 3. As you observe the learners you will assess them against the chosen criteria.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes*.

- Learners set out their flard cards and do the following:
  - Make the number 380. Which cards did you use? Why did you use 80 and not 8?
  - Make the number 420. Which cards did you use? Show me the new number you will get if you add 100 to 420. Which number did you change? Why did you change the 400?
  - Make the number 177. Which cards did you use? Show me the new number you will get if you take away 20? Which number did you change? Why did you change the 70?
  - Make the number 354. Which cards did you use? Change your number and then tell me what you did e.g. my new number is 394 because I added 50, etc.

  ***Tip**: Use this towards Assessment Task 3.*
- 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 and so on. Use the number range 1 to 300. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be 1 repeated addition and 1 repeated subtraction, using types 40 and 41 and on Thursday you will ask 1 multiplication

and 1 sharing word problems, using types 32 and 26. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

Tip: These problem solving activities form part of Assessment Task 3. As you observe the learners you will assess them against the chosen criteria.

GROUP 3

*This group works with the teacher **every day** for 30 minutes.*

- Learners set out their flard cards and do the following:
  - Make the number 380. Which cards did you use? Why did you use 80 and not 8?
  - Make the number 420. Which cards did you use? Show me the new number you will get if you add 100 to 420. Which number did you change? Why did you change the 400?
  - Make the number 177. Which cards did you use? Show me the new number you will get if you take away 20? Which number did you change? Why did you change the 70?
  - Make the number 354. Which cards did you use? Change your number and then tell me what you did e.g. my new number is 394 because I added 50, etc.

  ***Tip**: Use this towards Assessment Task 3.*
- 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 and so on. Use the number range 1 to 250. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be 1 repeated addition and 1 repeated subtraction, using types 40 and 41 and on Wednesday and Thursday you will ask 1 multiplication and 1 sharing word problem, using types 32 and 26. Learners must discuss the problem, record how they found their solution and then tell the group how they reached a solution. It is important that learners are given an opportunity to verbalise their thinking while others listen critically to identify similarities and differences in their own thinking.

  Tip: These problem solving activities form part of Assessment Task 3. As you observe the learners you will assess them against the chosen criteria.

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: • Is able to add and subtract two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? 480=400+80 • Solve different types of problems and explain solutions with whole numbers to at least 100, involving addition, subtraction and multiplication using drawings, appropriate symbols and the techniques listed below - building up and breaking down numbers - doubling and halving - number lines

SUGGESTED ASSESSMENT TASKS: GRADE 3 NUMERACY SECOND TERM

TASK 3: WEEK 9

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Number knowledge and mental computations - Adds and subtracts two-digit numbers and three-digit numbers to 500 using flard cards e.g. 300+40=? - Calculates the multiplication of 2, 3, 5,10 to at least 100 - Completes number sentences using repeated addition and subtraction of 3, 20, 25, 50, 100 to 500 e.g.120+20+20=? - Develops number relationships of numbers to 100 - Calculates division of two digit numbers by one digit numbers e.g. 25÷5=?	Wk 9	• Oral and written work done daily can be used to assess the identification of the numerosity of numbers. • Use the practical activity on Day 1 to assess learners' understanding of adding and subtracting two-and three-digit numbers. Also use the flard card work done during Group Teaching time to assess this. • Oral and written work on Day 2 can be used for assessing learners' understanding of multiplication. • Day 4 provides written assessment for most of the criteria to be assessed.
PROBLEM SOLVING	• Decomposes three-digit numbers as expanded notation i.e. 275=200+70+5 using flard cards. • Solve different types of problems and explain solutions with whole numbers to at least 100, involving addition, subtraction and multiplication using drawings, appropriate symbols and the techniques listed below - building up and breaking down numbers - doubling and halving - number lines	Wk 9	• Written work done independently during the group teaching time can also be used for assessment purposes. • Use the flard card practical activity to assess addition and subtraction of two-and three-digit numbers. • Problem solving is assessed during group teaching throughout the week.

SECOND TERM: WEEK 10

<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
LO2 AS2</td><td>• Counts forwards and backwards in multiples of 2s, 5s, 10s, 20, 50s and 100s to at least 500
• Counts forwards and backwards in 10s starting at any number between 0- 500. E.g. 287; 297;</td><td colspan="5">Daily :
• Rote counting in 1s between 453 and 601, any given number to start at..
• Rote counting in multiples of 2, 5 and 10 to 500.
• Counting in multiples of 2 and 20 to 400, 5 and 50 to 1000, 10 and 100 to 1000 using number cards etc.
• Count in 2s,3s 4s, 5s and 10s starting at any number</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL

LO1
AS4,8,9,10
LO2 AS 2,4
LO3 AS3</td><td rowspan="3">• Counts in multiples of 3 to 100
• Orders and compares 3-digit numbers to at least 500
• Number knowledge and mental computations
- Doubles and halves odd and even numbers to 100
- Identifies number patterns using addition, subtraction and multiplication to 500</td><td colspan="5">Daily :
• Expanded notation of 3 digit numbers
• Multiplication of 2,3,5,and 10
• 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>Division

Add 3 digit numbers</td><td>Doubles and halves odd and even numbers to 100

Subtract 3 digit numbers</td><td>Doubles and halves odd and even numbers to 100

Orders numbers beyond 100</td><td>Number patterns</td><td rowspan="3">WHOLE CLASS ACTIVITY

Celebration of 100th Day of school
Designing activities using 100 objects</td></tr>
<tr><td>GROUP TEACHING

LO1
AS5,7,8,11,12</td><td>• Decomposes three-digit numbers as expanded notation i.e. 364=300+60+4 using flard cards
• Solve different types of problems and explain solutions with whole numbers to at least 100, involving addition, subtraction and multiplication using drawings, 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 1-500; Group 2 works in 1-300; Group 3 works in 1-200</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 addition and 1 subtraction word problem
Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 2 word problems using division.
Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask word problems using division.
Group 1 works on its own.</td></tr>
</table>

WEEK 10 : WHOLE CLASS

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

Notes to the teacher:

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- This week is mainly revision of work done during the term, but in different contexts.
- The final lesson for the term will be celebrating the "100th" day of school. Work with the number 100 doing different activities. Learners must collect different objects and bring them to school for this activity.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

To be done daily:

- Rote count from a given number to a given number e.g. from 453 to 601, or from 723 to 1000.
- Count in 10s to 100, 20s to 400, 50s to 500 and in 100s to 1000, forwards and backwards.

Choose from the following to make up the 10 minutes:

Each activity should be covered at least once during the week. The more times each activity is done the better.

- Ask the learners to find 943 on the number grid. Ask the following questions:
  - How many 100s in 943?
  - How many 50s in 943?
  - How many 25s in 943?
  - What comes before 943?
  - What comes after 943?
  - What is ten more then 943?
  - What is ten less then 943?
  - Give a number that is more than 943.
  - Give a number that is less than 943.

  Repeat using your own examples.
- Use a sorting table to sort numbers by two rules (criteria). Sort these numbers into numbers that are or are not in the 20s pattern; and the numbers that are or are not in the 50s pattern: The numbers are 210, 220, 230, 240, 250, 260, 270, 280, 290 and 300. Learners complete the tables that you have provided for them. Write the unsorted numbers on the board. Here is the answer:

	In the 50s pattern	NOT in the 50s pattern
In the 20s pattern	300	220, 240, 260, 280
NOT in the 20s pattern	250	210, 230, 270, 290

- Play '20 questions'. You choose a number in a given number range e.g. between 50 and 70, and learners ask questions to try and work out the number. You may only answer *yes* or *no*. If learners guess the number they get one point, but if they have not guessed the number by the time 20 questions have been asked, you are the winner. The type of questions learners should ask are :
  - Is it even? No (therefore it must be odd)
  - Is it a multiple of 10? No (that means it doesn't end with a 0)
  - Is it a multiple of 5? No (that means it doesn't end with a 5)
  - Is it more than 60? Yes (that means it is an odd number between 60 and 70, but not 75 or any of the even numbers – therefore it has to be 61, 63, 67 or 69) and so on.

DAY 1 (to take no more than 20 minutes)

- Start the lesson with an estimation exercise which will lead to addition, subtraction and division. Fill different containers with beans, counters, sweets etc. and mark them A, B, C and put a set of containers in the middle of each group. Learners estimate how many in each container separately and write down the number of their estimation, e.g 120. They then count the contents of container A in twos, fives or tens and write down the actual number of beans, e.g. 80. Learners work out the difference by subtracting i.e.120 – 80 = or by adding 80+___=120.
- Take the contents of one of the containers and let the learners do division by grouping the counters into 2s or 5s and writing a division number sentence, e.g. 80÷ 2=40; 80÷ 5=16.
- Let the learners stand behind their chairs. Start by asking how much 321 plus 100 is. The first learner with the correct answer sits down and may not answer any more. Keep adding or subtracting whole 10s or 100s i.e.321+100=421, 421+50=471, 471-10=461, 461+200 etc. 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 this game.

DAY 2 (to take no more than 20 minutes)

- Ask learners to double and halve numbers e.g. double 10, 20, 40 or halve 20, 8, etc. Learners must write their answers on a piece of paper/whiteboard/slate/book and hold it up to show you.
- Give learners a simple problem to solve, e.g. There are 120 Grade 3 learners but 40 are absent, how many are at school? Now double the answer; or halve the answer. Repeat using your own examples
- Give learners a worksheet to complete e.g.

475 → +25 → +15 → -20 →

268 → -35 → +51 → X2 →

DAY 3 (to take no more than 20 minutes)

- Call out ten learners. Have them all face in the same direction. Ask them to place themselves from first to tenth, also using their names, e.g. Nomsa is first. Now call out individual names randomly and ask the learners to call out their positions.
- Add another ten learners and place them from eleventh to twentieth. Call them out one by one repeating their names and positions and let the rest of the class place them from first to twentieth. Call names out randomly and ask the class the position of the learner
- Tell learners to open their books and write down what you say, together with the answers. Ask them to try and identify the pattern e.g.
  - 3 x 2 =
  - 6 x 2 =
  - 6 x 4 =
  - 12 x 4=
  - 12 x 8 =
  - 24 x 8 =

  Once the pattern has been identified as doubling, do one more using other numbers.

DAY 4 (to take no more than 20 minutes)

- Practise counting from twentieth to thirtieth, thirtieth to fortieth, fortieth to fiftieth and so on – one hundred and twenty first to one hundred and forty-first etc.
- Ask what comes before/after: before twentieth, twenty fifth, two hundredth, etc; what comes after thirty ninth, forty first, one hundredth and sixty sixth.
- Let learners work with a partner and give each pair a piece of paper. Tell them to write their names on the back of the paper, and then to design their own number pattern which another pair will have to describe. After about 10 minutes collect all the papers and hand them out randomly. Learners investigate the pattern and describe it. The pair who designed the pattern says if it is correct or not.

DAY 5 (the whole lesson)

- Today you are going to "Celebrate the 100th Day of school" and work with the number 100. You must collect 100s of matchsticks, matchstick boxes, toothpicks, bottle tops, corks, beans, buttons etc. or let the learners collect them during the week and bring them to school ready to use today.
- Count in 100s, forwards and backwards from any number. Add 100 to any given number. Subtract 100 from any given number.
- Let the learners use the matchsticks, boxes, beans, buttons, toothpicks, bottle tops, corks etc. to construct a picture/design using only 100 objects!

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

WEEK 10 : GROUP TEACHING

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

Notes to teacher:

1. Although you have established 3 ability groups, remember that they are not static. Learners will move between the groups as their number sense develops and their confidence grows.
- 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. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Learners must complete ALL the work that you have set for the lesson.

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

1. Fill in the answers.

952 + 10=	984 - 10=
932 + 10=	954 - 10=
902 + 10 =	912 - 10=
917 + 10=	965 - 10=
990 + 10=	998 - 10=

2. Fill in the missing numbers.

965 ____ 985	932 _____ 952
867 ____887	746 _____766
676 ____696	543 _____563

3. Write the following numbers in words:

823 is eight hundred and twenty three

745 _____

935_____

819 _____

671_____

540 _____

1000 _____

4. Fill in the numbers that are after, before, in between

What comes just after:

871, ____ 776, ____ 628, _____ 571,_____ ?

703, ____ 451, ____ 609,____ 666, ____?

5. What comes just before:

_____,867 _____,606 _____,321 _____,401?

_____,426 _____, 555 _____,1000 _____,872?

6. What comes in between:

600 ____602 667____664 139 ____141

498 ____500 489 ____491 470 ____472

7. Can you add and subtract the following numbers?

400 + 100 =	500 – 100 =
600 + 200 =	800 – 200 =
100 + 500 =	600 – 100 =
300 + 200 =	500 – 200 =
800 + 100 =	900 – 100 =
400 + 400 =	800 – 400 =
200 + 200 =	400 – 200 =
500 + 200 =	700 – 200 =
900 + 100 =	1000 – 100 =

Working with the group

GROUP 1

*On **Monday** and **Wednesday** this group works with the teacher for 30 minutes*.

- Place a matchbox and some paper clips in the middle of the group. Ask learners to estimate how many paper clips will fit into the matchbox and then record their number. Let one learner put paper clips into the matchbox and the rest count how many there are. Check who had the nearest estimate, who estimated too many and who estimated too few.
- Let learners choose a number between 70 and 90 and they take turns to tell you number facts about the number. Keep going until they cannot think of any more facts!
- 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 and so on. Use the number range 1 to 400. Let each learner tell the group how s/he solved the problem. On Monday the word problems will be 1 addition and 1 subtraction and on Wednesday you will ask 2 word problems, using divison.

GROUP 2

*On **Tuesday** and **Thursday** this group works with the teacher for 30 minutes*.

- Place a matchbox and some paper clips in the middle of the group. Ask learners to estimate how many paper clips will fit into the matchbox and then record their number. Let one learner put paper clips into the matchbox and the rest count how many there are. Check who had the nearest estimate, who estimated too many and who estimated too few.
- Let learners choose a number between 50 and 60 and they take turns to tell you number facts about the number. Keep going until they cannot think of any more facts!
- 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 and so on. Use the number range 1 to 300. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be 1 addition and 1 subtraction and on Thursday you will ask 2 word problems, using division.

GROUP 3

*This group works with the teacher **every day** for 30 minutes*

- Place a matchbox and some paper clips in the middle of the group. Ask learners to estimate how many paper clips will fit into the matchbox and then record their number. Let one learner put paper clips into the matchbox and the rest count how many there are. Check who had the nearest estimate, who estimated too many and who estimated too few.
- Let learners choose a number between 30 and 40 and they take turns to tell you number facts about the number. Keep going until they cannot think of any more facts!
- 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 and so on. Use 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 1 addition and 1 subtraction and on Wednesday and Thursday you will ask 2 word problems, using division.

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

Annexures

Annexures 1 to 12 : Activities for independent work

Annexure 13: Worksheet of pictures to count

Annexure 1:

Fill in the missing numbers:

0,10,__,20,___,__,___,___,50,__,60,___,__,80,__,__.

110,__,130,__,__,__,170,180,__,__,210,220,__,___.

__,__,250,__,270,__,__,300,__,320, 330,__,___,___.

__,370,__,390,__,410,420,__,__,450,__,470,___,___.

480,__,__,510,__,__,__,550,__,__,580,590,___,___.

__,610,__,__,__,650,__,___,680, ___,___,710,720.

720,__,740,___,___,770,___,___,800,___,820,___.

___,850,___,___,880,___,___,910,___,___,940,___,

960,___,980,___,_____,1010,1020,____,____,1050

20, 25,___,___,___,45,50,___,___,___,___,70,____

110, 100, ___,___,70,___,___,___,30,___,____

50, 45,___,___,30,____,____,15,___,5

500,___,600, 650,___,___,800, 850,____,____

100, 200,___,___,500,___,___,800,900,_____

Annexure 2

Counting Activities:

Fill in the missing numbers:

1, 11, 21, ___,____,____,____,____,____,____,____,101

4, 14, 24, 34, ___,___,____,____,____,94,____,114

5, 15, 25,___,____,____,____,____,____,95, 105,__

50, 52, 54,___,___,___,62,___,____,68,____,72,___

77,79,81,83,___,___,___,91,___,___,___,99,___,103

Answer the questions:

76 add 10	_____	159 minus 10	_____
133 add 10	_____	165 minus 10	_____
151 add 10	_____	182 minus 10	_____
129 add 10	_____	170 minus 10	_____

Fill in the answers:

94		____	125	____
104		____	135	____
114	+5	____	145	+3 ____
124		____	155	____
134		____	165	____

196		____
186		____
176	-4	____
166		____
156		____

Annexure 3:
Fill in the missing numbers:

71			74					79	
	82				86				90
			94				98		
		103	104					109	
				115		117			120
121					126		128		
		133				137			140
	142			145				149	
151			154				158		
	162			165				169	

Double the following numbers:

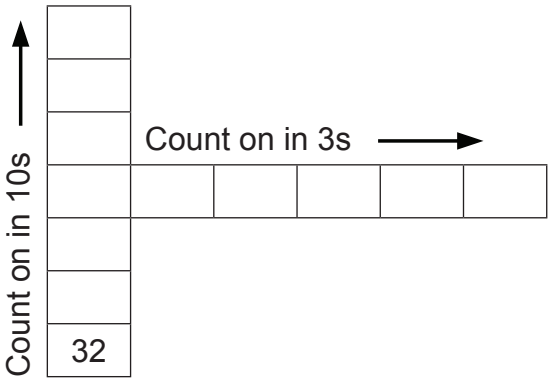
Double	Double	Double
2 is _____	3 is _____	16 is _____
4 is _____	5 is _____	21 is _____
8 is _____	7 is _____	32 is _____
10 is _____	9 is _____	43 is _____
12 is _____	11 is _____	22 is _____
14 is _____	13 is _____	50 is _____

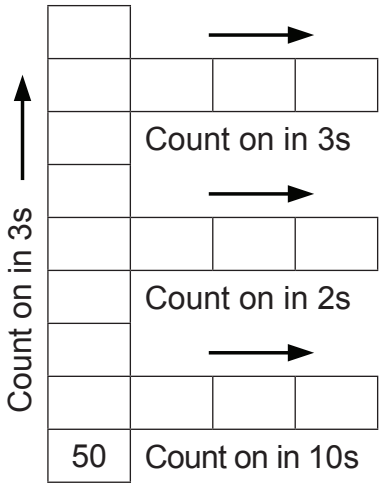
Annexsure4:

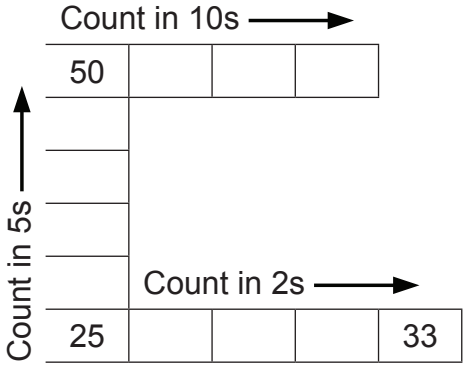
Fill in the missing number:

before and after:			in between		
_____	49	_____	61	_____	63
_____	80	_____	93	_____	95
_____	98	_____	145	_____	147
_____	123	_____	169	_____	171

Fill in the missing numbers:







Anexure 5:
Ordering numbers:
Write the numbers from the smallest to the biggest.

389, 132, 592, 436 _____, _____, _____, _____

292, 562, 192, 787 _____, _____, _____, _____

312, 231, 331, 133 _____, _____, _____, _____

467, 586, 344, 879 _____, _____, _____, _____

427, 673, 161, 356 _____, _____, _____, _____

539, 935, 420, 609 _____, _____, _____, _____

159, 961, 282, 319 _____, _____, _____, _____

708, 261, 666, 481 _____, _____, _____, _____

202, 220, 200, 222 _____, _____, _____, _____

449, 609, 512, 890 _____, _____, _____, _____

579, 795, 975, 899 _____, _____, _____, _____

Annexure 6

Fill in the missing numbers:

2, 12, 12, 22, ___, ___, ___, ___, ___, _____, ___

5, 15, 25, ___, ___, ___, ___, ___, ___, _____, ___

99, 98, 97, ___, ___, ___, ___, ___, _____, _____

150, 149, 148, _____, _____, _____, _____, _____, _____

110, 120, 130, _____, _____, _____, _____, _____, _____

Write down the answer:

300	2	70	=	
80	8	800	=	
6	500	40	=	
2	600		=	
200	50	5	=	
8	900		=	

Annexure 7:
Expand these numbers:

168 = _____ + _____ + _____

241 = _____ + _____ + _____

562 = _____ + _____ + _____

666 = _____ + _____ + _____

209 = _____ + _____ + _____

202		_____
212	+6	_____
222		_____
232		_____

228		_____
328	-7	_____
428		_____
528		_____

Annexure 8

Complete the tables:

	302	312	322	332	342	352	362	372	382	392
+9	311									

307 _____

317 _____

+5

327 _____

337 _____

218 _____

228 _____

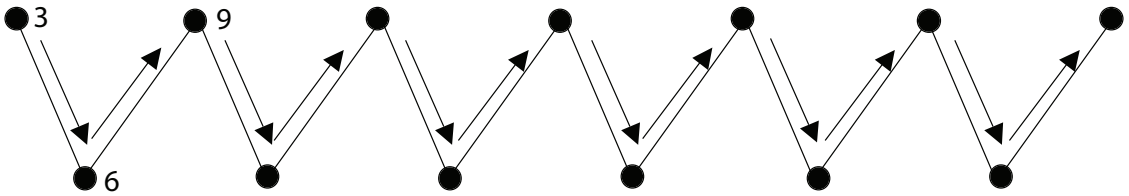
-6

238 _____

246 _____

Annexure 9

Count in threes. Follow the arrows:



Fill in the missing numbers

	4	6	10	5	2	7	8	3	11	12
X3	12									

Fill in the missing number names and numbers

number name	number	+ 3	X 3	– 3	X 3
six	**6**	9	27	24	72
	12				
nine					
	15				
thirteen					

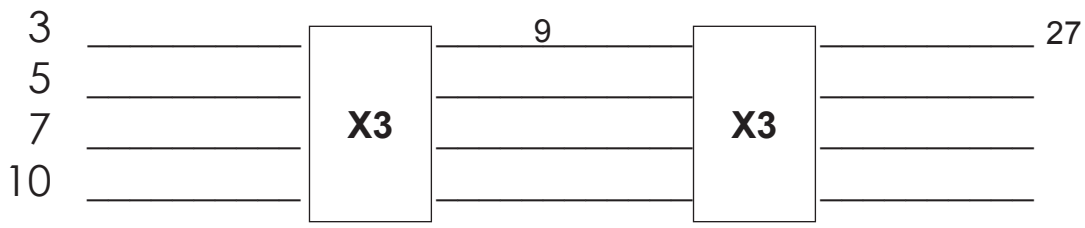
Annexure 10:
Fill in the answers:

8 x 3 =	16 x 3 =	20 x 3 =
12 x 3 =	10 x 3 =	9 x 3 =
14 x 3 =	11 x 3 =	15 x 3 =
25 x 3 =	24 x 3 =	3 x 3 =
100 x 3 =	50 x 3 =	7 x 3 =

What do you notice when you do the following pairs of calculations?

2 x 3 = _____	4 x 3 = _____
5 x 3 = _____	10 x 3 = _____
4 x 3 = _____	8 x 3 = _____
6 x 3 = _____	12 x 3 = _____
3 X 3 = _____	6 X 3 = _____

Complete the following flowgram:



Annexure 11

1. Work out and complete the patterns.

10	20	30					
2	5	8					
10		20	25			40	
86	76			46			16
1	2	3	4	4	3		1

2. Now design your own pattern using numbers.

3. Complete the number sentences.

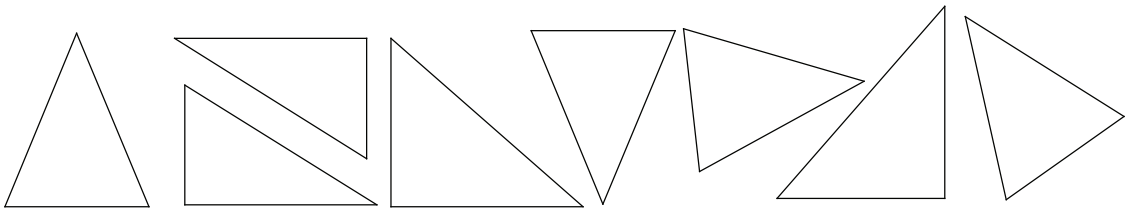
3	□	X 5	□	+ 1	=	16
5	□		□		=	30
10	□		□		=	60
25	□	X 2	□		=	100

Annexure 12.

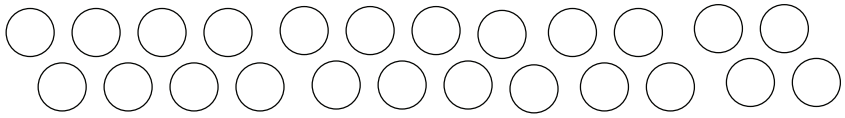
Complete the following:

What is 20 more than 40? _____
What is 10 less than 70? _____
What number comes after 109? _____
What number comes before 211? _____
What number comes between 99 and 101? _____
What number is 10 more than 110? _____
What is the biggest number you can make with 2, 8 and 6? _____
What is the smallest number you can make with 3, 1 and 7 _____

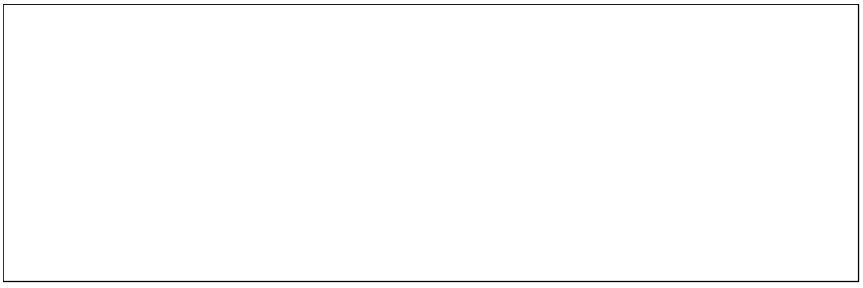
Look at the triangles. Colour in half of them.



Look at the picture. Colour in one quarter of the circles.

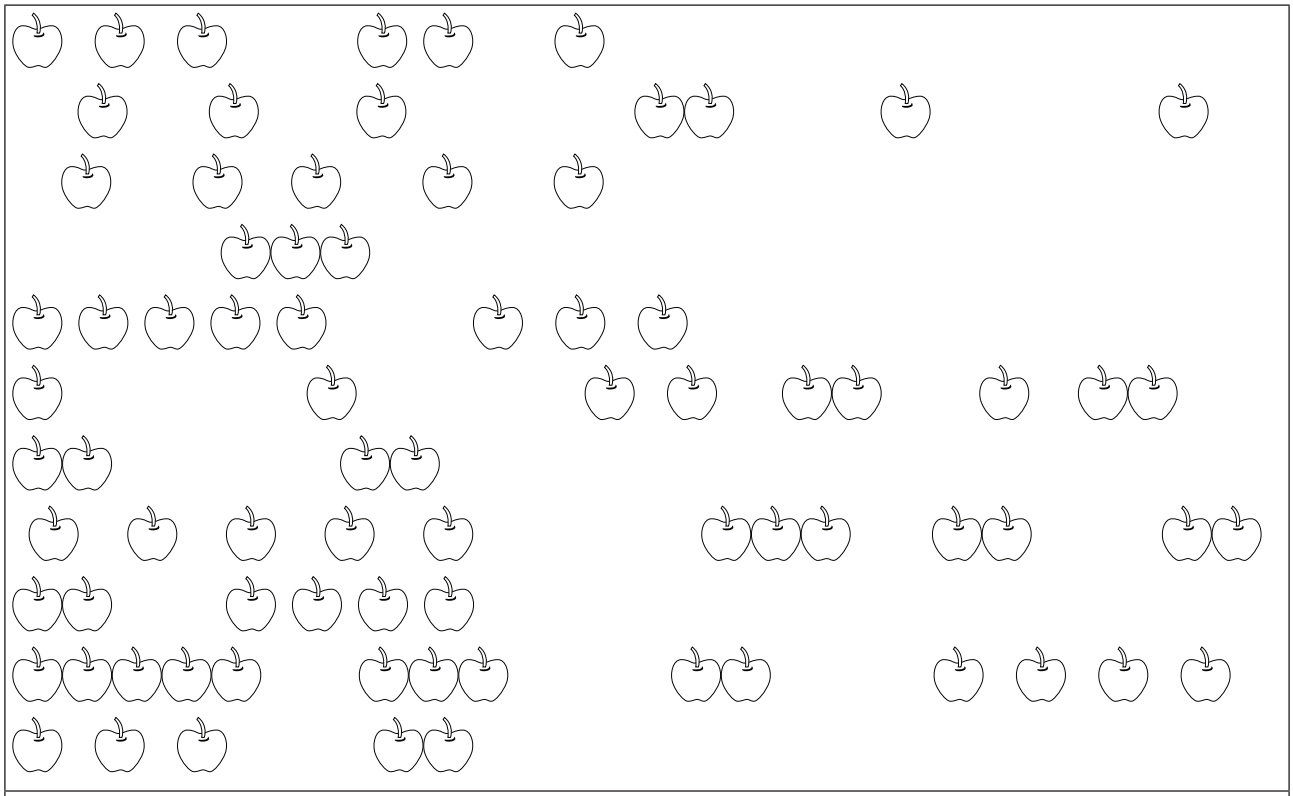


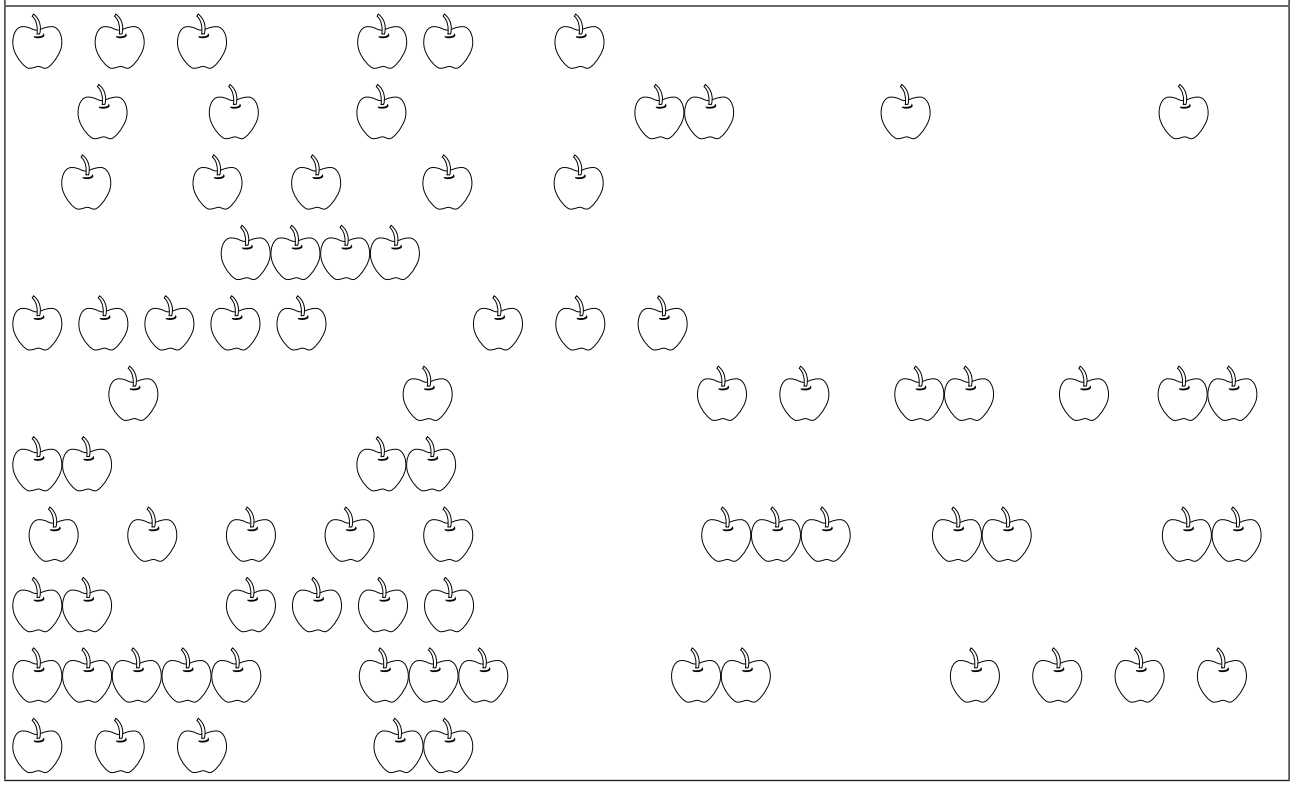
Colour in three quarters of the rectangle.



Annexure 13

Use an A4 sheet of paper which can be cut into half. There are 80 apples in each picture.





Notes:

Notes: