Foundations For Learning

Foundation Phase
Numeracy
Lesson plans

Third term

Grade 2

Kindly send any response that you may have to:
Dr Jennifer J Joshua
E-mail: joshua.j@doe.gov.za

Department of Education
Sol Plaatje House
123 Schoeman Street
Pretoria
South Africa

Private Bag X895
Pretoria
0001

Tel: +27 12 312 6220
Fax: +27 12 321 6222
www.education.gov.za

Design and layout: Shereno (012) 344 2817

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THIRD TERM OVERVIEW

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

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

THE ASSESSMENT FRAMEWORK

	ACTIVITIES THAT WILL BE USED FOR ASSESSMENT		
	COUNTING	CONCEPT DEVELOPMENT	PROBLEM SOLVING
WEEK 1			
WEEK 2	Practical activity dealing with counting out to 100		
WEEK 3	Oral activities dealing with counting on to 100 Orall activity dealing with counting out to 100	Practical and written activities dealing with place value, numerosity of numbers and money. Written activities dealing with expanded notation and addition and subtraction of a 1 digit number with a 2 digit number.	Practical activity dealing with positional relationships Oral and recorded problem solving activities dealing with money.
ASSESSMENT TASK 1 COMPLETED			
WEEK 4	Daily oral and written work dealing with aspects of counting		
WEEK 5	Daily oral and written work dealing with aspects of counting	Practical and written activities dealing with mass	
WEEK 6	Daily oral and written work dealing with aspects of counting	Recording collected data and constructing a pictograph. Written work dealing with numerosity of numbers, place value and expanded notation. Practical and recorded activities dealing with repeated addition and subtraction.	Practical and recorded activities dealing with length and capacity. Oral and recorded problem solving activities dealing with sharing, grouping, remainders and fractions.
ASSESSMENT TASK 2 COMPLETED			
WEEK 7			
WEEK 8		Written activities dealing with addition and subtraction of whole 10s, addition and subtraction of two 2 digit numbers and building up a whole 10. Practical activities dealing with time Practical and written activities dealing with recognising and extending number patterns.	Oral, practical and written activities dealing with solving problems and explaining solutions.
ASSESSMENT TASK 3 COMPLETED			
WEEK 9			
WEEK 1O			

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

THIRD 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, 2</td><td>• Counts out objects to 100
• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, and 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s between 100 and 200, forwards and backwards.
• Count in 1s starting and stopping at any number e.g. start 109 stop 159, in a given number range 100 to 200, forwards and backwards, using a number grid
• Count on in 1s in the number range 50 to 120
• Rational counting in 2s, starting and stopping at any number in the number range 1 to 100
• Count out objects 50 to 75</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO1 AS 3,4,5,9, 10
LO 2 AS1,2,3
LO3 AS 6
LO4 AS4</td><td rowspan="3">• Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½
• Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400
• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Doubles and halves two-digit numbers to 99
• Describes positional relationship between two 3D objects</td><td colspan="5">Daily :
• Numerosity of even numbers, 50 to 100
• Place value of 2 digit numbers</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td>DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Expanded notation of 2-digit numbers e.g. 34=10+10+10+4 34-10-10-10-4=0

Money: identify coins and notes</td><td>Expanded notation of 2-digit numbers e.g.34=10+10+10+4 34-10-10-10-4=0

Patterns in daily life

Money: identify coins and notes</td><td>Patterns in daily life

Money: equivalence e.g. 10c+10c=20c linked to repeated addition</td><td>Money: equivalence e.g. 10c+10c=20c linked to repeated addition

Positional relationship between two 3-D objects</td><td>WHOLE CLASS ACTIVITY

Positional relationship between two 3-D objects

Patterns through artwork</td></tr>
<tr><td>GROUP TEACHING

LO 1 AS8,11,12</td><td>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-75; Group 3 works in 1-50
<u>You will find examples of the different types of word problems in the Annexures:Term 1</u>.</td></tr>
<tr><td></td><td></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 subtraction and 1 sharing word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 subtraction and 1 sharing word problem
Group 1 works on their 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 works on their 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 works on their own.</td></tr>
</table>

WEEK 1 : WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means that the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependent on its place in the number,

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count in 1s from 100 to 200, forwards and backwards.
- Using individual number grids, learners place a counter on a given number e.g. 37 and starting from that number, they count on 6/7/8. Ask questions such as e.g. *Where did you start? Where did you stop? How much is 37 plus 6? How much is 43 take away 6? If 37 add 6 is 43, what is 37 add 7?*

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

- Ask simple word problems which require concentration and thinking but that learners are able to work out in their heads e.g. 10 people got in the taxi and at the next stop 4 got out and 2 got in. At the next stop 6 got out and 5 got in. At the next stop no one got out and 2 people got in. How many eyes/shoes/mouths etc. were there?
- Count in 2s and do the following actions:

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

- Play "I spy with my little eye". These can be open ended where many answers are correct, but learners have to keep guessing till they say the one you have chosen. Some examples are:
  - two numbers that make 26
  - three numbers that make 42
  - six numbers that make 11.

DAY 1 (to take no more than 30 minutes)

- Give the class a 2 digit number to expand. They must use 4 numbers which must include complete 10s e.g. 34 = 10+10+10+4, or 20+10+2+2
- Each learner chooses and writes his/her own number on a piece of paper. Call out 8 learners at a time and they stand in random order facing the class, holding up their number. The class must then re-order them according to your instructions e.g. smallest to biggest

DAY 2 (to take no more than 30 minutes)

- Give the class a 2 digit number to expand. They must use 4 numbers which must include complete 10s e.g. 69 = 20+20+20+9 or 30+20+10+9 etc.
- In groups, learners discuss a pattern in their daily lives, something that is repeated every day e.g. wake up, go to school, play, go to sleep. Another example could be eating breakfast, lunch, supper every day. It does not matter what the pattern is. You are drawing attention to something that is repeated often and in the same sequence Once groups have decided on a pattern, they take turns to describe their pattern to the rest of the class.

DAY 3 (to take no more than 30 minutes)

- Give each learner a blank copy of your class timetable. Let them fill in Break and Home time. Let learners find the time and day of one activity e.g. Assembly or Library and fill it in. See **Annexure 1** for a copy of a timetable.
- Give each group a set of coins. Taking turns, one learner sets out a sum of money e.g. 40c using 10c pieces. Another learner has to make the equivalent using other coin values e.g. 10c+10c+20c

DAY 4 (to take no more than 30 minutes)

- Discuss the pattern of what happens at school over one week e.g. do you do Numeracy every day? Do you do Numeracy at the same time every day? Do you do the same activities in Numeracy every day? Learners fill in one or two more activities on their timetables. Do this every day until the timetable has been filled in.
  Tip: *It may take 2 weeks, but that does not matter. The purpose is to build the learners' awareness of patterns in their everyday life.*
- Give each learner an A4 piece of paper which they fold into 8. You write the coin value on the board e.g. 50c and learners copy this into the first block. They then complete the second block by drawing coins of an equivalent value. Learners may use the sets of coins from Day 3.
- Play a game with the learners when there are a few spare moments e.g. before play time. Ask learners to stand behind their chairs, kneel under the desk, face the door etc. This is incidental learning involving positional relationship of 3-D objects.

DAY 5 (the whole lesson)

- Take the class outside and give them instructions e.g.
  - put your arms around a tree

- hide a stone under your foot
- put your elbow on your friend's knee.

Tip: This can be done as part of a Life Skills lesson involving Physical Development.

- Give each learner an A4 piece of paper which they fold into 8 blocks. In 4 of the blocks they draw a tree indicating each different season - the trunks and branches should be as identical as possible as it is the leaves, bare branches etc that indicate the season and become the pattern. The 4 remaining blocks can be decorated as desired, but using a pattern.

Spring tree		Autumn tree	
	Summer tree		Winter tree

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:

- 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.
- This week you will start introducing the concept of money. Although all learners will know something about money, you will be developing the concept leading to learners being able to solve problems involving money. Most teachers find it much easier to introduce this concept to small groups during the group teaching time. You will not need as many resources for a small group as for the whole class. This means that every learner will be able to handle the money and investigate the properties of the coins for themselves.
- ***You will find examples of the different types of word problems in the Annexures of Term 1***.

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

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

	25	26	27	28
+10	35			

- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square.
- Expanded notation e.g. 36=30+☐; 30+6=☐; ☐=30+6; etc.
- Doubling and halving activities.
- Number patterns e.g. 2+3=; 12+3=; 22+3=; and 53-2=; 43-2=; 33-2= etc.

Working with the group

GROUP 1

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

- Have real coins and notes if possible. Allow learners to investigate the money i.e. size, shape, colour, value, etc. Discuss why the coins and notes are not the same – so that blind people can identify the different values because of the size, markings round the edge, raised lettering, etc.
- Learners set out their flard cards. Give them a number e.g. 57 and they must make the number that is 1 more/1 less and put it out. Repeat this a few times with other numbers. If learners are able to do this easily, repeat the activity but this time learners make the number 10 more/less than your given number.

- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 sharing and 1 subtraction word problem and on Wednesday you will ask 2 different addition word problems. It is important that learners are given the opportunity to reflect on their thinking and verbalise their thought processes.

GROUP 2

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

- Have real coins and notes if possible. Allow learners to investigate the money i.e. size, shape, colour, value, etc. Discuss why the coins are not the same – so that blind people can identify the different coins because of the size, markings round the edge, etc.
- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 37. Which two numbers did you use? How much is 30+7? How much is 37-7? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 7 change and not the 30? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 7 change and not the 30?
- Give them a number e.g. 57 and using their flard cards, they must make the number that is 1 more/1 less than the given number and put it out. Repeat this a few times with other numbers.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 sharing and 1 subtraction word problem and on Thursday you will ask 2 different addition word problems. It is important that learners are given the opportunity to reflect on their thinking and verbalise their thought processes.

GROUP 3

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

- Have real coins and notes if possible. Allow learners to investigate the money i.e. size, shape, colour, value, etc. Discuss why the coins are not the same – so that blind people can identify the different coins because of the size, markings round the edge, etc.
- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 37. Which two numbers did you use? How much is 30+7? How much is 37-7? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 7 change and not the 30? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 7 change and not the 30?

• Give them a number e.g. 57 and using their flard cards, they must make the number that is 1 more/1 less and put it out. Repeat this a few times with other numbers. • Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 sharing and 1 subtraction word problem and on Wednesday and Thursday you will ask 2 different addition word problems. It is important that learners are given the opportunity to reflect on their thinking and verbalise their thought processes.	
Assessment	**Formal :** No formal, recorded Assessment . **Informal :** Unrecorded assessment of learners' oral responses and ability to solve problems.

THIRD 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 1,2</td><td>• Counts out objects to 100
• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s between 100 and 200, forwards and backwards.
• Count in 1s starting and stopping at any number e.g. start 109 stop 159, in a given number range 100 to 200, using a number grid
• Count on in 1s in the number range 70 to 150
• Rational counting in 2s, 5s and 10s in the number range 1 to 100
• Rational counting in 2s, starting and stopping at any number in the number range 1 to 100
• Count out objects 75 to 100</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL
LO 1 AS 5,6,8,9
LO 2 AS 2,3
LO 3 AS 6,7</td><td rowspan="2">• Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½
• Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Uses repeated addition leading to multiplication with answers up to 50
• Solves money problems involving totals in rands and cents</td><td colspan="5">Daily :
• Numerosity of odd numbers, 50 to 100
• Place value of 2 digit numbers</td></tr>
<tr><td>DAY 1

Expanded notation of 2-digit numbers e.g. 34=10+10+10+4 34-10-10-10-4=0

Money: equivalence e.g. 10c+10c=20c linked to repeated addition</td><td>DAY 2

Addition and subtraction of a 2 digit number with a 1 digit number e.g. ☐+4=34,30+☐=34, 30=34-☐

Money: using advertisements to solve problems</td><td>DAY 3

Addition and subtraction of a 2 digit number with a 1 digit number e.g. ☐+4=34,30+☐=34, 30=34-☐

Money: using advertisements to solve problems</td><td>DAY 4

Money: using advertisements to solve problems

Fractions : half and quarter</td><td>DAY 5

WHOLE CLASS ACTIVITIES.

Positional relationship integrated with Arts and Culture

Patterns in the environment</td></tr>
<tr><td>GROUP TEACHING

LO 1 AS 7,8,11,12</td><td>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100
• 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 1-150; Group 2 works in 1-100; Group 3 works in 1-75
<u>You will find an example of the different types of word problems in the Annexures:Term 1</u></td></tr>
<tr><td></td><td></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 equalize and 1 repeated addition type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 equalize and 1 repeated addition type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 combine and 1array type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 combine and 1array type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 2 : WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means that the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependent on its place in the number.
- In Week 1 you introduced the concept of Money during the Group Teaching sessions. This week you will work with the application of that knowledge related to every-day life.
- It is important that learners are exposed to patterns in as many contexts as possible. Recognising and working with patterns is crucial as this allows learners to construct knowledge for themselves.
- One of the reasons you deal with the numerosity of numbers every day is to allow learners to investigate the relationship of numbers, using skills developed such as recognising patterns. From this week the numerosity activities will become more focussed in order to encourage learners to think more widely about numbers i.e. to look for other ways in which numbers are related.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count in 1s from 100 to 200, forwards and backwards.
- Using individual number grids, learners place a counter on a given number e.g. 15 and starting from that number, they count on in 1s stopping when you clap your hands e.g. at 23. Ask questions such as e.g. *Where did you start (15)? Where did you stop(23)? How much is 15 plus 8? How much is 23 take away 8? If 15 add 8 is 23, what is 15 add 9? If 15 add 8 is 23, what is 23 take away 9?*
- Count in 2s/5s/10s. All learners stand behind their chairs and, counting in 2s/5s/10s each one has a turn to say the next multiple. As they say the number, they sit down. At any point stop (e.g. stop at 24) and ask questions e.g. we are counting in 2s – what was the last number counted? How many learners are sitting down? How much are 12 twos? What will be the next number? And so on.

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

- Each learner has their own number grid. They place a counter on 8 and count on in 2s till you tell them to stop. Repeat, starting at other numbers.
- Using their number grids, learners count in 2s placing a counter (bean, piece of paper, etc.) on each multiple as they say the number. Ask questions such as:
  - Is the number 4 in the 2s pattern?
  - Is the number 12 in the 2s pattern?
  - Is the number 15 in the 2s pattern?

- Choose an odd number between 1 and 11. Working together in a group, learners write the answer to specific, guided questions about the number e.g. about the number 7
  - What 3 numbers added together make 7? (e.g. 5+1+1, or 2+2+2+1 etc.)
  - What 4 numbers added together make 7? (e.g. 4+1 +1 +1, or 2+0+2+3 etc.)
  - What 3 numbers when subtracted give you 7? (10-1-2, or 9-1-1, etc.)
  - 7 is nearly double which 2 numbers? (e.g. 3+3 +1→3+4 or 4+4 -1→4+3)
  - What is double 7?
  - What is half of 7?

  Tip: *If learners struggle to double or halve, either put this into a simple word problem such as "There were 7 biscuits and 2 children. They shared them equally. How much did each get?" or give learners counters to put into 2 piles and discuss what they will do with the 1 left over. However, during Term 1 and 2 learners were exposed to word problems dealing with grouping with a remainder as a fraction. You are using this concept in a different context.*

DAY 1 (to take no more than 20 minutes)

- Choose one learner per group to stand at the board. Give them an odd 2-digit number to expand using whole 10s. Each learner at the board will record his/her own expanded notation (using addition) of the number e.g. 57 : 20+20+10+7 or 10+10+10+10+10+7. Choose other learners and give them a different number to expand (using subtraction) ending with the last digit of the number e.g. 57 : 57-10-10-10-10-10=7.
- Give each learner his/her own money grid. As you call out an amount, learners record the amount in the 1st column and then tick the coins making up that amount, e.g.

	5c	10c	20c	50c	R1	R2	R5
25c	✓		✓				
70c			✓	✓			
R1, 50							

DAY 2 (to take no more than 20 minutes)

- Learners pack out their flard cards and use them to find the answers to open frame number sentences. Write up one open frame number sentence at a time and learners hold up the card indicating the correct answer. E.g. you write 34= 30 +☐ on the board and learners must hold up the card showing '4'. Once you have done a few examples together write some more number sentences on the board. Learners copy them into their books and fill in the answers, using their flard cards if necessary. Some examples are:

  34= 30+☐ 34=☐+4 30+☐=34

  34-☐=4 ☐-4=30 30=34-☐
- Give each learner (or work in pairs) a whole page advertisement about food, clothing, etc. Do the following:

  - learners identify items that cost R2, R5, R15,50 etc.

- learners choose an item and draw the money they would use to pay for it.

Tip: *Ask learners to collect pamphlets from the different supermarkets or newspapers for these activities. You will have to change the prices yourself to numbers your class is able to work with e.g. cheese is marked R5,99 – change it to R5 or R6.*

DAY 3 (to take no more than 20 minutes)

- Learners pack out their flard cards and use them to find the answers to open frame number sentences. Write up one open frame number sentence at a time and learners hold up the card indicating the correct answer. E.g. you write 48= 40 +☐ on the board and learners must hold up the card showing '8'. Once you have done a few examples together write some more number sentences on the board. Learners copy them into their books and fill in the answers, using their flard cards if necessary. Some examples are:

  48= 40+☐ 48=☐+8 40+☐=48

  48-☐=40 ☐-8=40 40=48-☐
- Give each learner (or work in pairs) a whole page advertisement about food, clothing, etc. You will have to change the prices yourself to numbers your class is able to work with. Do the following:
  - learners identify items that cost R2, R5, R15,50 etc.
  - learners choose an item and write the money they would use to pay for it
  - learners choose two items and work out how much they would have to pay for them both.

DAY 4 (to take no more than 20 minutes)

- Give each learner (or work in pairs) a whole page advertisement about food, clothing, etc. that you have been using this week. Do the following which builds on the previous work:
  - learners identify items that cost R2, R5, R15,50 etc.
  - learners choose two items and work out how much they would have to pay for them
  - learners choose two items and work out what the difference in price is between the items.
- Cut out a large, paper circle (the size of a big round tray), at least one for each group of 4 learners. You will cut each circle into a number of pieces i.e. 1 circle into 4 pieces, another circle into 8 pieces, another circle into 12 pieces. Give each group the pieces and tell them to fit the pieces together to find out the shape. Discuss how many pieces make the circle in the different groups. Discuss what each piece is called e.g. if there are 2 pieces, each piece is called 'a half' and written as $\frac{1}{2}$; if there are 4 pieces each piece is called 'a quarter' and written as $\frac{1}{4}$; if there are 8 pieces each piece is called 'an eighth' and written as $\frac{1}{8}$, etc. Let the learners write the word and symbol on each piece.

  Tip : *At the end of the activity, collect all the pieces for each circle and pin them together as you will use them in Week 4*.

DAY 5 (the whole lesson)

- You will need magazines or newspapers and a drum e.g. coffee tin, for this lesson. Take the learners outside and spread the magazines (newspapers) over a demarcated area. There should be one for every learner. Tell the learners to find a magazine and stand on it. Ask

them to hold the magazine above their heads, behind their backs, next to their ear and so. Now tell them that when you beat the drum (or play music, or clap your hands) they will walk around but as soon as the drum stops they must find a magazine and stand on it. Ask if everyone has a magazine to stand on. For the first round there will be a magazine for each child. From the second round, remove one magazine each time so that one learner will not have a magazine to stand on. Each time talk about why there is one learner left over. This is a fun way to deal with positional relationships of two 3-D objects.

- Back in the classroom, discuss patterns found on human beings e.g.
  - On 1 person: 2 hands, back and front, one half of the body the same as the other half of the body
  - Each person: the same patterns i.e. 2 hands, etc.
  - Everyone: the same parts, but each is different
  - Patterns contain the same elements which are repeated, sometimes exactly the same, sometimes similar but with differences.

  Give each learner a strip of paper approximately 30cm x 10cm (an A4 cut in half, or a strip of newspaper, etc.). Learners fold the paper in half lengthwise, then in half again, then in half again. This will make 8 blocks. Using a template (see **Annexure 2**), place the body against the edge with the 2 open ends and place the 'arms' against the folded edge. Cut out the figure and when it is opened out there should be 3 complete figures holding hands. There will be a half figure at each end. Learners decorate their strip of figures. Display all the strips as a frieze in the classroom, carefully matching the ends of the strips to be complete figures.

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:

- 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.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.

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

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

Children	10	15	20	25
Legs	20			

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

5	10			25			40

- Expanded notation e.g. 36=30+☐; 30+6=☐; ☐=30+6; etc.
- Doubling and halving activities.
- Number patterns e.g. 2+3=; 12+3=; 22+3=; and 53-2=; 43-2=; 33-2= etc.
- Cards and counters e.g.

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

Working with the group

GROUP 1

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

- Put a pile of counters in the middle of the group. Give each learner a different number to count out e.g. 47, 39, etc. Once all the learners have counted out their number of counters, ask them to place the counters in a way that will be easy for them to count. Some learners will put them in piles of 2, or 5, or 10, while others may just place them in a long row. The way learners count indicates the level they are working at.
  ***Tip**: Use this activity as part of Assessment Task 1.*
- Each learner sets out their flard cards in a sequence and then makes one three-digit number and places it in front of them. Learners now arrange all the numbers in the correct order from smallest to biggest.
- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more/10 less with his/her own cards. Do this a few times taking turns to put out the first cards. Repeat the activity, but this time making numbers 1more/1less.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 equalize and 1 repeated addition type word problem and on Wednesday you will ask 1 combine and 1 array type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

GROUP 2

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

- Put a pile of counters in the middle of the group. Give each learner a different number to count out e.g. 47, 39, etc. Once all the learners have counted out their number of counters, ask them to place the counters in a way that will be easy for them to count. Some learners will put them in piles of 2, or 5, or 10, while others may just place them in a long row. The way learners count indicates the level they are working at.
  ***Tip**: Use this activity as part of Assessment Task 1.*
- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 37. Which two numbers did you use? How much is 30+7? How much is 37-7? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 7 change and not the 30? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 7 change and not the 30?
- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more/10 less with his/her own cards. Do this a few times taking turns to put out the first cards

- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 equalize and 1 repeated addition type word problem and on Thursday you will ask 1 combine and 1 array type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as verbalize their thought processes.

GROUP 3

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

- Put a pile of counters in the middle of the group. Give each learner a different number to count out e.g. 47, 39, etc. Once all the learners have counted out their number of counters, ask them to place the counters in a way that will be easy for them to count. Some learners will put them in piles of 2, or 5, or 10, while others may just place them in a long row. The way learners count indicates the level they are working at.
  ***Tip**: Use this activity as part of Assessment Task 1.*
- Each learner sets out their flard cards in a sequence. Using the cards, ask learners to do the following :
  - Make the number 26. Show me the numbers which make 26 (a 20 and a 6). Point to number 26 on the number line.
  - Make the number 33. Show me the numbers which make 33 (a 30 and a 3). Show me 33 on the abacus. Do this a few times, using different numbers.
  - Put the number 50 in front of you. Add 3 and show me the new number. What number have you made? 53. What is 50 plus 3? Do this a few times using other numbers.
  - Put the numbers 40 and 6 in front of you. What number can you make if you add 40 and 6 together? Do this a few times using other numbers.
  - Put the number 77 in front of you. Show me the numbers which make 77 (a 70 and a 7). Put them together to make the number 77 again. Take away 7 and show me the new number (70). What is 77 take away 7? Do this a few times, using different numbers.
- Each learner makes one two-digit number and places it in front of him/her. Learners now arrange all the numbers in the correct order from smallest to biggest.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 equalize and 1 repeated addition type word problem and on Wednesday and Thursday you will ask 1 combine and 1 array type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as verbalize their thought processes.

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

THIRD 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 1,2</td><td>• Counts out objects to 100
• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s between 100 and 200, forwards and backwards.
• Count in 1s starting and stopping at any number e.g. start 109 stop 159, in a given number range 100 to 200, using a number grid
• Count on in 1s in the number range 100 to 200
• Rational counting in 2s, 5s and 10s in the number range 1 to 100
• Rational counting in 5s, starting and stopping at any number in the number range 1 to 100
• Count out from 75 to 100 using pictures</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO 1 AS 3,4,5,6
LO 2 AS 2
LO 3 AS 6,7</td><td rowspan="3">• Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½
• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Solves money problems involving totals in rands and cents
• Describes positional relationship between two 3D objects</td><td colspan="5">Daily :
• Place value of 2 digit numbers
• Expanded notation of 2-digit numbers e.g. 34=10+10+10+4; 34-10-10-10-4=0</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>Numerosity of numbers 1 to 100, using cards

Money:
equivalence e.g. 10c+10c=20c
solving problems</td><td>Addition and subtraction using flow diagrams

Money:
equivalence e.g. 10c+10c=20c
solving problems</td><td>Numerosity of numbers 1 to 100, using cards

Random patterns

Number patterns</td><td>Numerosity of numbers to 100

Expanded notation of 2 digit numbers

Place value of 2 digit numbers</td><td rowspan="3">WHOLE CLASS ACTIVITIES.

Positional relationship integrated with Life Orientation

Random patterns integrated with Arts and Culture</td></tr>
<tr><td>GROUP TEACHING

LO 1
AS 5,6,8,11,12</td><td>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Solves problems, and explains solutions, using number charts and counters if needed with numbers up to 100
• Solves money problems involving totals in rands and cents</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 compare and 1 rate type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 compare and 1 rate type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 combination and 1grouping type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 combination and 1 grouping type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 3 : WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means that the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependent on its place in the number.
- In Week 1 and 2 you introduced the concept of money. This week you will work with the application of that knowledge related to every-day life through solving problems.
- **Assessment Task 1 will be completed this week.**

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count in 1s from 100 to 200, forwards and backwards.
- Using individual number grids, learners place a counter on a given number e.g. 59 and starting from that number, they count on in 1s stopping when you clap your hands e.g. at 66. Ask questions such as e.g. *Where did you start (59)? Where did you stop (66)? Did you add or subtract? How many more did you count on? (7). How much is 59 plus 7? How much is 66 take away 7? If 59 add 7 is 66, what is 69 add 7? If 66 take away 7 is 59, what is 69 take away 7?*

  ***Tip**: Use this activity as part of the Assessment Task. Therefore do this every day making sure that all learners have a turn to answer some questions during the week.*
- Learners count in 5s and every time they say a number that is also a multiple of 10 they clap their hands e.g. 5, 10(clap), 15, 20(clap). This should be fun, but it should also be correct.

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

- Each learner has their own number grid. They place a counter on 24 and count on in 2s till you tell them to stop. Repeat, starting at other numbers.
- Write an open frame number sentence on the board. Learners hold up the correct number of fingers to indicate the missing number e.g. you write 27 = 20+☐ and learners each hold up 7 fingers. If you write ☐+5=35, 3 learners need to hold up their fingers as a group to show the missing number 30.
- Ask simple word problems which learners are able to solve without drawing pictures or using counters, such as :
  - *3 birds were sitting in the tree and 4 more birds joined them. How many wings are there?*
  - *12 children were playing together. 7 were boys. How many girls were there?*
  - *5 children each had a bicycle. How many wheels were there?*

DAY 1 (to take no more than 20 minutes)

- Choose an odd number between 11 and 21 and write it on the board. Ask specific questions about the number and let learners record the answers in their books. Each time ask a few learners to say what they have written and learners mark their own work e.g. write the number 15 on the board:
  - What 3 numbers added together make 15? (e.g. 10+5+0, or 7+7+1, etc.)
  - What 4 numbers added together make 15? (e.g. 10+2+2+1, or 5+5+4+1 etc.)
  - What 3 numbers when subtracted give you 15? (e.g. 20-4-1, or 18-2-1, etc.)
  - 15 is half of what number?
  - 15 is double what number?
- Give each learner their own money grid. As you call out an amount, learners record the amount in the 1st column and then write how many coins are the same as that amount, e.g. 50c – how many 10c pieces, or R1 – how many 50c pieces?

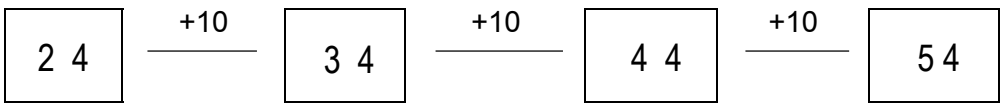
	5c	10c	20c	50c	R1	R2	R5
50c		5					
R1,00				2			

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

DAY 2 (to take no more than 20 minutes)

- Using the money grid from Day 1, revise what was recorded. Learners then re-write the information as number sentences e.g.
  - 50c = 10c+10c+10c+10c+10c = 5x10c
  - R1,00= 50c+50c=2x50c

  Tip*: Use this as part of Assessment Task 1*
- Write a number of linked boxes on the board. Ask a learner to choose a number and write this in the 1st box. Tell learners that each link is +10 (which they write above the line) and ask what the number in the next box will be. Call different learners to fill in the missing number in the boxes on the board. Learners can use their number grids if they need to. Repeat the activity using other numbers.



DAY 3 (to take no more than 20 minutes)

- Choose an even number between 50 and 70 and write it on the board. Ask specific questions about the number and learners record the answers in their books (or on a piece of paper). Each time ask a few learners to say what they have written and let learners mark their own work e.g. write the number 66 on the board:

- What 2 numbers added together make 66? (e.g. 60+6, or 33+33, etc.)
- What 5 numbers make 66? You must use both adding and subtracting.(e.g. 60+20-10-5+1, etc.)
- What 3 numbers when subtracted give you 66? (e.g. 77-7-4, or 66-0-0, etc.)
- 66 is double what number?

***Tip**: This activity is designed to assess learners' ability to identify the numerosity of numbers and is one of the activities for Assessment Task 1. Therefore you need to walk around and observe what learners are writing during this activity.*

- Using their number grids, learners count in 5s placing a counter (bean, piece of paper, etc.) on each multiple as they say the number. Ask questions such as:
  - Is the number 15 in the 5s pattern?
  - Is the number 55 in the 5s pattern?
  - Is the number 61 in the 5s pattern?
- Using A4 paper, fold each piece and cut it into 4 equal pieces. Give each learner 2 small pieces and let them write their name on the back of the piece of paper. Each learner designs his/her own pattern on one of the pieces of paper using a dark pencil or black crayon. They then place the second piece of paper on top of the first piece and trace off the pattern so there are 2 identical patterns for each learner. Collect **one** of the pieces of paper and learners decorate the pattern on the remaining piece. **Collect all the pieces of paper for the activity on Day 5.**

DAY 4 (to take no more than 20 minutes)

- Give learners a worksheet which will assess place value, expanded notation and numerosity of 2 digit numbers. Here is an example of what the worksheet should look like:

1. Fill in the answers.

30+9=☐	93=☐+3	40+☐=45	☐+2=27
74-4=☐	61-☐=1	☐=36-6	☐-7=40

2. Here are some numbers. They tell me about a special number. What is that number?

double 7½	10+10-3-2	20-2-2-1
10+10-5	half of 30	double 8 minus 1

The special number is _____

3. Write these numbers as expanded notation.

48 = ____ + _____ + _____ + _____ + _____

51 = _____ + _____

26 = _____ + _____ + _____

64 = _____ + _____ + _____ + _____

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

DAY 5 (the whole lesson)

- Take the class outside and let them choose a partner. Working in pairs, learners take it in turns to give their partner a positional command and the partner must obey the command

and then describe what they did. All the commands are about the positional relationship between two different 3-D objects. Some examples are:

- Put your elbow on your knee. (My elbow is on my knee.)
- Stand next to the tree. (I am standing next to the tree.)
- Stand behind the teacher.
- Put your nose on my shoulder and so on.

***Tip**: This is an assessment activity as part of Assessment Task 1, so you will need to observe the learners' responses carefully.*

- Back in the classroom, hand out the decorated patterns from the activity on **Day 3.** In groups, learners paste their decorated blocks of patterns onto a larger sheet of paper to make one group pattern. Each group now has one large pattern containing smaller, individual pattern pieces. When this is complete, display the sheets and discuss how 8 or 10 small patterns now make one large pattern. Discuss what a random pattern is (no obvious set pattern). Discuss whether each of these sheets of random patterns (the group pattern) can be reproduced, and how. (They can be, by using the second block drawn on Day 3) Ask if the group block pattern will still be a random pattern once it has been done a second time. (No, because the pattern has now been repeated, so it is no longer a random pattern). Hand out the second, undecorated blocks of patterns and each learner must decorate this pattern in exactly the same way as the first pattern was decorated. Give each group another sheet of paper and they must now paste their individual pieces of paper in such a way that they repeat their first pattern. Display the patterns either as one very large pattern, or else display each group's two sheets of paper.

ASSESSMENT	**Formal: Recorded Assessment Task 1:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Counts out objects to 100 • Counts on from any number between 1 and 200 • Counts backwards from any number between 200 and 1 • Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards • Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4 • Solves money problems involving totals in rands and cents • Describes positional relationship between two 3D objects

WEEK 3 : GROUP TEACHING

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

Notes to teacher:

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

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

- Complete a table. For example:

Hands	1	2	10	20
Fingers	5	10		

- Fill in the numbers you would use when counting in 2s, 5s or 10s on a number line or number square. An example could be as follows:

4	9	14				34	

- Expanded notation e.g. 36=30+□; 30+□=36; □=30+6; etc.
- Expanded notation using money e.g. 45c=10c+10c+10c+10c+5c, 55c-10c-10c-10c-10c-10c-5c=0c
- Doubling and halving activities.
- Number patterns e.g. 2+3=; 12+3=; 22+3=; and 53-2=; 43-2=; 33-2= etc.

  ***Tip**: Use the relevant activities towards Assessment Task 1.*

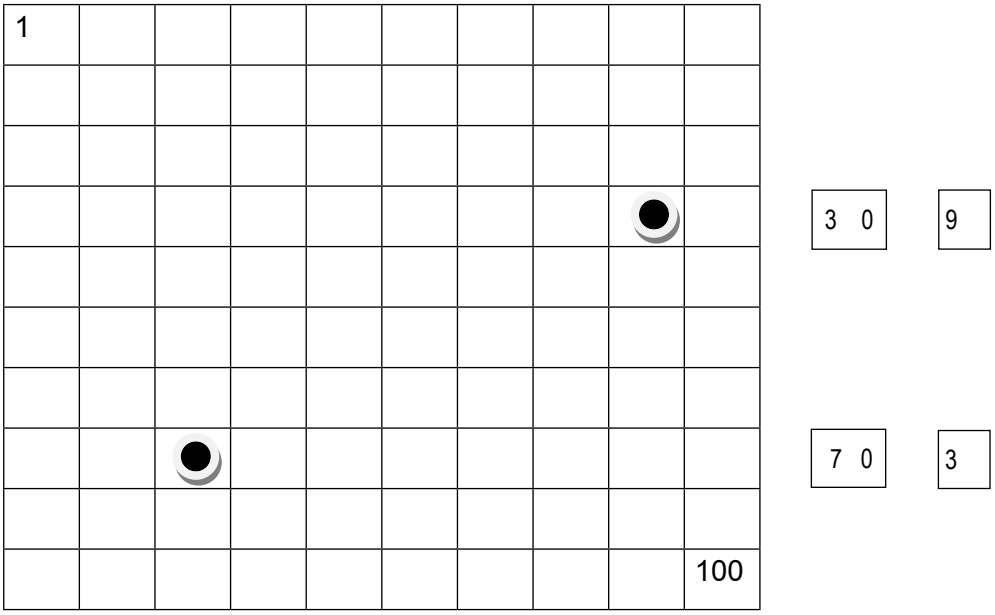
Working with the group

GROUP 1

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

- Place a few pictures of people (or a picture/photograph with a number of people) in the middle of the group. After the learners have had a few minutes to look at the people, cover the pictures. Ask learners to estimate how many fingers there are in the picture. Once everyone has stated their estimate, uncover the pictures and count the number of people. Ask learners how they would know the number of feet/ears/hands, etc. i.e. double the number of people.

- 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:



  Place a counter on a number and ask the learners to make the number that is 1 more/1 less or 10 more/10 less than the number shown. Learners also indicate the number on their number grids.

  Tip: *Use this towards Assessment Task 1.*

- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner writes the expanded notation e.g. 10+10+10+10+3. Do this a few times taking turns to put out the first cards.

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

- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 compare and 1 rate type word problem and on Wednesday you will ask 1 combination and 1 grouping type word problem. Make sure at least two of the problems use money as their context. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

  Here are two examples of word problems using money as the context :

  - Jack has 90c to spend and his friend, Sipho, has R1.25c to spend. How much more money does Sipho have to spend than Jack? (compare type problem)

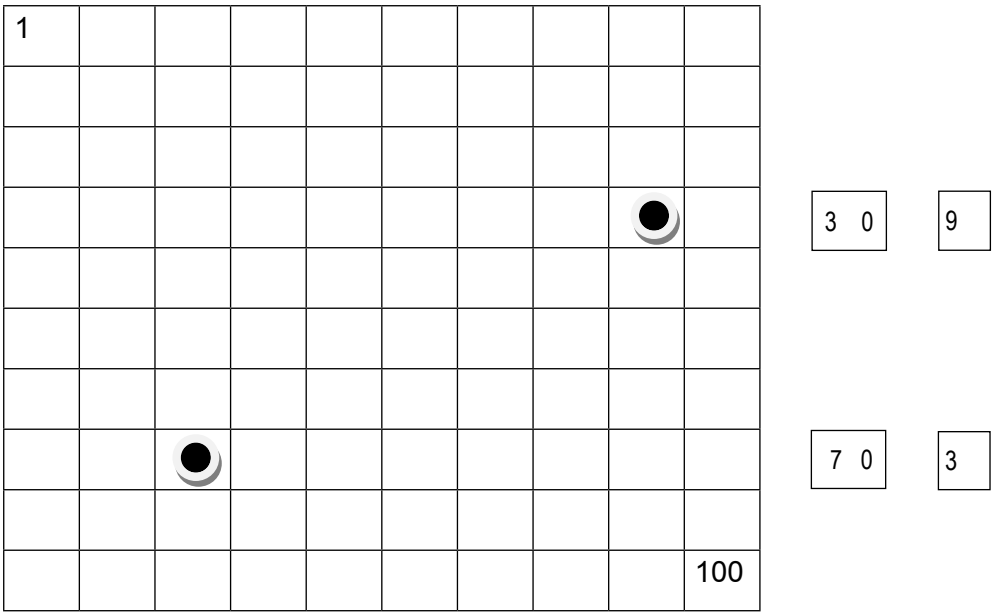
  - Jack has R1.40 to spend. This is twice as much money as his friend, Sipho, has to spend. How much money does Sipho have to spend? (comparison type problem).

  Tip*: Use these problems towards Assessment Task 1.*

GROUP 2

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

- Place a few pictures of people (or a picture/photograph with a number of people) in the middle of the group. After the learners have had a few minutes to look at the people, cover the pictures. Ask learners to estimate how many fingers there are in the picture. Once everyone has stated their estimate, uncover the pictures and count the number of people. Ask learners how they would know the number of feet/ears/hands, etc. i.e. double the number of people.
- 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:



Place a counter on a number and ask the learners to make the number that is 1 more/1 less or 10 more/10 less than the number shown. Learners also indicate the number on their number grids.

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

- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner writes the expanded notation e.g. 10+10+10+10+3. Do this a few times taking turns to put out the first cards.

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

- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 compare and 1 rate type word problem and on Thursday you will ask 1 combination and 1 grouping type word problem. Make sure at least two of the problems use money as their context. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

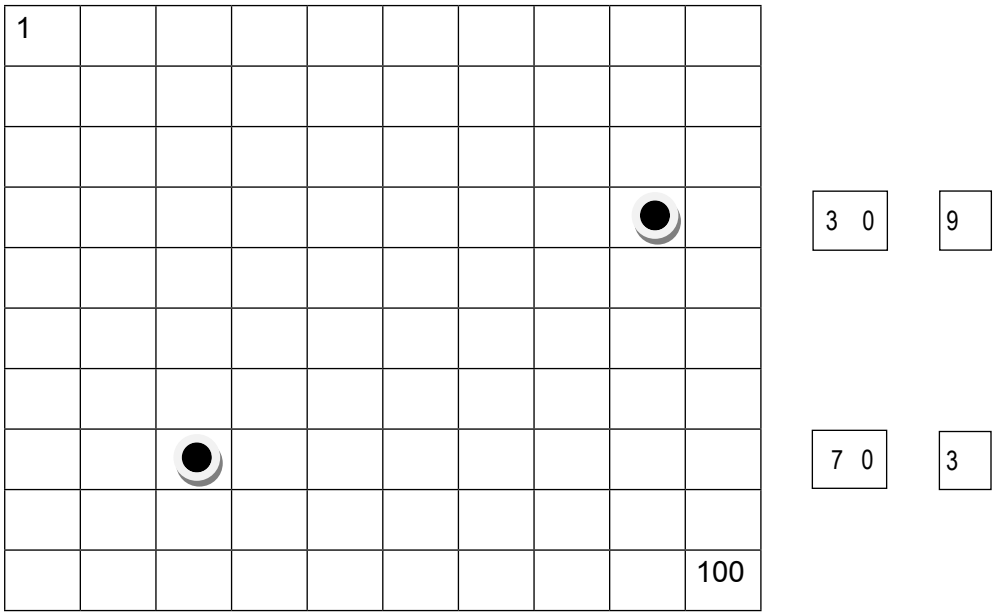
Here are two examples of word problems using money as the context :

- Mpu has 80c to spend and her sister, Thandi, has 45c to spend. How much less money does Thandi have to spend than Mpu? (compare type problem)
- Thandi has 35c to spend and her sister, Mpu, has twice as much money to spend. How much money does Mpu have to spend? (comparison type problem).
***Tip**: Use these problems towards Assessment Task 1.*

GROUP 3

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

- Place a few pictures of people (or a picture/photograph with a number of people) in the middle of the group. After the learners have had a few minutes to look at the people, cover the pictures. Ask learners to estimate how many fingers there are in the picture. Once everyone has stated their estimate, uncover the pictures and count the number of people. Ask learners how they would know the number of feet/ears/hands, etc. i.e. double the number of people.
- 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:



Place a counter on a number and ask the learners to make the number that is 1 more/1 less or 10 more/10 less than the number shown. Learners also indicate the number on their number grids.
***Tip**: Use this towards Assessment Task 1.*

- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner writes the expanded notation e.g. 10+10+10+10+3. Do this a few times taking turns to put out the first cards.
***Tip**: Use this as towards Assessment Task 1.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 compare and

<table>
<tr><td colspan="2">

- 1 rate type word problem and on Wednesday and Thursday you will ask 1 combination and 1 grouping type word problem. Make sure at least two of the problems use money as their context. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

Here are two examples of word problems using money as the context :

- Jim has 75c to spend and his friend, Fred, has 50c to spend. How much more money does Jim have to spend than Fred? (compare type problem)

- Jim has 40c to spend and his friend, Fred, has twice as much money to spend. How much money does Fred have to spend? (comparison type problem).

Tip: Use these problems towards Assessment Task 1.

</td></tr>
<tr><td>Assessment</td><td>Formal: Recorded Assessment Task 1: During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems :
• Counts out objects to 100
• Counts on from any number between 1 and 200
• Counts backwards from any number between 200 and 1
• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Solves money problems involving totals in rands and cents
• Describes positional relationship between two 3D objects</td></tr>
</table>

SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY THIRD TERM

TASK 1 : WEEK 3

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Counts out objects to 100 • Counts on from any number between 1 and 200 • Counts backwards from any number between 200 and 1 • Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards • Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4 • Solves money problems involving totals in rands and cents • Describes positional relationship between two 3D objects	Wk 2 Wk 3	• Use the daily oral activities to assess counting out objects as well as counting on up to 200. • Use the written and practical activities during the week to assess expanded notation, place value, adding and subtracting a single digit number from a two-digit number and patterns. • Money will be assessed through the practical and written activities on Days 1 to 4 as well as through problem solving in the Group teaching time. • Use the practical activity on Day 5 to assess understanding of the positional relationship between 3-D objects. • Use any of the written work for assessment purposes.
PROBLEM SOLVING	• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4 • Solves money problems involving totals in rands and cents	Wk 3	• Use the practical working with flard cards for assessing expanded notation and adding and subtracting a single digit from a two-digit number. • Use the problem solving activities to assess learners understanding of money

THIRD 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 1,2</td><td>• Counts out objects to 100
• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s between 100 and 200, forwards and backwards.
• Count in 1s starting and stopping at any number e.g. start 109 stop 159, in a given number range 100 to 200, using a number grid
• Count on in 1s in the number range 100 to 200
• Rational counting in 2s, 5s and 10s in the number range 1 to 100, forwards and backwards
• Rational counting in 10s, starting and stopping at any number in the number range 1 to 100</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO1 AS 3,4,7,8,9,10
LO 2 AS 2,3
LO 4 AS 6
LO 5 AS 1,2,3,4</td><td rowspan="3">• Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Solves problems using grouping and sharing where the remainder is a fraction
• Estimates, measures and compares length, capacity and mass
• Collects, sorts, describes and constructs pictographs according to one attribute chosen by the teacher</td><td colspan="5">Daily :
• Place value of 2 digit numbers
• Numerosity of numbers 1 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>Addition and subtraction using tables

Collect and sort data</td><td>Fractions

Construct pictograph using data collected</td><td>Fractions

Geometric patterns

Measurement : length and capacity</td><td>Addition and subtraction using tables

Measurement : length and capacity</td><td rowspan="3">WHOLE CLASS ACTIVITIES.

Geometric patterns integrated with Arts and Culture</td></tr>
<tr><td>GROUP TEACHING

LO 1 AS 5,8,11,12</td><td>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 change and 1 sharing type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 change and 1 comparing type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 array and 1grouping type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 array and 1grouping type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 4 : WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- Place value means that the position of a digit in a number indicates its value e.g. 333 – each of the three's has a different value dependent on its place in the number.
- Although learners are able to add and subtract, they need to be able to do this in many different contexts. This week you will develop the concepts by working in tables.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count in 1s from 100 to 200, forwards and backwards.
- Count in 2s and do the following actions:

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

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

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

- All learners work with the number cards and their own counters. The teacher asks the learners to choose a number and place a counter on the number. The teacher asks the learners the following questions:
  "On what number did you place the counter?"
  "What number is before this number and what number is after this number?"
  "This number is between which two numbers?"
  "What number is 10 more than this number and what number is 10 less?"
  "What is double this number?"
  "What is two times this number?"
  The teacher asks the questions to individual learners. Ask as many learners as possible.
- Use the set of number names from ten to fifty as well as from one to nine, and the set of numerals from 10 to 50 e.g. 13, 48 etc (from Term 2 Week 9) for this activity. Take the class outside and divide them more or less in half, giving one half the numerals and the other the number names. More learners will get number names (words) than numbers. At your

instruction, they need to find their partner e.g. learners with the words twenty and eight will both need to stand with the learner holding the number 28, but the learner with the word fifteen will stand with the learner holding the numeral 15.

- Let the learners order themselves from smallest to biggest according to the numbers or words they have – one row of learners with words and one row of learners with numbers.

DAY 1 (to take no more than 20 minutes)

- Ask learners to each choose any 2 numbers and write them down, e.g. 6 and 12. Now they must tell you what the relationship between the 2 numbers is, e.g. 6 is half of 12, 12 take away 6 is 6, 6 is 3 less than 9 and 12 is 3 more than 9, etc. Once everyone has had a turn to tell you at least one thing about their numbers, write the following type of table on the board e.g.

	+ 10	- 5	+ 20	double	halve
6					
11					
25					

Lead learners through the steps to complete the table. The first number is the "home" number and the top instructions are what have to be done to the home number. If you start with the 6, the first relationship is with the number that is 10 more than 6 i.e.16, so the relationship between 16 and 6 is that 16 is 10 more than 6, the second relationship is with the number that is 5 less than 6, the third relationship is with the number that is 20 more than 6, and so on. The important thing to remember is that each block of the top row indicates what has to happen to the number in the left hand block. Once the table is complete, it should look like this:

	+ 10	- 5	+ 20	double	halve
6	16	1	26	12	3
11	21	6	31	22	$5\frac{1}{2}$
25	35	20	45	50	$12\frac{1}{2}$

- Let the learners count in 2s to 20, placing a counter on each multiple of 2 on the number grid as they say it. Ask how many counters were used - 10. Ask why only 10 counters were used when the number 20 was reached – because each counter represents 2. Repeat the activity but counting in 5s from 5 to 50. Again ask how many counters were placed on the number grid – 10. Ask why only 10 counters were placed yet the number 50 was reached – because each counter represents 5. Now ask all the boys to stand in the front of the class with a partner. Give each pair a number: 1, 2, 3 and so on. Ask how many pairs of boys there are and how many boys altogether. Write this on the board. Repeat the activity with the girls. Write the numbers on the board e.g.

Boys	Girls
12 pairs	8 pairs
24 altogether	16 altogether

Leave it on the board if possible as you will use this information on Day 2.

DAY 2 (to take no more than 20 minutes)

- Hand out the cut up circles used in Week 2 to each group. Let the groups place the pieces together to make one big circle and ask them to identify the fractions. Now ask the group with the half pieces (marked $\frac{1}{2}$) to exchange the half piece with pieces from the group with quarters, but for the same size. Ask how many pieces they got for their half – they got 2 quarters. Let the learners place the two quarter pieces on top of the half piece to check and see if one half is the same size as two quarters. Ask the group with quarters to exchange their quarter pieces with pieces from the group with eighths. Ask how many pieces they got for their one quarter piece – they got 2 eighths pieces. Place the eighths on top of the quarter to check and see if 2 eighths is the same size as one quarter. If there is time you can extend this activity by letting learners investigate the different equivalent fractions.
  Tip: *Collect the pieces of the circles as you will use them again.*
- Revise the data collecting activity from Day 1 i.e. how many boys and how many pairs of boys etc. Give each learner a grid like this, although the number of columns will depend on the size of your class:

		Number of children							
		2	4	6	8	10	12	14	16
Number of pairs	Boys								
	Girls								

Learners will place a ♦ for each pair of boys and a ♥ for each pair of girls. Once everyone has completed the pictograph, ask relevant questions to make sure that learners understand the pictograph.

DAY 3 (to take no more than 20 minutes)

- Before the lesson, sort out the fraction pieces and make up circles using different combinations of fractions e.g. one circle could have the following pieces: one $\frac{1}{2}$, one $\frac{1}{4}$ and two $\frac{1}{8}$s. Hand out the circles and ask the groups to build their circles. Once this has been done, learners will describe what fractions their circle is made up of. Discuss if all the circle are the same i.e. does each group have a complete circle regardless of how many pieces (fractions) there are. Ask if every circle has 2 halves – perhaps not two half pieces, but a number of smaller fractions that together make a half. Now let the groups, one at a time, exchange pieces of their circle to try and get a circle up the same size pieces. In other words, a group with one $\frac{1}{2}$, one $\frac{1}{4}$ and two $\frac{1}{8}$s will try and exchange pieces so that their circle is made up of only $\frac{1}{2}$s or only $\frac{1}{4}$s or only $\frac{1}{8}$s. Encourage learners to talk about what they are doing

- Using chalk, draw a variety of curves on the verandah or playground. Let learners measure the length of the curves using as many informal measuring units as they can think of.
  ***Tip**: Make sure you have a wide variety of measuring units available for the learners to use e.g. string, paper, rulers, wool, paper clips, toothpicks, etc.*

DAY 4 (to take no more than 20 minutes)

- Revise working with tables by giving each learner a copy of the following type of table as well as writing it on the board e.g.

	-10	x2	+50	5 more	5 less
20					
30					
40					

  Lead learners through the steps to complete the table making sure they always start with the number in the left hand column i.e. 20-10, then 20x2, then 20+50 and so on. Learners fill in the numbers on their own table as you fill them in on the board.
- Take the class outside and divide them into pairs. Ask learners to estimate how many footsteps they can take in 1 minute. Each pair decides who will walk for 1 minute while the partner will help to keep count of the number of footsteps. At the command, learners will walk in the demarcated area while you time 1 minute. At the end of the minute call everyone back to you and find out how many footsteps were taken, how close the estimate was, etc. Repeat the activity with the pairs swapping their roles. You can also try the following:
  - How many cups of water can you put from 1 bucket to another bucket in 1 minute?
  - How many times can you take your shoes off and put them back on again in 1 minute?
  - How many 2l plastic bottles can you fill with water in 1 minute?
  - How many times can you run to the school gate and back in 1 minute?

  Use your own ideas as well!

DAY 5 (the whole lesson)

- Take the class outside and let them observe the shape of trees, clouds, buildings, plants, etc. Discuss the similarities and differences in the various shapes. While still outside, give each learner a geometric shape e.g. a square, a circle, a triangle, etc. and ask them to find something that is a similar shape.
- Back in the classroom, place a number of different shapes in different sizes in the middle of each group and give each learner a blank piece of paper. Learners will make their own design or pattern using the shapes and drawing around them. Encourage learners to experiment with moving the shape by turning it, or sliding it, or flipping it and so on but keeping a pattern going. They can use as many shapes as they like, or they can stick to using only one shape. Display the designs in the classroom.

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

WEEK 4 : GROUP TEACHING

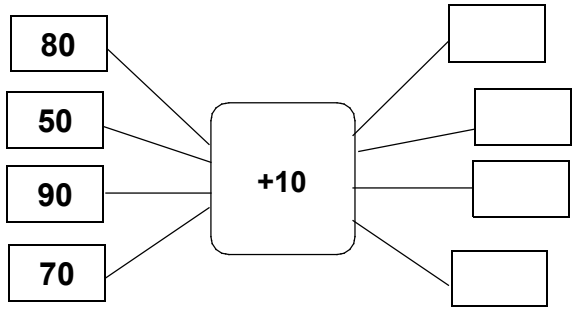
Week 4	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

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

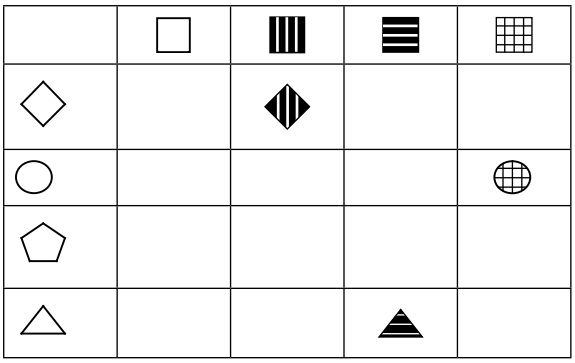
Examples of activities to be done independently. *Work from a Learner's Book, worksheets, workcards, etc.*

- Doubling and halving activities.
- Number patterns e.g. 2+3=; 12+3=; 22+3=; and 53-2=; 43-2=; 33-2= etc.
- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Use a spider diagram and table where the input number is given.



	80	50	90	70
+10				

- Complete simple matrix patterns e.g.



Working with the group

GROUP 1

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

- Give each learner a pile of counters and a number e.g. 66. Starting with the number, they count on the number of counters in their pile i.e. 66, 67, 68 …92. Learners write their number on a piece of paper and then order all the numbers from biggest to smallest.
- Each learner uses their number and expands the number in as many ways as possible e.g.
  92= 20+20+20+20+10+2
  92=30+30+30+2
  92=50+50-10+2 etc.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 change and 1 sharing type word problem and on Wednesday you will ask 1 array and 1 grouping type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

GROUP 2

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

- Give each learner a pile of counters and a number e.g. 24. Starting with the number, they count on the number of counters in their pile i.e. 24, 25, 26 …51. Learners write their number on a piece of paper and then order all the numbers from biggest to smallest.
- Each learner uses their number and expands the number in as many ways as possible e.g.
  51=10+10+10+10+10+1
  51=20+20+10+1
  51=30+30-10+1
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 change and 1 sharing type word problem and on Thursday you will ask 1 array and 1 grouping type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

GROUP 3

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

- Put a pile of counters in the middle of the group. Give each learner a different number to count out e.g. 47, 39, etc. Once all the learners have counted out their number of counters, ask them to place the counters in a way that will be easy for them to count. Some learners will put them in piles of 2, or 5, or 10, while others may just place them in a long row. They way learners count indicates the level they are working at.

• Each learner had his/her own number grid. When you say a number e.g. 59, they put a counter on the number and investigate the number e.g. - what two numbers make 59? - What other numbers make 59? - What is 10 more/10 less than 59? - Count on 7, starting at 59 etc. • Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 change and 1 sharing type word problem and on Wednesday and Thursday you will ask 1 array and 1 grouping type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.	
Assessment	**Informal :** Unrecorded assessment of learners' oral responses and ability to participate. **Formal:** No formal assessment

THIRD 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 1,2</td><td>• Counts out objects to 100
• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s between 100 and 200, forwards and backwards.
• Count on in 2s in the number range 1 to 100
• Rational counting in 2s, 5s and 10s in the number range 1 to 100, forwards and backwards
• Rational counting in 2s, starting and stopping at any number in the number range 1 to 100</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO 1 AS 7,8,9,10
LO 4 AS 6
LO 5 AS 1,2,3,4</td><td rowspan="3">• Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=?
• Building up a whole 10 when adding and subtracting e.g. 9+4= 9+1+3 or 14–8=14–4- 4
• Uses repeated addition leading to multiplication with answers up to 50
• Estimates, measures and compares length, capacity and mass
• Collects, sorts, describes and constructs pictographs according to one attribute chosen by the teacher</td><td colspan="5">Daily :
• Numerosity of numbers 1 to 100
• Expanded notation of numbers to 100
• Addition and subtraction of a 2-digit number with a whole 10</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>Repeated addition

Fractions

Addition and subtraction of a 2-digit number with a whole 10</td><td>Repeated addition

Mass</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting

Mass</td><td>WHOLE CLASS ACTIVITIES.

Data handling: What I ate</td></tr>
<tr><td>GROUP TEACHING

LO 1 AS 5,10,11,12</td><td>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Doubles and halves two-digit numbers to 99
• Solves problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td><td></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 2 change (join and separate) type word problems
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 2 change (join and separate) type word problems
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1rate type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1rate type word problem
Group 1 works on their own.</td><td></td></tr>
</table>

WEEK 5: WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- This week you will work with two 2-digit numbers, one of which is a whole 10. This concept has been developed during group teaching time using flard cards and you will now consolidate the concept as written work.
- You are introducing an important skill this week – being able to recognise and break up numbers which make whole 10s. This makes counting, adding, subtracting etc. much quicker and easier. However, remember this is a new skill and will be developed over a number of weeks. This week you are simply introducing the skill.
- Playing with tangram puzzle pieces allows learners to identify and match equal properties. They do this by sorting shapes with similar attributes into groups and this helps them to identify similarities and differences between shapes and objects.
- Both mass and data handling activities form part of the activities this week.
- Learners fill in the data collection sheet every day, choosing three things they ate the previous day to record.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count from 1 to 100 - whisper the first number, and say the next number aloud, whisper the next and so on. In other words, all the odd numbers will be whispered and all the even numbers said aloud. Ask learners to identify the pattern (odd and even, or counting in 2s).
- Repeat the activity, saying the first number aloud and whispering the second, and so on.

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

- Let all the learners stand in a circle. You will move around the circle on the outside, pointing to learners' ears while the class counts in 2s. Don't forget to ask questions e.g. how many ears have we counted? How many learners? Repeat, counting fingers in 5s, then fingers in 10s.

  Tip*: This activity links to repeated addition leading towards multiplication, so it is a good idea if you also record the answers e.g. 2+2+2+2=8→4 learners each have 2 ears→4x2=8.*
- Choose a learner to point to the number line/number grid. The learner may choose the starting number and then the class counts on in 2s while the learner indicates the numbers by pointing to them.
- Point to a number on the number grid and ask learners to tell you the number that is 10 more or 10 less.
- Tell the learners to write down as many multiples of 2 as possible while you time 1 minute. At the end of the minute let learners indicate how far they got.

  Tip*: The quicker learners should record many more multiples than the slower learners. This does not matter as this activity is about doing what you can and allows for diversity in the classroom.*

NB: This week learners will record data on a collection sheet every day. The first day will be done during group teaching time so that you can deal with a small group at a time, explaining the activity and making sure learners understand what to do. From Day 2, learners will complete the data collection on their own as part of the independent activities. However, the data collection from Day 2 can be done as a whole class activity during the Whole Class time if you wish.

DAY 1 (to take no more than 20 minutes)

- Use the packet of numbers you made for the activities in Week 10 of Term 2. Each group has a packet and each packet has the numbers 2, 5 and 10 (about 20 of each number). Learners take turns to shake the packet and take out 2 numbers which they will use to write repeated addition number sentences. If, for example, the learner draws the numbers 2 and 5, he/she will write the repeated addition of 2 five times, and the repeated addition of 5 twice i.e. 2+2+2+2+2=5x2=10 and 5+5=2x5=10. Let learners put their cards back in the packet and take another 2 cards and repeat the activity.
- Hand out the fraction circles used in Week 4(each circle should be a mixture of fractions) and ask the groups to put the circle pieces together to make one complete circle. Give the following instructions, starting with the smallest fraction and working towards the biggest:
  - If you have an $\frac{1}{8}$ of a circle you can colour all the pieces that are $\frac{1}{8}$.
  - If you have a $\frac{1}{4}$ of a circle you can colour all the pieces that are $\frac{1}{4}$.
  - If you have a $\frac{1}{2}$ of a circle you can colour all the pieces that are $\frac{1}{2}$.

  Ask if there is any circle that still has fractions not coloured in – there shouldn't be any, but if there are, discuss what fraction has not been coloured. Display the coloured circles in the classroom.

DAY 2 (to take no more than 20 minutes)

- Give each group a packet of numbers; learners take turns to shake the packet and take 6 numbers. They place the numbers in front of them and add them to get a total. Now tell learners to arrange the numbers in a way that will make it easy to add e.g. all the 2s then all the 5s then all the 10s.
- Write a number on the board e.g. 15 and learners must start with that number and then add their numbers to it. Once they have done it orally, let them write the number sentence in their books. Write a bigger number on the board e.g. 71 and this time learners must subtract their set of numbers from the number on the board. Once they have done it orally let them write the number sentence in their books.
- Show learners 3 objects e.g. a pencil, a ruler and an eraser. Ask them to look around the classroom and estimate which one object will have a similar mass. Learners can check their estimation using a balance scale. Repeat the activity using other objects. If there is time allow learners to record by drawing one set of 3 objects and then the one object with a similar mass or provide them with a worksheet which can be completed as independent work e.g.

3 objects	Object estimated to have same mass	True or false?

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

DAY 3 (to take no more than 20 minutes)

- Take the class outside. Let them sit in a large circle so that everyone can see each other. Place a hoop (or a circle of string or wool) in the middle. Tell the learners that the hoop is a taxi and only 10 people (or objects) can be inside the hoop at one time. This becomes a problem when there are more than 10 people wanting to catch the taxi. Call out 14 learners – they all want to catch the taxi. Give 9 learners each a green piece of paper and 5 learners a red piece of paper. The taxi will only go when it is full. Ask the class to help solve the problem. Encourage them to find more than one solution. Check the solution by letting the learners stand in the hoop as well as outside the hoop. Some solutions will be:
  - The 9 learners with green pieces of paper stand in the hoop as well as 1 learner with a red piece of paper. The other 4 learners with red pieces of paper stand outside the hoop and have to wait for the next taxi. Learners are encouraged to talk about the solution – 9 plus 1 plus 4
  - The 5 learners with red pieces of paper stand in the hoop together with 5 learners who have green pieces of paper. The other 4 learners with green pieces of paper stand outside the hoop and have to wait for the next taxi. Learners are encouraged to talk about the solution – 5 plus 5 plus 4
- Do this again a few times, each time changing the number of learners with green and red pieces of paper e.g. 8 and 3 or 7 and 6 or 6 and 9, etc.

DAY 4 (to take no more than 20 minutes)

- Repeat the activity you did on Day 3 with the hoop as the taxi. This time ask learners to record the numbers each time e.g. 8+6 → 8+2 +4 → 10+4 → 14.
  Tip: It is really important that learners understand that they are building up the first number to 10 by using a part of the second number. You could also let learners explore recording the numbers as 8+(2+4) where they break up the second number according to how much is needed to build the first number up to 10. It is for this reason that developing the numerosity of numbers is so very important.
- Make up two secret parcels, one heavier than the other, using marbles, buttons, stones, matches, pencils, leaves, etc. As learners sit in a circle, they pass the two parcels around and try to guess what is inside from the mass of the parcel. You can give the class clues e.g. there are two big objects in the parcel, there are 5 small objects, the objects in the heavier parcel come from outside the classroom, etc.

- Back in the classroom give each group a packet of numbers. Learners each take 6 cards out of the packet, arrange them in any order and add them up. Ask different learners what their number is. Now tell learners to add 10 to their number and again ask a few learners what their new number is.

DAY 5 (the whole lesson)

- Ask learners to complete their data collection sheets for Day 5. Once this has been done, give each group an empty data collection sheet. In their groups learners read each item and identify how many, for example, recorded porridge on Monday. This number is then recorded on the blank group data sheet. The number recorded for each item for each day is identified and this number is recorded on the group data sheet. The group data sheet for Monday will look something like this:

	Monday		Tuesday	Wednesday	Thursday	Friday
Porridge	✓✓✓✓✓	5				
Meat	✓✓✓✓	4				
Chicken	✓	1				
Milk	✓✓✓	3				
Bread	✓✓✓✓✓✓✓	7				
Banana	✓	1				
Apple	✓✓	2				
Potatoes	✓✓✓✓✓✓	6				
Pumpkin	✓✓✓	3				

- Draw a data collection sheet on the board with the extra column for the total and, when all the groups have completed recording the data for their group, ask each group how many in their group recorded porridge on Monday, Tuesday, Wednesday, etc. Write the numbers in the correct places. Learners add the numbers and you then record the final number in the relevant place e.g.

	Monday	Tuesday	Wednesday	Thursday	Friday	TOTAL
Porridge	5+7+2 = 14	6+3+9=18	4+7+1=12	5+5+6=16	4+7+7=18	14+18+12+16+18= 78
Meat	4+9+7=20					
Chicken						

- Give learners a graph where they will draw a pictograph of the numbers for each item for each day using the key of ☺ is equal to 10 learners, ★ is equal to any number from 5 to 9 and a ☐ is equal to any number from 1 to 4. You will need to guide the learners by completing the graph with them. The pictograph for the porridge column will be e.g.

What we ate this week									
90									
80									
70	☺★								
60	☺								
50	☺								
40	☺								
30	☺								
20	☺								
10	☺								
	Porridge	Meat	Chicken	Milk	Bread	Banana	Apple	Potatoes	Pumpkin

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

WEEK 5 : GROUP TEACHING

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

Notes to teacher:

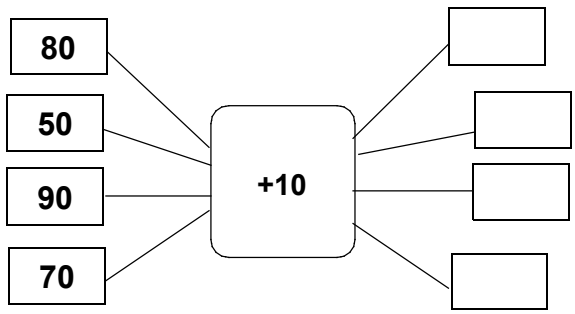
- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- It is very important that you work according to the level of your learners. For example, the number sense being developed during group teaching this week is doubling and halving using flard cards. However, because of where your learners are in their developmental stage this activity may be too difficult. In this case, replace the activities here with suitable activities, but still ask the word problems indicated.

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

- Repeated addition e.g. 2+2+2=3x2=6 using 2, 5 and 10
- Doubling and halving activities.
- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Complete tables by filling in the missing numbers. This example has the numbers filled in e.g.

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

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



	80	50	90	70
+10				

Working with the group

GROUP 1

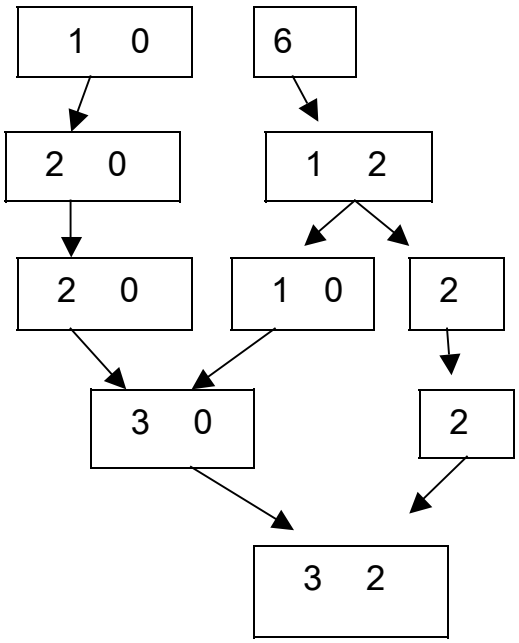
*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes.*

- Learners find a partner and then the group estimates which pair has the lightest mass. Weigh each pair together and record the mass. Discuss the estimates i.e. how close the estimates are to the actual mass, why the group thought a pair was the lightest (e.g. they were the shortest), etc.
- Discuss what learners ate for supper the previous evening. Tell them that they are going to keep a record every day for the whole week of three things they ate the previous day. Although they may have eaten many more than three things, they will have to choose only three things to record. Hand out the grid and read each of the items. Learners must choose any three items and tick the box in the column for Monday. Complete the first day with the group e.g.

	Monday	Tuesday	Wednesday	Thursday	Friday
Porridge					
Meat					
Chicken	✓				
Milk	✓				
Bread					
Banana					
Apple					
Potatoes	✓				
Pumpkin					

***Tip**: You will find a template for the grid in Annexure 3.*

- Put some counters in the middle of the group and ask each learner to count out 10 and put them in one pile. Learners use their flard cards to find the number 10 and put it with the counters. Ask learners to count out enough counters so that they have double the number i.e. they now have 20 counters. Learners find the number 20 and put it with the counters. Discuss how many 10s in 20 – 2 tens. Repeat the activity by doubling 20, then 40, then 80, each time discussing how many 10s in the number. If learners are not able to manage the larger numbers without using counters, keep to smaller numbers.
- Put all the counters back in the pile and start the activity again, this time starting with 2 (counters and flard card numbers) and doubling – 2, 4, 8, 16. When learners get to 16, discuss what 16 is made up of – 10+6. This time ask learners to double 16, but to only use their flard cards and no counters. Learners should double the 10 to 20, then double the 6 to 12 (10+2), then add the 20 and 10 to make 30 and add the 2 giving 32 as the number that is double 16.



- Ask learners to record what they did when working with the flard cards to double 16.
  ***Tip**: It is not important how they record it. The purpose is for learners to record their thought processes.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 2 change (join and separate) type word problems and on Wednesday you will ask 1 repeated addition and 1 rate type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

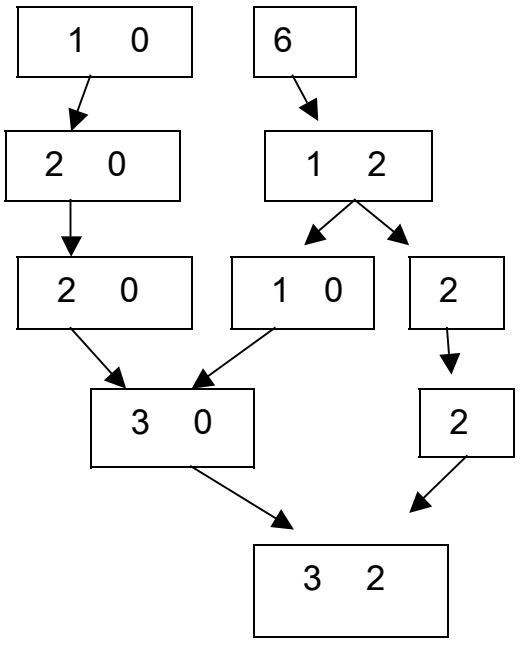
GROUP 2

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

- Discuss what learners ate for supper the previous evening. Tell them that they are going to keep a record every day for the whole week of three things they ate the previous day. Although they may have eaten many more than three things, they will have to choose only three things to record. Hand out the grid and read each of the items. Learners must choose any three items and tick the box in the column for Monday. Complete the first day with the group e.g.

	Monday	Tuesday	Wednesday	Thursday	Friday
Porridge	✓				
Meat					
Chicken					
Milk					
Bread					
Banana	✓				
Apple					
Potatoes					
Pumpkin	✓				

- Put some counters in the middle of the group and ask each learner to count out 10 and put them in one pile. Learners use their flard cards to find the number 10 and put it with the counters. Ask learners to count out enough counters so that they have double the number i.e. they now have 20 counters. Learners find the number 20 and put it with the counters. Discuss how many 10s in 20 – 2 tens. Repeat the activity by doubling 20, then 40, then 80, each time discussing how many 10s in the number. If learners are not able to manage the larger numbers without using counters, keep to smaller numbers.
- Put all the counters back in the pile and start the activity again, this time starting with 2 (counters and flard card numbers) and doubling – 2, 4, 8, 16. When learners get to 16, discuss what 16 is made up of – 10+6. This time ask learners to double 16, but to only use their flard cards and no counters. Learners should double the 10 to 20, then double the 6 to 12 (10+2), then add the 20 and 10 to make 30 and add the 2 giving 32 as the number that is double 16.



- Ask learners to record what they did when working with the flard cards to double 16. ***Tip****: It is not important how they record it. The purpose is for learners to record their thought processes.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 change and 1 sharing type word problem and on Thursday you will ask 1 array and 1 grouping type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.

GROUP 3

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

- Give each learner a pile of counters and a different number e.g. 24. Starting with their number, they count on the number of counters in their pile i.e. 24, 25, 26 …51. Learners write this number on a piece of paper and then order all the numbers from biggest to smallest or smallest to biggest. ***Tip:*** *This number becomes the number used in the other activities.*
- Each learner uses his/her number and expands the number in as many ways as possible recording this in his/her book (or on chalkboards, white boards, slates, etc.) e.g.
  51=10+10+10+10+10+1
  51=20+20+10+1
  51=30+30-10+1
- Let each learner work with his/her own number grid the number they wrote on the piece of paper. Learners place a counter on their own number e.g. 51. Taking turns, they choose one of their expanded notation number sentences and place counters on the numbers indicating how the numbers add up to the number with a counter on. Using the example of working with the number 51 and the 1st number sentence (51=10+10+10+10+10+1), this is what the number grid will look like once all the counters have been placed on it:

1	2	3	4	5	6	7	8	9	10	→ counter on the 1st 10
11	12	13	14	15	16	17	18	19	20	→ counter for the 2nd 10
21	22	23	24	25	26	27	28	29	30	→ counter for the 3rd 10
31	32	33	34	35	36	37	38	39	40	→ counter for the 4th 10
41	42	43	44	45	46	47	48	49	50	→ counter for the 5th 10
51	52	53	54	55	56	57	58	59	60	→ counter for the 1
61	62	63	64	65	66	67	68	69	70	
71	72	73	74	75	76	77	78	79	80	
81	82	83	84	85	86	87	88	89	90	
91	92	93	94	95	96	97	98	99	100	

Using the example of working with the number 51 and the 2nd number sentence (51=20+20+10+1), this is what the number grid will look like with the counters:

1	2	3	4	5	6	7	8	9	10	
11	12	13	14	15	16	17	18	19	20	→ counter on the 1st 20
21	22	23	24	25	26	27	28	29	30	
31	32	33	34	35	36	37	38	39	40	→ counter for the 2nd 20
41	42	43	44	45	46	47	48	49	50	→ counter for the 10
51	52	53	54	55	56	57	58	59	60	→ counter for the 1
61	62	63	64	65	66	67	68	69	70	
71	72	73	74	75	76	77	78	79	80	
81	82	83	84	85	86	87	88	89	90	
91	92	93	94	95	96	97	98	99	100	

- Discuss what learners ate for supper the previous evening. Tell them that they are going to keep a record every day for the whole week of three things they ate the previous day. Although they may have eaten many more than three things, they will have to choose only three things to record. Hand out the grid and read each of the items. Learners must choose any three items and tick the box in the column for Monday. Complete the first day with the group e.g.

	Monday	Tuesday	Wednesday	Thursday	Friday
Porridge					
Meat	✓				
Chicken					
Milk					
Bread	✓				
Banana					
Apple	✓				
Potatoes					
Pumpkin					

• Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 change and 1 sharing type word problem and on Wednesday and Thursday you will ask 1 array and 1 grouping type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes.	
Assessment	**Informal :** Unrecorded assessment of learners' oral responses and ability to participate. **Formal:** No formal assessment

THIRD 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 1,2</td><td>• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s between 100 and 200, forwards and backwards.
• Count on in 2s in the number range 1 to 100
• Rational counting in 2s, 5s and 10s in the number range 1 to 100, forwards and backwards
• Rational counting in 5s, starting and stopping at any number in the number range 1 to 100</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO 1 AS 4,5,8,9,10
LO 2 AS 2,3
LO 3 AS 7
LO 4 AS 6
LO 5 AS 1,2,3,4</td><td rowspan="3">• Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½
• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Uses repeated addition leading to multiplication with answers up to 50
• Estimates, measures and compares length, capacity and mass
• Collects, sorts, describes and constructs pictographs according to one attribute chosen by the teacher</td><td colspan="5">Daily :
• Numerosity of numbers 1 to 100
• Expanded notation 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>Addition and subtraction of a 2-digit number with a whole 10

Numerosity of numbers to 100</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting</td><td>Repeated addition

Length</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting

Capacity</td><td rowspan="2">WHOLE CLASS ACTIVITIES.

Data handling: ?</td></tr>
<tr><td>GROUP TEACHING

LO 1 AS 7,8,11,12</td><td>• Solves problems using grouping and sharing where the remainder is a fraction
• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td></tr>
<tr><td></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 sharing with a remainder and 1 equalise type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 sharing with a remainder and 1 equalise type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1grouping with a remainder type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1grouping with a remainder type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 6: WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- This week you will work with two 2-digit numbers, one of which is a whole 10. This concept has been developed during group teaching time using flard cards and you will now consolidate the concept as written work.
- You introduced the skill of being able to recognise and break up numbers which make whole 10s during Week 5. This week you will continue developing this skill although it will not be assessed yet. This skill makes counting, adding, subtracting etc. much quicker and easier. However, remember this is a new skill and will be developed over a number of weeks.
- **Assessment Task 2 will be completed this week.**

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count from 1 to 100 – with learners counting normally but emphasizing every 5th number. Ask learners to identify the pattern (counting in 5s).
- Repeat the activity, emphasizing the 10th numbers.

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

- Let all the learners stand in a circle. You will move around the circle on the outside, pointing to learners' ears while learners take turns to count in 2s i.e. one learner counts to 10, then the next learner counts to 20 and so on. Don't forget to ask questions e.g. how many ears have we counted? How many learners? Repeat, counting fingers in 5s, then fingers in 10s.
  Tip*: Do this every day giving as many learners as possible a chance to count. Use this activity towards Assessment Task 2.*
- Tell the learners to write down as many multiples of 2 as possible while you time 1 minute. At the end of the minute let learners indicate how far they got. Walk around and observe that the learners are recording correctly as this activity forms part of Assessment Task 2.
  Tip*: You can repeat this activity using multiples of 5 and 10. This can also form part of Assessment Task 2.*

DAY 1 (to take no more than 20 minutes)

- Tell learners that you are going to clap and that each clap is 10 e.g. 1 clap is 10, 2 claps are 20, 3 claps are 30 etc. Learners listen to the number of claps and then tell you how much it represents. After doing this a few times, each learner chooses a number and places a counter on the number on his/her own number grid. You will clap again and learners must add that number to the number on their grid and place a second counter on the new number. For example, the number chosen is 64 and you clap 3 times (30) so the first counter is placed on 64 and the second counter is placed on 94. When you ask different learners, they will say, for example, "64 add 30 is 94". Walk around and check that the learners understand what to do.

- Each group is given a random set of numbers from 50 to 100 and a set of cards with instructions. Each learner in the group takes one number and writes it in his/her book. He/she then takes one card and follows the instructions, writing the number sentences in the numeracy books. e.g.

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

Tip: *Use this as an activity for Assessment Task 2. Learners should complete at least 2 cards.*

DAY 2 (to take no more than 20 minutes)

- Place some counters in the middle of each group. Write the numbers and symbols 7+8= on the board. Each learner counts out 7 counters into one group and 8 counters into another group. Remind learners that you want them to add the numbers but that they must first complete a whole 10 before adding the rest. Let learners work with their counters, first adding counters from the second group of 8 to the group of 7 until there are 10 counters in the group and then adding the remaining counters. Once learners have worked with their counters ask some of the learners to help you write the number sentence on the board showing what they did. Learners should write 7+8 →7+3→10+5→15. They should be able to say that they used 3 counters from the group of 8 because 7 plus 3 makes 10 and that left 5 counters, then 10 plus 5 is 15.
- Repeat the activity, using other numbers and let all the learners record what they did.

DAY 3 (to take no more than 20 minutes)

- Working in pairs, each pair counts out 50 counters. Tell them to group the counters in 10s, ask how many groups they have and how many counters altogether. Call a learner to record this on the board i.e. 10+10+10+10+10=50. Ask how many times the number 10 was written – 5 times. Ask if anyone can show you another way of writing the number sentence, but that means the same. If no one is able to show you another way, write 5x10 and ask if they know what the sign x means – it means so many times. Let the pairs now group the counters in 5s.

- Ask a learner to record on the board how many groups of 5 there are. Ask another learner to record it a different way. Learners may now choose their own number e.g. 20 and group the counters in any way they like e.g. in 2s or 5s or 3s etc. Once they have grouped them, they record both the repeated addition as well as the multiplication e.g. 5+5+5+5=4x5=20
  ***Tip**: Walk around and observe the learners working, recording your observations towards assessment task 2.*
- Take the class outside. Let the learners stand in a row next to you all facing the same way. Give the following type of instructions:
  - Take five very big steps forwards and see how far you have moved from me.
  - Take five very big steps backwards. Are you at the place you started from?
  - Take five very big steps to the right. If you take five very big steps forwards will you end up in the same place as the first time? Try it.
  - Take five very big steps to the left. If you take five very big steps backwards will you end up next to me? Try it.
  - Repeat the instructions, using five very small steps as the instruction.
  - Ask learners to estimate where they will be if they take ten very big steps forwards. Let them do it and see how close to their estimated distance they moved.
  - Ask learners to estimate where they will be if they take ten very small steps forwards. Let them do it and see how close to their estimated distance they moved.

  ***Tip**: This activity is part of Assessment Task 2. You will only need to record those learners who are not able to estimate fairly accurately or compare distances.*

DAY 4 (to take no more than 20 minutes)

- Place some counters in the middle of each group. Write the numbers and symbols 6+9= on the board. Each learner counts out 6 counters into one group and 9 counters into another group. Remind learners that when they add the numbers they must first complete a whole 10 before adding the rest. Let learners work with their counters, first adding counters from the second group of 9 to the group of 6 until there are 10 counters in the group and then adding the remaining counters. Once learners have worked with their counters ask some of the learners to help you write the number sentence on the board showing what they did. Learners should write 6+9 →6+4→10+5→15. They should be able to say that they used 4 counters from the group of 9 because 6 plus 4 makes 10 and that left 5 counters, then 10 plus 5 is 15. Repeat using other numbers.
- Take the class outside if possible and let them sit in a circle so that everyone can see what is happening. Place a number of containers and items to put into the containers in the middle of the circle. Allow learners to participate in investigating what will happen when
  - half a glass of sand is added to another half a glass of sand
  - half a glass of water is added to half a glass of sand
  - half a glass of sand is added to half a glass of water
  - half a glass of water is added to half a glass of sugar
  - half a glass of sugar is added to half a glass of water
  - half a glass of marbles is added to half a glass of water

- half a glass of sand is added to half a glass of marbles.

Each time encourage learners to predict what will happen and then discuss the actual results and predictions. Make sure everyone has a turn to participate in measuring.

***Tip**: This activity forms part of Assessment Task 2. Make sure you have enough containers of the same kind so that more than one learner is busy measuring each time. Although the word 'glass' is used, plastic glasses or any containers can be used so long as they are identical. All learners need to be able to see all the results or else they will become bored and not participate.*

DAY 5 (the whole lesson)

- Give each group a different number of pieces of paper. On each piece of paper, learners draw either a banana, or an apple, or a bunch of grapes, or a pineapple. As soon as a learner has finished drawing and colouring one fruit, he/she pastes the piece of paper onto a larger sheet of paper (newspaper will work just as well as plain paper). Once all the small pieces of paper have been drawn on and pasted, let groups exchange their posters.
- Give each learner a data collection sheet. Learners will count the number of each type of fruit on the poster they now have and record it on the data collection sheet as they count. Once they have counted all the fruit, they draw a pictograph of the different types of fruit. See Annexure 4 for an example of a data collection sheet as well as a grid for the pictograph.

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

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 : • Counts forwards and backwards in 2s, 5s, 10s to 200 • Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½ • Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards • Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4 • Uses repeated addition leading to multiplication with answers up to 50 • Solves problems using grouping and sharing where the remainder is a fraction • Estimates, measures and compares length, capacity and mass • Collects, sorts, describes and constructs pictographs according to one attribute chosen by the teacher

WEEK 6 : GROUP TEACHING

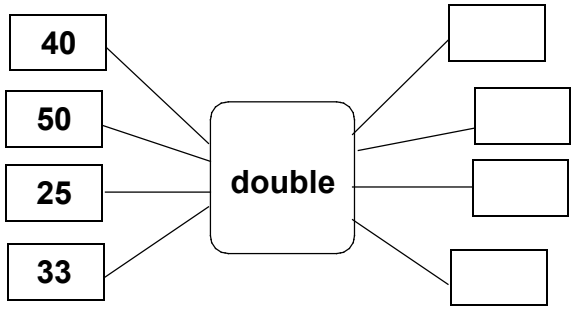
Week 6	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

Notes to teacher:

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

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

- Doubling and halving activities.
- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Writing two digit numbers as expanded notation e.g. 52=50+2, 78=70+8, 70=78-8 etc.
- Use a spider diagram and table where the input number is given.



	40	50	25	33
x2				

- Complete tables by filling in the missing numbers. This example has the numbers filled in e.g.

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

Tip: *Use the appropriate activities for assessment purposes as support for evidence collected during the week.*

Working with the group

GROUP 1

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

- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?
  ***Tip:** Use this activity as part of Assessment Task 2.*
- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more/10 less with his/her own cards. Do this a few times taking turns to put out the first cards
  ***Tip**: Use this activity as part of Assessment Task 2.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 sharing with a remainder and 1 equalise type word problem and on Wednesday you will ask 1 repeated addition and 1 grouping with a remainder type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.
  ***Tip:** Use this activity as part of Assessment Task 2.*

GROUP 2

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

- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?
  ***Tip:** Use this activity as part of Assessment Task 2.*
- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more/10 less with his/her own cards. Do this a few times taking turns to put out the first cards
  ***Tip**: Use this activity as part of Assessment Task 2.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 sharing with a remainder and 1 equalise type word problem and on Thursday you will ask1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.
  ***Tip:** Use this activity as part of Assessment Task 2.*

GROUP 3

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

- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Show me the number which is 10 more. What is the new number? Which number changed? Why did the 70 change and not the 2? Show me the number which is 10 less. What is the new number? Which number changed? Why did the 70 change and not the 2?

  ***Tip:** Use this activity as part of Assessment Task 2.*
- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more/10 less with his/her own cards. Do this a few times taking turns to put out the first cards

  ***Tip**: Use this activity as part of Assessment Task 2.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 sharing with a remainder and 1 equalise type word problem and on Wednesday and Thursday you will ask 1 repeated addition and 1 grouping with a remainder type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

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

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 : • Counts forwards and backwards in 2s, 5s, 10s to 200 • Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½ • Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards • Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4 • Uses repeated addition leading to multiplication with answers up to 50 • Solves problems using grouping and sharing where the remainder is a fraction • Estimates, measures and compares length, capacity and mass • Collects, sorts, describes and constructs pictographs according to one attribute chosen by the teacher

SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY THIRD TERM

TASK 2 : WEEK 6

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Counts forwards and backwards in 2s, 5s, 10s to 200 • Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½ • Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4 • Uses repeated addition leading to multiplication with answers up to 50 • Estimates, measures and compares length, capacity and mass • Collects, sorts, describes and constructs pictographs according to one attribute chosen by the teacher	Wk 5 Wk 6	• Use the daily oral activities to assess counting in 2s, 5s and 10s, forwards and backwards up to 200. • Use the written activity on Day 1 to assess the building up and breaking down of numbers to 100. • Use the practical and written activities on Day 3 to assess expanded notation as well as repeated addition and subtraction. • Use the practical activities on Day 3 and 4 to assess understanding of measurement: length, capacity and mass. • Use the activities on Day 5 to assess learners' ability to draw pictographs. • Use any of the written work for assessment purposes.
PROBLEM SOLVING	• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards • Solves problems using grouping and sharing where the remainder is a fraction	Wk 6	• Use the practical working with flard cards for assessing place value and expanded notation. • Use the problem solving activities to assess learners understanding of grouping and sharing where the remainder is a fraction.

THIRD 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 1,2</td><td>• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s as far as learners are able to count
• Count on in 5s in the number range 1 to 100
• Rational counting in 2s, 5s and 10s in the number range 50 to 150, forwards and backwards
• Rational counting in 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL
LO 1 AS 4,5,8,9,10
LO 2 AS 2,3
LO 4 AS 1</td><td rowspan="3">• Identifies numerosity (profile) of numbers to 100 e.g. 25 is a quarter of 100, but double 12½
• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards
• Uses expanded notation of two-digit numbers to 100 e.g. 34=30+4 34=10+10+10+4
• Doubles and halves two-digit numbers to 99
• Uses repeated addition leading to multiplication with answers up to 50
• Reads analogue and digital clock time in hours and minutes</td><td colspan="5">Daily :
• Numerosity of numbers 1 to 100
• Expanded notation of numbers to 100
• 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>Building up to, or breaking down to a whole 10 when adding

Double and halve numbers to 50</td><td>Building up to, or breaking down to a whole 10 when adding

Double and halve numbers to 75</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting

Addition and subtraction of 2 2-digit numbers

Time: analogue</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting

Repeated addition leading to multiplication

Fractions</td><td rowspan="3">WHOLE CLASS ACTIVITIES.

Time : analogue</td></tr>
<tr><td>GROUP TEACHING

LO 1 AS 6,7,8,11,12</td><td>• Solves problems using grouping and sharing where the remainder is a fraction
• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75.
Combine and Combination are two different types of word problems</td></tr>
<tr><td></td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 rate and 1 combine type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 rate and 1 combine type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1 combination type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 repeated addition and 1combination type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 7: WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- This week you will work with two 2-digit numbers. This concept has been developed during group teaching time using flard cards and you will now consolidate the concept as written work.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners' thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- You will continue providing activities this week that will develop the skill of building up, and taking away, a whole 10.
- Throughout the year you will have looked at the concept of time and a lot of incidental learning will have taken place. This week you will deal with analogue time in a formal situation i.e. not just incidentally.

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

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

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

- Tell learners that you are going to clap and that each clap counts as 10 e.g. 1 clap is 10, 2 claps are 20, 3 claps are 30 etc. Learners listen to the number of claps and then tell you how much it represents.
- Repeat the activity, but this time if you click your fingers it counts as 5. If you do the following: *6 claps and 2 clicks*, learners need to be able to say the number is 70 (6x10 plus 2x5)
- Working with a partner, learners choose a number between 1 and 50, and one learner counts on from the number in 10s and the other learner counts on from the number in 5s.
  Tip*: Working with a partner means the partner checks that the other learner is correct.*
- Call 5 learners to the board and ask them to each write a number between 50 and 100. Now call another 5 learners and ask them to write the number word for the numeral on the board. Repeat this using other numbers.

DAY 1 (to take no more than 20 minutes)

- Write the following number pattern on the board and ask learners to help you fill in the answers:

  9+1= 19+1= 29+1= 39+1= etc.

  Discuss the pattern i.e. the answer is always a whole 10 because 9 plus 1 is ten so the ten is 10 more than 20 or 30, etc. Now write the following patterns and discuss in the same way:

  8+2= 18+2= 28+2= 38+2= etc.

  7+3= 17+3= 27+3= 37+3= etc.

  6+4= 16+4= 26+4= 36+4= etc.
- The next pattern will involve working over the whole 10 e.g.

  9+2 →9+1+1 19+2→19+1+1 29+2→29+1+1

  Discuss the pattern and encourage learners to verbalise what the pattern is. Write the following patterns, making sure learners are able to tell you what to do with the numbers in order to build up a whole 10:

  8+3→8+2+1 18+3→18+2+1 28+3→28+2+1

  7+4→7+3+1 17+4→17+3+1 27+4→27+3+1

  ***Tip**: This is an extremely important skill that is being developed. Do not rush the different stages. If learners need to use counters and work practically, allow them to. Some learners may only need to use a number grid while other learners will be able to work with the numbers mentally. Allow learners to work at their own pace according to their cognitive development.*

DAY 2 (to take no more than 20 minutes)

- Repeat the activities from Day 1, making sure learners understand what they are doing. Once you have done a few patterns and discussed them, learners will record the patterns in their books.
- Make 4 teams of learners. Each member of each team will have a chance to ask another team a doubling or halving question. Team A will ask Team B questions, Team B will ask Team C questions, Team C will ask Team D questions and Team D will ask Team A questions. A learner will say “double 6”, or “half of 25” etc. and a member of the other team will answer. If they get it correct, they score 1 point. You will keep a record of the points and also check that the answers are correct. The team with the most points is the winner.
- Write the following on the board: 2+2=□. Working in pairs, learners extend this into their own number pattern e.g. 2+2, 20+20, 200+200 or 2+2, 12+2, 22+2, or 2+2, 2+2+2, 2+2+2+2.

DAY 3 (to take no more than 20 minutes)

- Write the following number pattern on the board and ask learners to help you fill in the answers:

  9+1= 11-1=

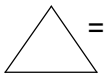
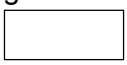
  8+2= 12-2=

  7+3= 13-3= etc.

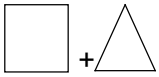
Discuss the pattern i.e. the answer is always a whole 10. Now write the following patterns and discuss in the same way:

9+1=	11-1=	9+1=	11-1=	8+2=	12-2=	7+3=	13-3=	Do the same with other combinations. Depending on your class, you can extend the pattern to 100
8+2=	12-2=	19+1=	21-1=	18+2=	22-2=	17+3=	23-3=	
7+3=	13-3=	29+1=	31-1=	28+2=	32-2=	27+3=	33-3=	
6+4=	14-4=	39+1=	41-1=	38+2=	42-2=	37+3=	43-3=	

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

 = 10  = 20  = 15  = 50

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

 =  -  = and so on.

- Using a clock face that can be seen by all learners, you will need to determine what learners already know about telling the time. You can use the following questions, or make up your own e.g.
  - Why do the numbers 1 to 12 appear on a clock face?
  - Do they always mean the same thing – only hours?
  - Are the numbers the same distance apart? Why?
  - How many hands on a clock?
  - Why are there 2 hands on the clock?
  - Can a clock have 3 hands? What is the 3rd hand for?

  Move the long and the short hand around the clock, getting different learners to read the time.

DAY 4 (to take no more than 20 minutes)

- Revise the patterns from Day 3 and continue with developing the pattern working over the whole 10 e.g.

  9+2 →9+1+1 19+2→19+1+1 29+2→29+1+1

  11-2→11-1-1 21-2→21-1-1 31-2→31-1-1

  Discuss the pattern and encourage learners to verbalise what the pattern is. Write the following patterns, making sure learners are able to tell you what to do with the numbers in order to build up or break down to a whole 10:

  8+3→8+2+1 18+3→18+2+1 28+3→28+2+1

  11-3→11-1-2 21-3→21-1-2 31-3→31-1-2

  7+4→7+3+1 17+4→17+3+1 27+4→27+3+1

  11-4→11-1-3 21-4→21-1-3 31-4→31-1-3

  ***Tip**: There are many different ways in which to work with patterns to build up and break down to a whole 10. These are only examples and you may be more familiar with another way. The more exposure learners have to indentifying patterns, the better for them. Do not be rigid and say there is only one way!*

- Use the packet of numbers used in Week 5. Each group has a packet and each packet has the numbers 2, 5 and 10 (about 20 of each number). Learners take turns to shake the packet and take out 2 numbers which they will use to write repeated addition number sentences. If, for example, the learner draws the numbers 2 and 5, he/she will write the repeated addition of 2 five times, and the repeated addition of 5 twice i.e. 2+2+2+2+2=5x2=10 and 5+5=2x5=10. Let learners put their cards back in the packet and take another 2 cards and repeat the activity.

DAY 5 (the whole lesson)

- Let each learner make his/her own clock using a paper plate for the face, some cardboard for the two hands and a split pin to hold the hands in place.
- Once the clocks have been made, learners move the hands of their clock to indicate the time you tell them e.g. you say “4 o’clock” and learners move the hands to indicate this time.
- Working in pairs, one learner says a time and the other moves the hands of the clock to show the time. They take turns saying the time and showing the time.

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

WEEK 7 : GROUP TEACHING

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

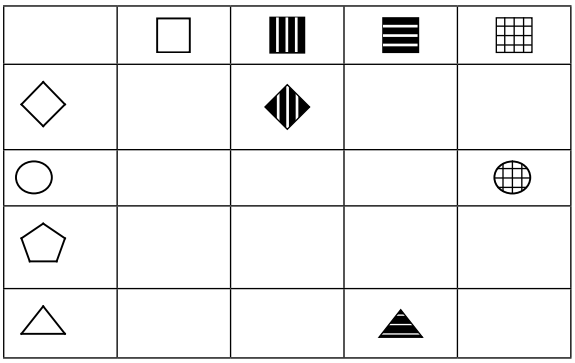
Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide those not in the group with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- It is very important that you work according to the level of your learners. For example, the number sense being developed during group teaching this week is doubling and halving using flard cards. However, because of where your learners are in their developmental stage this activity may be too difficult. In this case, replace the activities here with suitable activities, but still ask the word problems indicated.

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

- Money problems.
- Colour in the fraction e.g. colour in half of the blocks, or colour in $\frac{1}{4}$ of the blocks etc.

- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Repeated addition leading to multiplication e.g. 5+5+5+5=4x5=20
- Complete simple matrix patterns e.g.



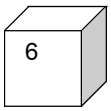
- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.

47

21

76

59



47+6→47+3+3→50+3=53

21+6=27

76+6→76+4+2→80+2=82

59+6→59+1+5→60+5=65

An example of recording.

- Complete tables by filling in the missing numbers. This example has the numbers filled in e.g.

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

Working with the group

GROUP 1

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

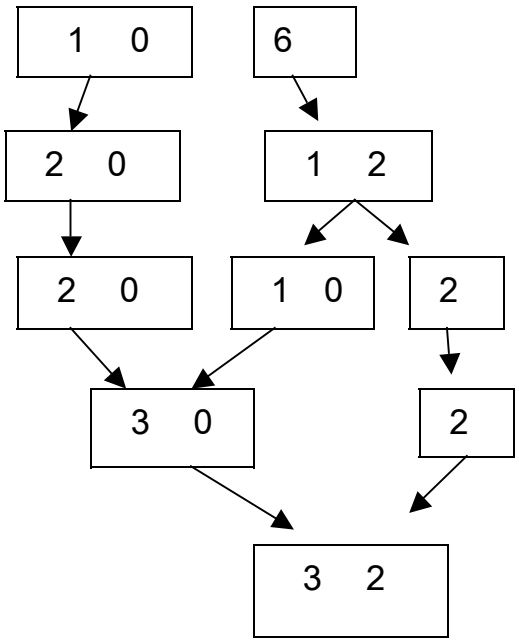
- Place a few pictures of people (or a picture/photograph with a number of people) in the middle of the group. After the learners have had a few minutes to look at the people, cover the pictures. Ask learners to estimate how many fingers there are in the picture. Once everyone has stated their estimate, uncover the pictures and count the number of people. Ask learners how they would know the number of feet/ears/hands, etc. i.e. double the number of people.
- Each learner has a turn to roll a die. They have to say how many more are needed to make 10 e.g. roll a 6 → 4 more are needed. If this is too easy for the group, let them add 10 to the number rolled, and then say how many more are needed to make 20. You can also make your own dice using larger numbers.
- Put a pile of counters in the middle of the group and ask learners to estimate how many counters each one will get if they share the counters equally. Once they have estimated, let them share the counters and count how many each got. Ask learners to then work out how many counters there were in the pile i.e. do repeated addition.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 rate and 1 combine type word problems and on Wednesday you will ask 1 repeated addition and 1 combination type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

Tip: *Check the Annexures from Term 1 for a list of the different problem types. Be aware that 'combine' and 'combination' are two different types of problems and develop different concepts.*

GROUP 2

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

- Put some counters in the middle of the group and ask each learner to count out 10 and put them in one pile. Learners use their flard cards to find the number 10 and put it with the counters. Ask learners to count out enough counters so that they have double the number i.e. they now have 20 counters. Learners find the number 20 and put it with the counters. Discuss how many 10s in 20 – 2 tens. Repeat the activity by doubling 20, then 40, then 80, each time discussing how many 10s in the number. If learners are not able to manage the larger numbers without using counters, keep to smaller numbers.
- Put all the counters back in the pile and start the activity again, this time starting with 2 (counters and flard card numbers) and doubling – 2, 4, 8, 16. When learners get to 16, discuss what 16 is made up of – 10+6. This time ask learners to double 16, but to only use their flard cards and no counters. Learners should double the 10 to 20, then double the 6 to 12 (10+2), then add the 20 and 10 to make 30 and add the 2 giving 32 as the number that is double 16.



- Ask learners to record what they did when working with the flard cards to double 16.
  Tip*: It is not important how they record it. The purpose is for learners to record their thought processes. Learners can also break up the number 16 as 5 and 5 and 4 and 2. They then double each of these numbers i.e. 10 and 10 and 4 and 4 which adds up to 32.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the

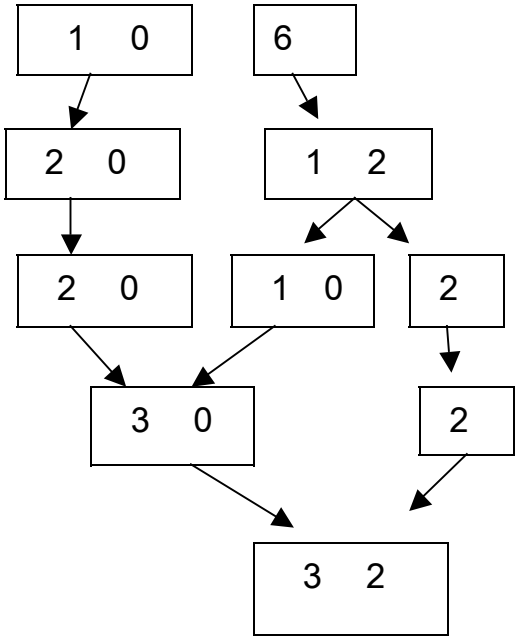
group how s/he solved the problem. On Tuesday you will ask 1 rate and 1 combine type word problem and on Thursday you will ask 1 repeated addition and 1 combination type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

Tip: *Check the Annexures from Term 1 for a list of the different problem types. Be aware that 'combine' and 'combination' are two different types of problems and develop different concepts*

GROUP 3

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

- Put some counters in the middle of the group and ask each learner to count out 10 and put them in one pile. Learners use their flard cards to find the number 10 and put it with the counters. Ask learners to count out enough counters so that they have double the number i.e. they now have 20 counters. Learners find the number 20 and put it with the counters. Discuss how many 10s in 20 – 2 tens. Repeat the activity by doubling 20, then 40, then 80, each time discussing how many 10s in the number. If learners are not able to manage the larger numbers without using counters, keep to smaller numbers.
- Put all the counters back in the pile and start the activity again, this time starting with 2 (counters and flard card numbers) and doubling – 2, 4, 8, 16. When learners get to 16, discuss what 16 is made up of – 10+6. This time ask learners to double 16, but to only use their flard cards and no counters. Learners should double the 10 to 20, then double the 6 to 12 (10+2), then add the 20 and 10 to make 30 and add the 2 giving 32 as the number that is double 16.



- Ask learners to record what they did when working with the flard cards to double 16.

Tip*: It is not important how they record it. The purpose is for learners to record their thought processes. Learners can also break up the number 16 as 5 and 5 and 4 and 2. They then double each of these numbers i.e. 10 and 10 and 4 and 4 which adds up to 32.*

• Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 rate and 1 combine type word problem and on Wednesday and Thursday you will ask 1 repeated addition and 1 combination type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalize their thought processes. ***Tip:*** *Check the Annexures from Term 1 for a list of the different problem types. Be aware that 'combine' and 'combination' are two different types of problems and develop different concepts.*	
Assessment	**Informal :** Unrecorded assessment of learners' oral responses and ability to participate. **Formal:** No formal assessment

THIRD 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 1,2</td><td>• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s as far as learners are able to count
• Rational counting in 2s, 5s and 10s in the number range 50 to 150, forwards and backwards
• Rational counting in 2s, 5s and 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
<tr><td rowspan="4">NUMBER SENSE AND MENTAL
LO 1AS 4,8,9,10
LO 2 AS 2,4
LO 4 AS 1</td><td rowspan="4">• Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400
• Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=?
• Building up a whole 10 when adding and subtracting e.g. 9 + 4= 9+1 +3 or 14 – 8 = 14 – 4 - 4
• Doubles and halves two-digit numbers to 99
• Reads analogue and digital clock time in hours and minutes</td><td colspan="5">Daily :
• Numerosity of numbers 1 to 100
• Expanded notation 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>Building up to, or breaking down to a whole 10 when adding and subtracting

Double and halve numbers to 99</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting

Double and halve numbers to 99</td><td>Addition and subtraction of 2 2-digit numbers

Number patterns</td><td>Addition and subtraction of 2 2-digit numbers

Number patterns

Time: digital</td><td rowspan="3">WHOLE CLASS ACTIVITIES.

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

LO 1 AS 5,8,10,11,12</td><td rowspan="2">• Solves problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 2 compare type word problems (1 addition, 1 subtraction)
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 2 compare type word problems (1 addition, 1 subtraction)
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 array and 1 other type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 array and 1 other type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 8: WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- This week you will work with two 2-digit numbers. This concept has been developed during group teaching time using flard cards and you will now consolidate the concept as written work.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- You will continue providing activities this week that will develop the skill of building up, and taking away, a whole 10.
- Start collecting waste material for next week – toilet roll centres, tins, boxes, margarine containers, etc.
- **Assessment Task 3 is completed this week.**

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

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

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

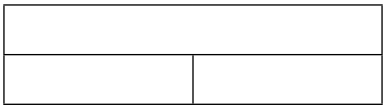
- Clap a pattern which learners echo back to you by clapping. Repeat the pattern, but add another element to make it more complicated. Learners echo the pattern by clapping the pattern.
- Clap a pattern and learners must clap the pattern by repeating it twice e.g. you will clap ta, ta, ta-te, ta and learners will clap ta, ta, ta-te, ta, ta, ta, ta-te, ta.
- Using their number grids, learners count in 2s placing a counter (bean, piece of paper, etc.) on each multiple as they say the number. Ask questions such as:
  - Is the number 8 in the 2s pattern?
  - Is the number 46 in the 2s pattern?
  - Is the number 61 in the 2s pattern?

DAY 1 (to take no more than 20 minutes)

- Call 4 learners to the board and ask them to write 9+5 on the board. When you say 'GO' the learners write the number sentence building up to the whole 10 and then adding the remaining number e.g. they will write 9+5 →9+1+4→10+4→14 (or something similar depending on how you have encouraged them to do the recording). Repeat the activity calling another 4 learners to the board. Make sure that at least half the class has a chance to record on the board.

***Tip**: This activity forms part of Assessment Task 3. You will assess half the class today and the rest of the class on Day 2.*

- Give each pair of learners a blank A4 sheet of paper and about 70 matchsticks/toothpicks. Ask them to fold the paper in half and draw a dark line on the fold. Now they estimate where half of the lower block will be and draw a dark line. Their paper should look like this:



Learners count out 60 matchsticks and place them in the top half of the paper. They then place half the matches in one of the lower blocks and half in the other. Ask what half of 60 is and the reply should be 30. Now ask them to carefully turn the paper round so that the 2 blocks are at the top. Tell learners you now want them to double 30 and encourage them to move the matches from the top 2 blocks to the bottom single block. Repeat using other numbers. If you have used an odd number and there is 1 match over, learners can break the match in half and put a half in each block. When they turn the paper, they will put the 2 halves together to make one whole match.

DAY 2 (to take no more than 20 minutes)

- Call 4 learners to the board and ask them to write 9+5 on the board. When you say 'GO' the learners write the number sentence building up to the whole 10 and then adding the remaining number e.g. they will write 9+5 →9+1+4→10+4→14 (or something similar depending on how you have encouraged them to do the recording). Repeat the activity calling another 4 learners to the board. Make sure that you call learners who did not have a chance on Day 1.

  ***Tip**: This activity forms part of Assessment Task 3. You assessed half the class on Day 1 and will assess the rest of the class today.*

- Give each learner a grid for doubling and halving, for example

Half	Number	Double
	25	
	38	
	42	
	51	

Learners will record what half the number is in the first column and the number that is double in the last column. Learners may use counters, flard cards, number grids, etc. to complete this activity.

***Tip**: This is one of the activities contained in Assessment Task 3. You want to assess the learners' understanding of doubling and halving and that is why they are allowed access to concrete aids if they need them.*

DAY 3 (to take no more than 20 minutes)

- Have a number of single digit numbers written on pieces of paper in a box/envelope/ container. Each learner draws out one number and uses that number to write any extended number pattern e.g. if the learner draws out the number 8, they could write any of the following:
  - 8+8=16; 18+18=36; 28+28=56; 38+38=76 etc.
  - 8+8=16; 18+8=26; 38+8=46; 48+8=56 etc.
  - 8+8=16; 80+80=160; 180+180=360; 280+280=560 etc.
  - 8+8=16; 8+8+8=24; 8+8+8+8=32; etc.

  Allow about 10 minutes for this activity.

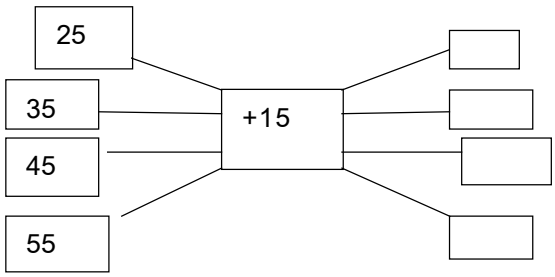
  ***Tip**: The purpose of this activity is to make sure learners are able to extend a number pattern. Different learners will write different patterns and that is quite acceptable. Use this activity as part of Assessment Task 3.*
- Give learners a worksheet containing the following type of activities and let them complete the worksheet individually. Allow them to use counters, flard cards, number grids etc. if needed. Example:

1. Complete the following:

20+26= 10+13=

39-19= 74-14=

2. Can you do these? Show me.



3. Complete the following pattern.

27+10=	27+11=	27+12=	27+13=
27-10=	27-11=	27-12=	27-13=

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

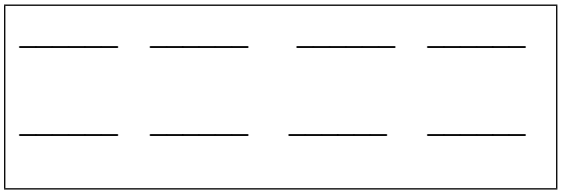
DAY 4 (to take no more than 20 minutes)

- Take the learners outside and let them sit in a circle. Tell learners that you are going to clap and that each clap counts as 10 e.g. 1 clap is 10, 2 claps are 20, 3 claps are 30 etc. Learners listen to the number of claps and tell you the number represented.

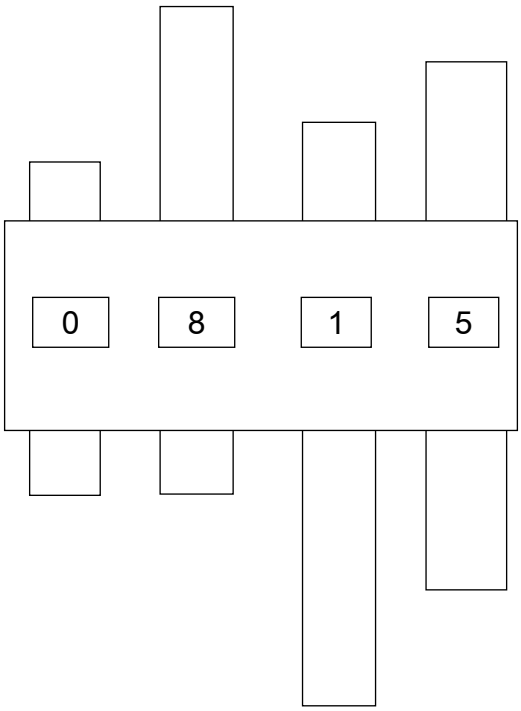
- Tell learners that this time the claps count as 5. You will start by clapping twice and the learner on you left must clap that number and add one more, saying the numbers as he/she claps i.e. the learner must clap 3 claps and say 5, 10, 15. Go round the circle with each learner adding one clap to the pattern. If your class is very big, you can stop at any point and start a new pattern.
  ***Tip**: Use this activity to assess if learners are able to extend a number pattern as part of Assessment Task 3.*
- Show learners a digital clock and discuss the difference between an analogue and a digital clock.
  Give the learners practice reading the same time on both the digital as well as the analogue clock. You can also provide a worksheet with clocks which learners complete by filling in the time as you say it.

DAY 5 (the whole lesson)

- Give each learner 4 strips of paper (you should be able to cut 8 strips from an A4 paper width-wise) as well as half a sheet of A4 paper. The half piece of paper must have 2 rows of 4 lines marked e.g.



- On 2 of the strips of paper learners write the numbers 0 to 9 from the top to the bottom, on 1 of the remaining strips they write the numbers 0 to 5 and on the last strip they write the numbers 0, 1 and 2. Learners colour the strip with the numbers 0,1 and 2 and one of the strips with numbers 0 to 9 in one colour (these will be used for the hours), and the other 2 strips in another colour (these will be used for the minutes).
- After decorating the paper with the lines, learners carefully cut slits where the lines are. They now weave the strips through the slits to make their own digital clock e.g.



- Ask learners to show you different times on their digital clocks – first you give them the time and they show it, then they choose their own time to display and read.
  Tip: *Use this as part of Assessment Task 3.*

ASSESSMENT	**Formal: Recorded Assessment Task 3:** During the whole class and group teaching activities as indicated rate the learners against the following milestones, recording specific problems : • Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400 • Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=? • Building up a whole 10 when adding and subtracting e.g. 9 + 4= 9+1 +3 or 14 – 8 = 14 – 4 - 4 • Doubles and halves two-digit numbers to 99 • Reads analogue and digital clock time in hours and minutes • Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100

WEEK 8 : GROUP TEACHING

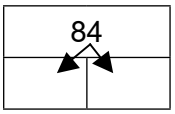
Week 8	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

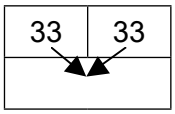
Notes to teacher:

- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt.
- The written work provided must include practice in using the variety of techniques indicated in the Assessment Standards e.g. number lines, doubling and halving, etc.
- You will give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- In Term 1 an Annexure was provided with the different types of word problems you should be asking. From this term, the Weekly Overview will refer specifically to these problem types rather than just saying "1 addition word problem".
- You will use the group teaching time for assessing learners' ability to solve problems. By this time in the year you will expect learners to be able to record their thinking using numbers and not only drawings. Although you are assessing during the problem solving activity, learners may still have access to counters, number grids, etc.
- **Assessment Task 3 will be completed by the end of this week.**

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

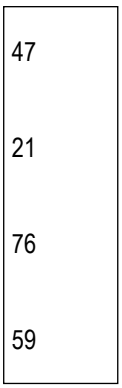
- Doubling and halving activities. E.g.

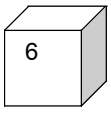




Half		Double
	16	

- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Repeated addition leading to multiplication e.g. 5+5+5+5=4x5=20
- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.





47+6→47+3+3→50+3=53

21+6=27

76+6→76+4+2→80+2=82

59+6→59+1+5→60+5=65

An example of recording.

- Complete tables by filling in the missing numbers. This example has the numbers filled in e.g.

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

***Tip**: Use any appropriate written activities as part of Assessment Task 3*

Working with the group

GROUP 1

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

- Have a set of number cards 20 to 50. Shuffle the cards and let each learner take one card. They read the number and then say how many must be added to make the next 10 e.g. the number on the card is 42, so the learner says 8 more must be added to make 50. Repeat the activity, but subtracting to make the smaller 10 e.g. the card is 42, so the learner says that 2 must be taken away to make 40.

  ***Tip:** Use this activity as part of Assessment Task 3.*
- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Now ask the following questions and learners must use their cards to show you the answer e.g.
  - What is the number that is 10 more? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 change and not the 2?
  - What is the number that is 10 less? Show me the new number.
  - What number changed? Why did the 70 change and not the 2?
  - What is the number 12 more? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 and the 2 change?
  - What is the number 12 less? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 and the 2 change?

  Repeat using other numbers.

  ***Tip:** Use this activity as part of 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, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 2 compare type word problems (1 addition and 1 subtraction) and on Wednesday you will ask 1 array and any other type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

***Tip**: This is for Assessment Task 3, so learners need to record their thinking, clearly indicating the solution to the problem. It is also important that the learner is able to verbalise his/her thinking and explain how the solution was achieved.*

GROUP 2

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

- Have a set of number cards 20 to 50. Shuffle the cards and let each learner take one card. They read the number and then say how many must be added to make the next 10 e.g. the number on the card is 42, so the learner says 8 more must be added to make 50. Repeat the activity, but subtracting to make the smaller 10 e.g. the card is 42, so the learner says that 2 must be taken away to make 40.

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- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Now ask the following questions and learners must use their cards to show you the answer e.g.
  - What is the number that is 10 more? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 change and not the 2?
  - What is the number that is 10 less? Show me the new number.
  - What number changed? Why did the 70 change and not the 2?
  - What is the number 12 more? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 and the 2 change?
  - What is the number 12 less? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 and the 2 change?

  Repeat using other numbers.

  ***Tip:** Use this activity as part of 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, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 2 compare type word problems (1 addition and 1 subtraction) and on Thursday you will ask 1 array and any other type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

  ***Tip**: This is for Assessment Task 3, so learners need to record their thinking, clearly indicating the solution to the problem. It is also important that the learner is able to verbalise his/her thinking and explain how the solution was achieved.*

GROUP 3

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

- Have a set of number cards 20 to 50. Shuffle the cards and let each learner take one card. They read the number and then say how many must be added to make the next 10 e.g. the number on the card is 42, so the learner says 8 more must be added to make 50. Repeat the activity, but subtracting to make the smaller 10 e.g. the card is 42, so the learner says that 2 must be taken away to make 40.

  ***Tip:** Use this activity as part of Assessment Task 3.*
- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 72. Which two numbers did you use? How much is 70+2? How much is 72-2? Now ask the following questions and learners must use their cards to show you the answer e.g.
  - What is the number that is 10 more? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 change and not the 2?
  - What is the number that is 10 less? Show me the new number.
  - What number changed? Why did the 70 change and not the 2?
  - What is the number 12 more? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 and the 2 change?
  - What is the number 12 less? Show me the new number.
  - What is the new number? Which number changed?
  - Why did the 70 and the 2 change?

  Repeat using other numbers.

  ***Tip:** Use this activity as part of 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, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 2 compare type word problems (1 addition and 1 subtraction) and on Wednesday and Thursday you will ask 1 array and any other type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

  ***Tip**: This is for Assessment Task 3, so learners need to record their thinking, clearly indicating the solution to the problem. It is also important that the learner is able to verbalise his/her thinking and explain how the solution was achieved.*

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 : • Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400 • Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=? • Building up a whole 10 when adding and subtracting e.g. 9 + 4= 9+1 +3 or 14 – 8 = 14 – 4 - 4 • Doubles and halves two-digit numbers to 99 • Reads analogue and digital clock time in hours and minutes • Solves problems, and explains solutions, using number charts and counters if needed with numbers up to 100

SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY THIRD TERM

TASK 3: WEEK 8

COMPONENT	MILESTONES	WKS	TASKS
COUNTING AND MENTAL/NUMBER SENSE	• Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400 • Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=? • Building up a whole 10 when adding and subtracting e.g. 9 + 4= 9+1 +3 or 14 – 8 = 14 – 4 - 4 • Doubles and halves two-digit numbers to 99 • Reads analogue and digital clock time in hours and minutes	Wk 8	• Use the written and practical activities on Day 3 and 4 to assess learners' abillity to recognise and extend patterns. • The activities on Day 3 can be used for assessing understanding of the addition and subtraction of two 2-digit numbers. • Use the written activities on Day 1 and 2 as well as the oral activities during Group Teaching time to assess the building up of a whole 10 when adding. • Doubling and halving are assessed on Day 2 in the written activities. • The practical activities on Day 5 can be used for assessing analogue and digital time. • Use any of the written work for assessment purposes.
PROBLEM SOLVING	• Solves problems, and explains solutions, using number charts and counters if needed with numbers up to 100	Wk 8	• Use the problem solving activities to assess learners' ability to solve problems and explain how solutions were found.

THIRD 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 1,2</td><td>• Counts on from any number between 1 - 200
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s as far as learners are able to count
• Rational counting in 2s, 5s and 10s in the number range 50 to 150, forwards and backwards
• Rational counting in 2s, 5s and 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
<tr><td rowspan="4">NUMBER SENSE AND MENTAL
LO 1 AS 7,8,9,10
LO 2 AS 2,4
LO 3 AS 2,3,7</td><td rowspan="4">• Recognises and extends patterns e.g. 2+2=4 20+20=40 200+200=400
• Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=?
• Building up a whole 10 when adding and subtracting e.g. 9 + 4= 9+1 +3 or 14 – 8 = 14 – 4 - 4
• Doubles and halves two-digit numbers to 99
• Describes positional relationship between one 3-D object and another.</td><td colspan="5">Daily :
• Numerosity of numbers 1 to 100
• Expanded notation of numbers to 100
• Double and halve numbers to 99</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>Building up to, or breaking down to a whole 10 when adding and subtracting</td><td>Building up to, or breaking down to a whole 10 when adding and subtracting

Number patterns</td><td>Addition and subtraction of 2 2-digit numbers

Number patterns

Positional relationship of 3-D objects</td><td>Addition and subtraction of 2 2-digit numbers

Number patterns

Fractions</td><td rowspan="2">WHOLE CLASS ACTIVITIES.

Space and Shape integrated with Technology (box construction)</td></tr>
<tr><td colspan="5"></td></tr>
<tr><td>GROUP TEACHING

LO 1 AS 7,8,10,11, 12</td><td>• Solves problems using grouping and sharing where the remainder is a fraction.
• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 100</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.
Number range: Group 1 works in 1-150; Group 2 works in 1-100; Group 3 works in 1-75</td><td></td></tr>
<tr><td></td><td>Groups 1 and 3 work with teacher, one group at a time.
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</table>

WEEK 9: WHOLE CLASS

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

Notes to the teacher:

- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- Place value is the basis of understanding numbers bigger than 9. Do not rush into addition and subtraction of 2 digit numbers until you are sure that your learners have a good understanding of the concept of place value.
- This week you will work with two 2-digit numbers. This concept has been developed during group teaching time using flard cards and you will now extend the concept, first practically and then as written work.
- Being able to identify the relationship between numbers is important and this is why there are many number pattern activities. This also helps to develop an understanding of a number i.e. the numerosity of a number. By now you will be extending the learners thinking about numbers beyond just the obvious numbers e.g. that 26=20+6. Learners should be able to identify that 10-4=6, 20-4=16, 30-4=26 and so on.
- You will continue providing activities this week that will develop the skill of building up, and taking away, a whole 10.
- **Remind learners to collect waste material for the activity on Day 5 - toilet roll centres, tins, boxes, margarine containers, etc.**

DAILY ACTIVITIES

COUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count from 1 to 100 – with learners clicking their fingers as they say every 10th number. Ask learners to identify the pattern (counting in 10s).
- Randomly choose a 2 digit number (draw it out of a packet, ask a learner, use the date, etc.) and starting at that number, count on in 2s to 100.

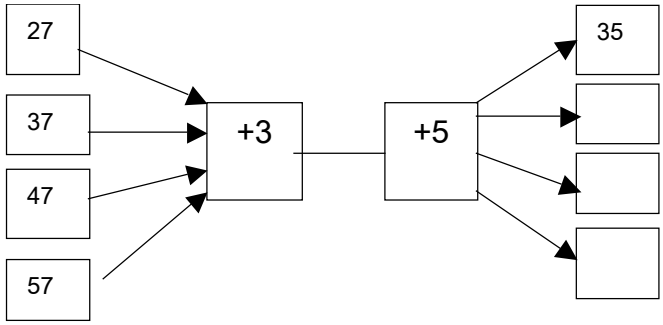
Choose from the following (to make up the 10 mins.):

- Using their number grids, learners count in 5s placing a counter (bean, piece of paper, etc.) on each multiple as they say the number. Ask questions such as:
  - Is the number 28 in the 5s pattern?
  - Is the number 45 in the 5s pattern?
  - Is the number 90 in the 5s pattern?
  - Can you find a general rule – something that happens all the time?
- Count in 10s and when you clap your hands they count on in 1s e.g. 10, 20, 30 (clap), 31, 32, 33, etc.

  Tip*: Many learners find this very difficult, so if your learners battle to do this, use an abacus and learners count according to the beads you push across.*
- Play "I spy with my little eye" a number that :
  - Is more than 40, but less than 50. It is an even number and is double 22. (44)
  - Is in the 5s counting pattern and also in the 2s counting pattern. It is more than 52 but less than 62. (60)
  - Is double 15 and half of 60. (30), etc.

DAY 1 (to take no more than 20 minutes)

- Draw a spider diagram, with 2 operators, on the board. The 1st operator will make the input numbers a whole 10, and the 2nd operator will add on from the whole 10. Work with each number, asking questions and filling in the answers the learners give, e.g.



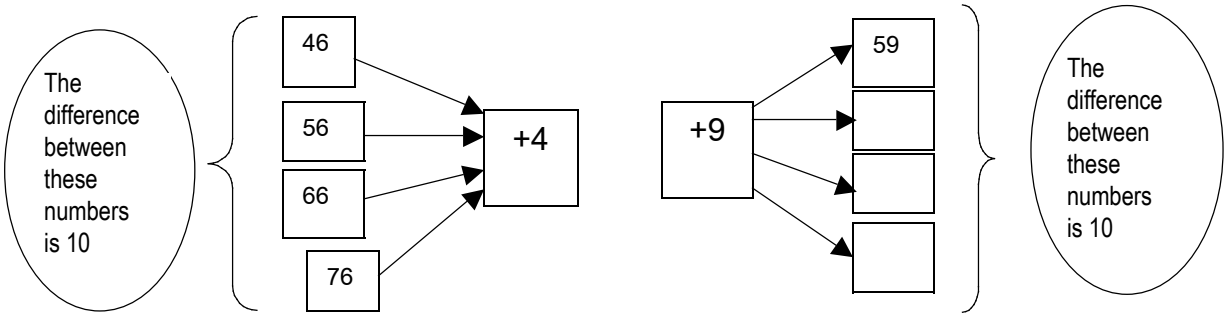
Learners should be able to answer that 27+3 is 30, plus 5 is 35. Do the same for the other numbers. If you need to, draw another spider diagram on the board and repeat the activity

- Once learners have completed the spider diagrams, ask them to fill in the table. They are familiar with this type of table as they worked with this when there was 1 operator, so they should not find this too difficult.

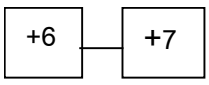
	27	37	47	57
+3	30			
+5	35			

DAY 2 (to take no more than 20 minutes)

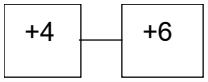
- Revise the spider diagram from Day 1. Ask learners to explain how they will get the answers and fill them in as learners tell you. You are still completing a 10 before adding any more. Encourage learners to look for number patterns and to explain why this pattern is there.



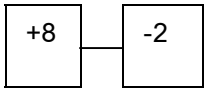
- Discuss with learners what to do if you want to replace the 2 operators with only 1 operator. Elicit from the learners the fact that if you first add 4 and then add 9, you are actually adding 13. Do a few more examples with the class e.g.



this means that you first add 6, then you add 7, so you are adding 13



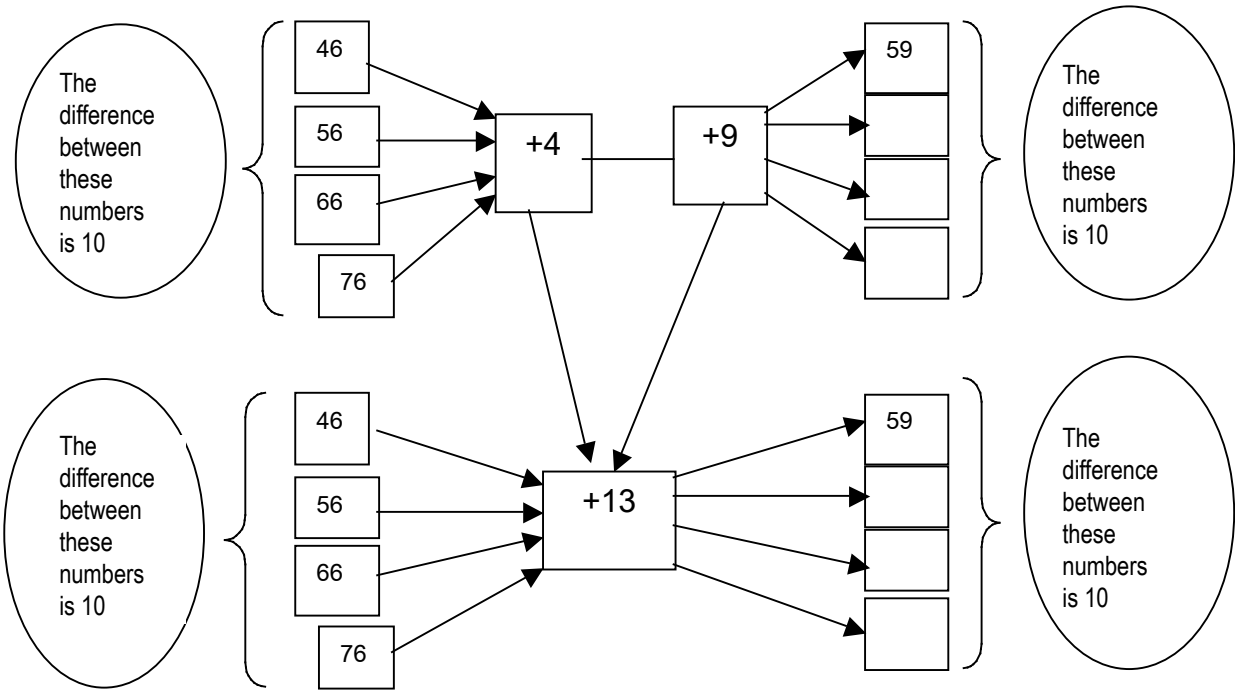
this means that you first add 4, then add 6, so you are adding 10



this means that you first add 8, then you take away 2, so you are actually only adding 6.

***Tip**: Throughout the year you have given learners number sentences to do. Some have only one operation while others have 2 or more operations such as in repeated addition. You are now using the same concept but in a different context. Make sure learners have access to counters, number grids, number lines etc. to help them work out the answers.*

- Re-draw the spider diagram with 2 operators and also draw a spider diagram with only 1 operator. Allow learners to work out the numbers that should be written in each of the boxes. Encourage learners to explain why the output numbers are the same in both of the spider diagrams as well as to identify the number patterns, e.g.



DAY 3 (to take no more than 20 minutes)

- Take the class outside and let the learners stand in a circle, with you in the middle. Say a name of a learner and they must reply by saying a 2 digit number. Throw the ball to that learner and if they catch the ball they must add 10 to their number, but if they miss the ball they must take 10 away from their number. Once everyone has had a turn, repeat the activity adding or subtracting 20/30/50, etc.
- Now let learners work with a partner and a bean-bag. One learner places the bean bag on a part of his/her body e.g. elbow, and throws it to the partner who catches it on a different body part e.g. foot. Learners take turns to throw the bean bag and to catch the bean bag.

- Make a set of numbers from $\frac{1}{4}$ to 5 and give each group a set. Ask them to order them correctly as a number line i.e. $\frac{1}{4}$ $\frac{1}{2}$ 1 $1\frac{1}{4}$ $1\frac{1}{2}$ 2 $2\frac{1}{4}$ $2\frac{1}{2}$ etc. Once all the groups have completed ordering their set of numbers, let groups swap and check that group has ordered the numbers correctly. Let learners draw a number line in their books and write the numbers and fractions in the correct order.

DAY 4 (to take no more than 20 minutes)

- Use the set of numbers from Day 3. Call learners to draw a card from your set and then to arrange themselves in the correct order from smallest to biggest facing the class. The rest of the class checks that the order is correct.
- Using their own number grids, each learner chooses a number more than 10 and places a counter on the number. You will stamp your feet a number of times to indicate the number that must be added. Each stamp counts for 10. Learners add the number to their number and place a second counter on the answer. Learners can work with a partner to check if they have added correctly. So, for example, if a learner chooses the number 39 and you stamp 4 times, they will add 40 on to 39 and place a counter on 79. Repeat the activity a few times, each time using different numbers.
- Each group has a die and learners take turns to throw the die. Starting with the number 99, each time the die is thrown that number is subtracted e.g. throw the die and it shows 3, so 3 is subtracted from 99 leaving 96. The next throw shows 6, so 6 is subtracted from 96 leaving 90, and so on. All learners in the group record the same numbers after checking what the answer is.

DAY 5 (the whole lesson)

- Take the class outside and let them sort the waste material according to whether they slide or roll. Remember to add some balls to the material. Divide the class into groups and let each group take one of the piles of waste material. Groups use their waste material to do the following:
  - Build a wall with their material and describe how they did it.
  - Stack the material, describing difficulties encountered.

  Let groups rotate so that everyone has a turn to work with the different types of material.
- Put all the waste material back into one pile. Each group of learners will build an object of their choice – a vehicle, a robot person, a building, etc. – by stacking objects, gluing them together, etc.

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

WEEK 9 : GROUP TEACHING

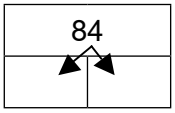
Week 9	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

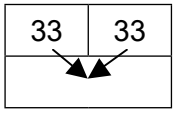
Notes to teacher:

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

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

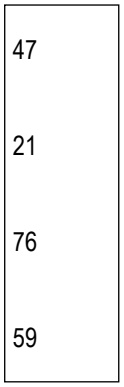
- Doubling and halving activities. E.g.

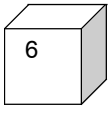




Half		Double
	16	

- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Repeated addition leading to multiplication e.g. 5+5+5+5=4x5=20
- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.





47+6→47+3+3→50+3=53

21+6=27

76+6→76+4+2→80+2=82

59+6→59+1+5→60+5=65

An example of recording.

- Complete tables by filling in the missing numbers. This example has the numbers filled in e.g.

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

Working with the group

GROUP 1

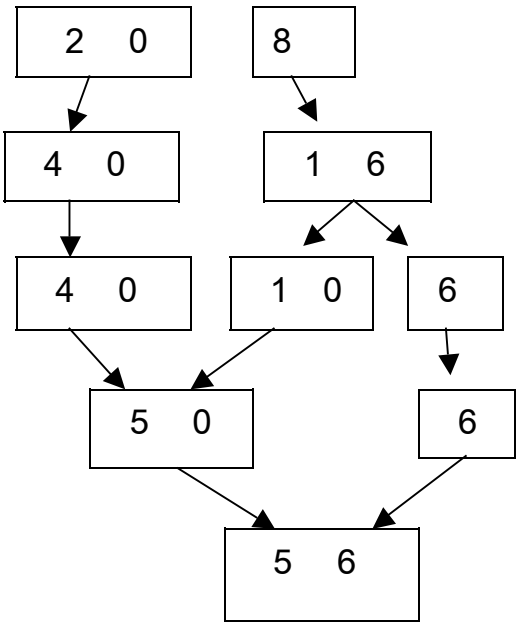
*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes.*

- Each learner estimates how many big footsteps s/he will take from the mat to the door. Once they have recorded their estimate, they measure how many big footsteps they actually take and then say if they estimated too many, too few or correctly.
- Give each learner 2 small pieces of paper. On one piece they write any number sentence and on the other they write the answer. Put all the pieces in a packet, give it a good shake and then place each piece face downwards in the middle of the group. Learners take turns to turn over two pieces of paper. If they match the number sentence and the answer, they keep the pieces and can have another turn, but if they do not have a match, they replace the pieces in the same place. This allows everyone the opportunity to remember where the different numbers are. Play the game until all the numbers have been matched.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 sharing with a remainder and 1 change type word problem and on Wednesday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

GROUP 2

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

- Each learner estimates how many big footsteps s/he will take from the mat to the door. Once they have recorded their estimate, they measure how many big footsteps they actually take and then say if they estimated too many, too few or correctly.
- Once learners have set out their flard cards ask them to make the number 28 and then to double the number. Leave them to double the number by themselves – don't tell them what to do. If a learner gets stuck, help him/her to think through the process by asking relevant questions. This is what you will expect learners to be able to do:



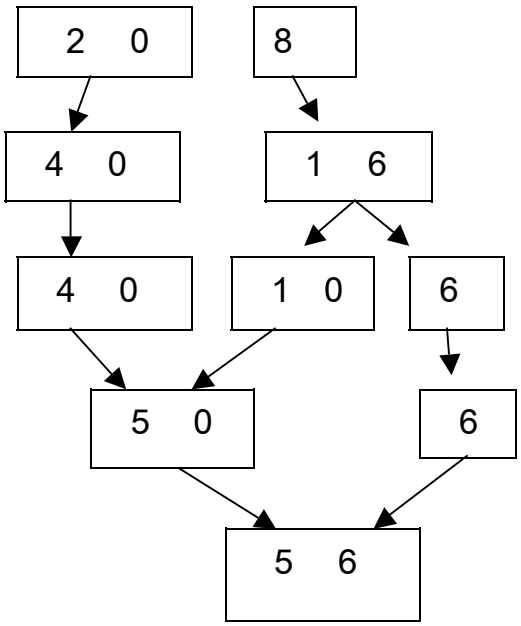
Let learners record what they did when working with the flard cards to double 28.

- Give each learner 10 counters. Ask them to count out 7. Now ask them to share the 7 counters between 2 people. Discuss the different things that can be done to the left over 7th counter i.e. it is a remainder, it could be cut in half and each person gets a half , etc. Repeat using other odd numbers. Make sure learners understand that even numbers can be halved equally with no remainder, but that when an odd number is halved equally there will be a fraction.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 sharing with a remainder and 1 change type word problem and on Thursday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

GROUP 3

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

- Have a set of number cards 20 to 50. Shuffle the cards and let each learner take one card. They read the number and then say how many must be added to make the next 10 e.g. the number on the card is 42, so the learner says 8 more must be added to make 50. Repeat the activity, but subtracting to make the smaller 10 e.g. the card is 42, so the learner says that 2 must be taken away to make 40.
- Once learners have set out their flard cards ask them to make the number 28 and then to double the number. Leave them to double the number by themselves – don't tell them what to do. If a learner gets stuck, help him/her to think through the process by asking relevant questions. This is what you will expect learners to be able to do:



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- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 sharing with a remainder and 1 change type word problem and on Wednesday and Thursday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

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

THIRD TERM: WEEK 10

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• Counts on from any number between 1 and 100
• Counts backwards from any number between 200 and 1
• Counts forwards and backwards in 2s, 5s, 10s to 200</td><td colspan="5">Daily :
• Rote counting in 1s from 160 to 199
• Rational counting in 2s, 5s and 10s in the number range 100 to 200, forwards and backwards
• Rational counting in 2s, 5s and 10s, starting and stopping at any number in the number range 1 to 200</td></tr>
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LO1 AS 4,8,9,10
LO 2 AS 2,3,4
LO 3 AS 2,7
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• Writes number sentences using addition and subtraction of two two-digit numbers e.g. 26+10=? 26+11=? 32-27=?
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<tr><td>Number patterns

Addition and subtraction of 2 2-digit numbers</td><td>Number patterns

Fractions</td><td>Addition and subtraction of 2 2-digit numbers

Time: analogue</td><td>Addition and subtraction of 2 2-digit numbers

Time: digital</td><td rowspan="3">WHOLE CLASS ACTIVITIES.

Team Games</td></tr>
<tr><td>GROUP TEACHING

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<tr><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 equalize (addition) and 1 sharing without remainder type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 equalize (addition) and 1 sharing without remainder type word problem
Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.
Ask 1 grouping without a remainder and 1 equalize (subtraction)type word problem
Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.
Ask 1 grouping without a remainder and 1 equalize (subtraction)type word problem
Group 1 works on their own.</td></tr>
</table>

WEEK 10: WHOLE CLASS

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

Notes to the teacher:

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

DAILY ACTIVITIES

OUNTING AND MENTAL/NUMBER SENSE

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

These must be done daily:

- Rote count from 1 to 100 – with learners clapping their hands as they say every 5th number and stamping their feet as they say every 10th number. Ask learners to identify the pattern (counting in 5s and 10s).
- Randomly choose a 2 digit number (draw it out of a packet, ask a learner, use the date, etc.) and starting at that number, count on in 10s to 100.

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

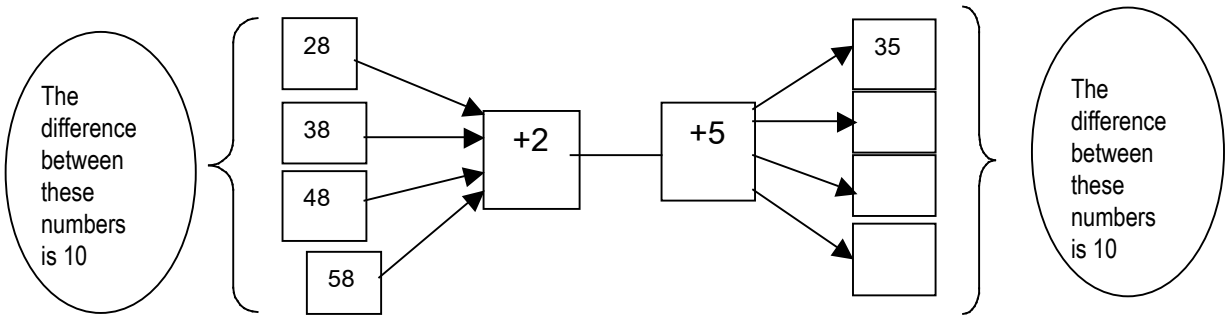
- Count in 10s and when you clap your hands they count on in 1s e.g. 10, 20, 30 (clap), 31, 32, 33, etc.

  Tip*: Many learners find this very difficult, so if your learners battle to do this, use an abacus and learners count according to the beads you push across.*
- Make a set of papers with different counting instructions on each paper. Give each group a set of papers. Each learner in a group takes one piece of paper and writes his/her name at the top of the paper. Learners then read the instruction and write the next number. Each learner only writes ONE number on his/her piece of paper and then passes the paper to the learner on the left. This learner reads the instruction and writes the next correct number and passes the paper on to the learner on the left. Time the activity and after 10 minutes tell them to stop and give the paper they have in front of them to the learner who started with that piece of paper. That learner checks the numbers to see if the counting is correct. Examples of instructions are :

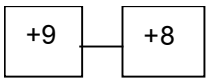
Start at 34 and count on in 2s :	Start at 59 and count on in 10s:	Start at 97 and count back in 2s:	Start at 105 and count on in 5s :

DAY 1 (to take no more than 20 minutes)

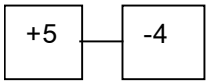
- Revise the spider diagram using 2 operators from Week 9. Draw the diagrams on the board and fill in the answers as you elicit them from the learners. You are still completing a 10 before adding any more. Encourage learners to look for number patterns and to explain why this pattern is there.



- Discuss with learners what to do if you want to replace the 2 operators with only 1 operator. Elicit from the learners the fact that if you first add 2 and then add 5, you are actually adding 7. Do a few more examples with the class e.g.

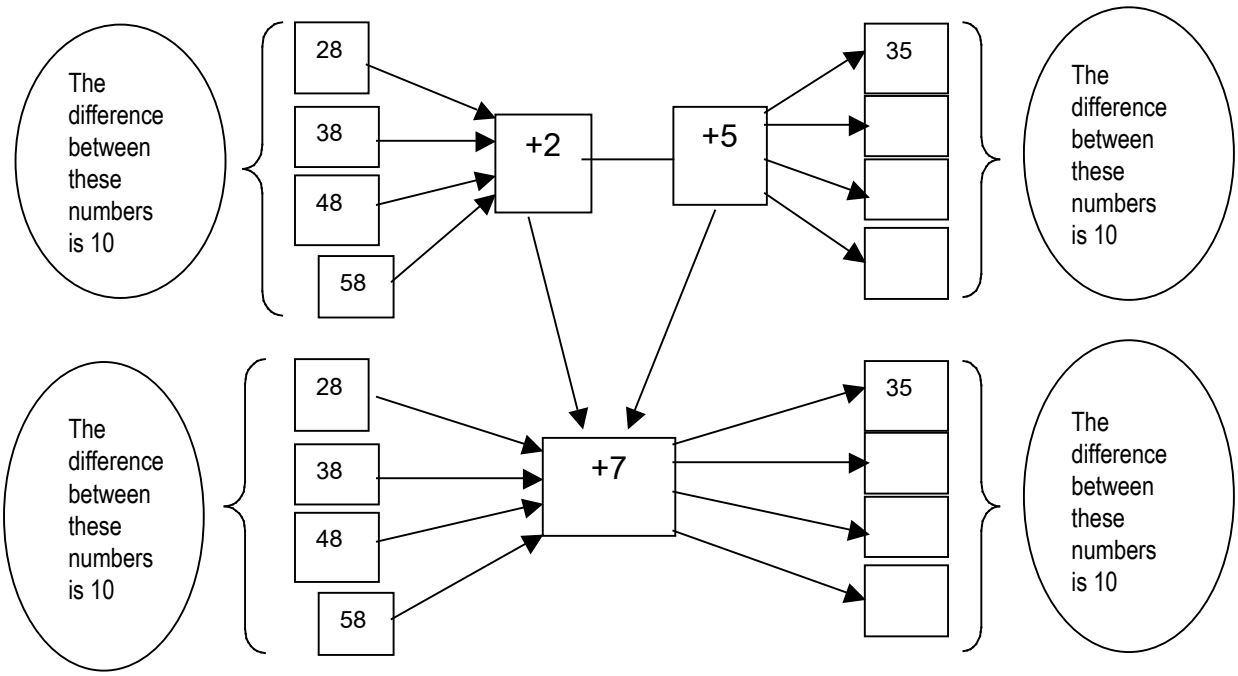


this means that you first add 9, then you add 8, so you are adding 17



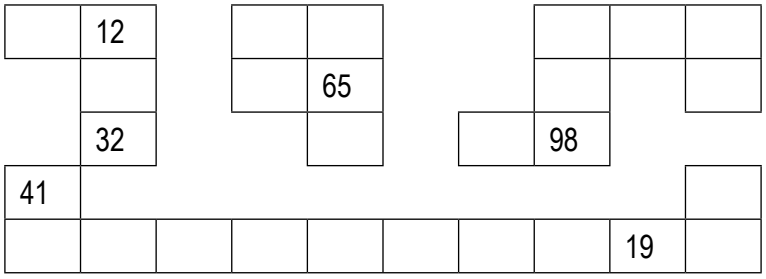
this means that you first add 5, then you take away 4, so you are actually only adding 1.

- Re-draw the spider diagram with 2 operators and also draw a spider diagram with only 1 operator. Allow learners to work out the numbers that should be written in each of the boxes. Encourage learners to explain why the output numbers are the same in both of the spider diagrams as well as to identify the number patterns, e.g.



DAY 2 (to take no more than 20 minutes)

- Use a number square (1 to 100) and cut it up into a number of different shapes – like a jigsaw puzzle and place the pieces in an envelope. Make enough for each group of 4 learners. Learners sort out the pieces and fit them together to make a complete number square. E.g.



***Tip**: Make this puzzle out of cardboard so that it can be used over and over again.*

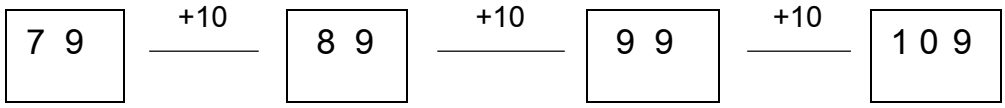
- Give each learner a strip of paper which they fold in half, then in half again. When the strip is opened there are 4 equal blocks. Each learner shades a number of blocks and then swaps the strip with a partner. On the back of the strip the partner writes what fraction has been shaded and gives it back. Learners put a tick if the fraction is correct.
- Working with the whole group, learners order the strips of paper according to the fraction shaded. If more than one strip has the same fraction shaded they simply place the strips on top of each other.

DAY 3 (to take no more than 20 minutes)

- Put learners into 4 equal teams – or use the groups they sit in as a team – and let them sit behind each other in a row in front of the board. The first learner in each group writes a 2 digit number on the board for their team to work with. On your command, the next learner writes the number sentence where 10 is added to the first number, the next learner writes the number sentence where 11 is added to the first number, the next learner adds 12 and so on. The winner is the team who finishes first with all the number sentences correct and in order. For example, if the first number was 43 the number sentences would be:
  - 43+10=53
  - 43+11=54
  - 43+12=55
  - 43+13=56 and so on.
- Using a big clock face, revise analogue time with the learners by moving the hands:
  - to different times and asking learners to read the time
  - and asking what the time would be in 5 minutes
  - and asking what the time would be in 1 hour and so on

DAY 4 (to take no more than 20 minutes)

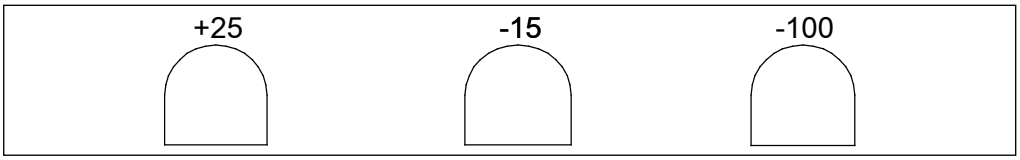
- Take the class outside and let the learners stand in a circle, with you in the middle. Say a name of a learner and they must reply by saying an even number. Throw the ball to that learner and if they catch the ball they must halve their number, but if they miss the ball they must double their number. Once everyone has had a turn, repeat the activity using odd numbers.
- Write a number of linked boxes on the board. Ask a learner to choose a number and write this in the 1st box. Tell learners that each link is +10 (which they write above the line) and ask what the number in the next box will be. Call different learners to fill in the missing number in the boxes on the board. Learners can use their number grids if they need to. Repeat the activity using other numbers, or by adding 20/30/40 instead of adding 10. You should also do this using subtraction.



- Use the digital clocks learners made in Week 8. Working in pairs and taking turns, one learner sets the digital time and the other learner reads the time.

DAY 5 (the whole lesson)

- Provide three outdoor games for learners to play in groups. Rotate the groups allowing 20 minutes at each game. You can use your own games or use these examples.
  1. Make skittles out of empty plastic bottles e.g. Jik, Fabric softener, etc. You will need about 12 bottles. Arrange them in three rows of 4, staggering them and making sure that no bottle is directly behind another bottle. Learners take turns to roll a netball/soccer ball and see how many bottles they can knock over. The number knocked over is the score they record. When all members of the group have had a turn to roll the ball at the skittles, the learner with the highest score (the most bottles knocked over) is the winner.
  2. Make a cardboard frame with three half circles cut out at the bottom. Above each arch write a number. Learners take turns to roll 3 marbles and the score is calculated on which of the arches the marbles rolled through. When everyone has had a turn, the learner with the highest score is the winner. An example of the frame is as follows:



  3. Throw the bean bag into the bucket. This game was played in Term 1 as well as in Term 2.

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

WEEK 10 : GROUP TEACHING

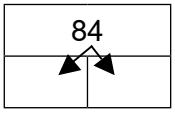
Week 10	GROUP TEACHING COMPONENT (Concept Development and Problem Solving)

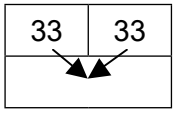
Notes to teacher:

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

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

- Doubling and halving activities. E.g.

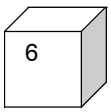




Half		Double
	16	

- Expanded notation e.g. 46 = 10+10+10+10+6, 58-10-10-10-10-10-8=
- Repeated addition leading to multiplication e.g. 5+5+5+5=4x5=20
- A strip of paper and a die. Throw the die and add the number to each number on the strip, then subtract the number on the die from each number on the strip by building towards a 10 e.g.

47
21
76
59



47+6→47+3+3→50+3=53

21+6=27

76+6→76+4+2→80+2=82

59+6→59+1+5→60+5=65

An example of recording.

- Complete tables by filling in the missing numbers. This example has the numbers filled in e.g.

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

Working with the group

GROUP 1

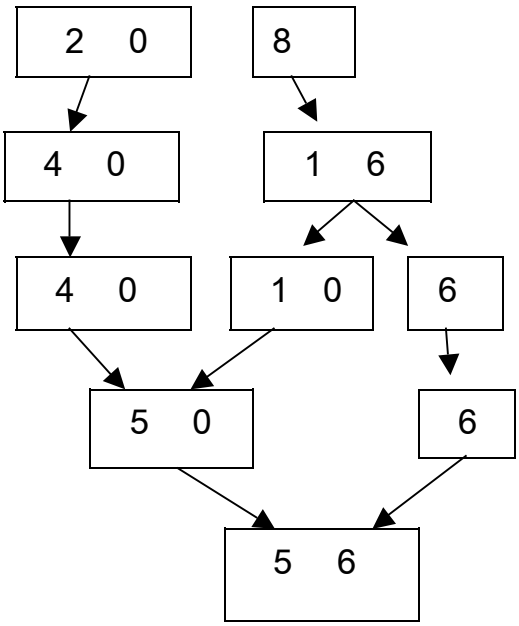
*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes*.

- Each learner estimates how many big footsteps s/he will take from the mat to the door. Once they have recorded their estimate, they measure how many big footsteps they actually take and then say if they estimated too many, too few or correctly.
- Give each learner 2 small pieces of paper. On one piece they write any number sentence and on the other they write the answer. Put all the pieces in a packet, give it a good shake and then place each piece face downwards in the middle of the group. Learners take turns to turn over two pieces of paper. If they match the number sentence and the answer, they keep the pieces and can have another turn, but if they do not have a match, they replace the pieces in the same place. This allows everyone the opportunity to remember where the different numbers are. Play the game until all the numbers have been matched.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 150. Let each learner tell the group how s/he solved the problem. On Monday you will ask 1 sharing with a remainder and 1 change type word problem and on Wednesday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

GROUP 2

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

- Each learner estimates how many big footsteps s/he will take from the mat to the door. Once they have recorded their estimate, they measure how many big footsteps they actually take and then say if they estimated too many, too few or correctly.
- Once learners have set out their flard cards ask them to make the number 28 and then to double the number. Leave them to double the number by themselves – don't tell them what to do. If a learner gets stuck, help him/her to think through the process by asking relevant questions. This is what you will expect learners to be able to do:



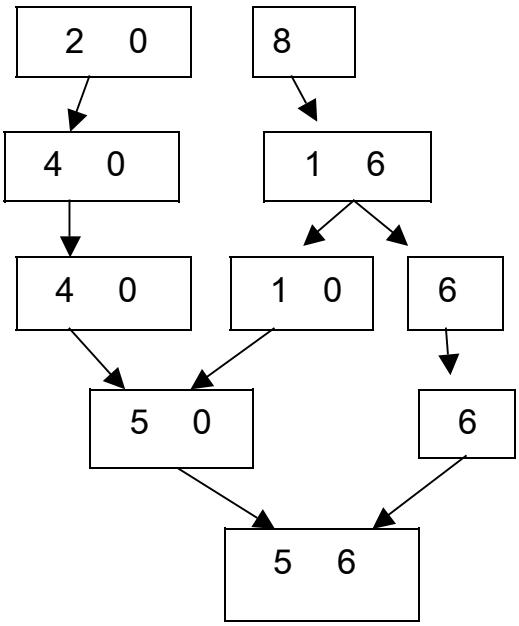
Let learners record what they did when working with the flard cards to double 28.

- Give each learner 10 counters. Ask them to count out 7. Now ask them to share the 7 counters between 2 people. Discuss the different things that can be done to the left over 7th counter i.e. it is a remainder, it could be cut in half and each person gets a half , etc. Repeat using other odd numbers. Make sure learners understand that even numbers can be halved equally with no remainder, but that when an odd number is halved equally there will be a fraction.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 sharing with a remainder and 1 change type word problem and on Thursday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

GROUP 3

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

- Have a set of number cards 20 to 50. Shuffle the cards and let each learner take one card. They read the number and then say how many must be added to make the next 10 e.g. the number on the card is 42, so the learner says 8 more must be added to make 50. Repeat the activity, but subtracting to make the smaller 10 e.g. the card is 42, so the learner says that 2 must be taken away to make 40.
- Once learners have set out their flard cards ask them to make the number 28 and then to double the number. Leave them to double the number by themselves – don't tell them what to do. If a learner gets stuck, help him/her to think through the process by asking relevant questions. This is what you will expect learners to be able to do:



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- Give each learner 10 counters. Ask them to count out 7. Now ask them to share the 7 counters between 2 people. Discuss the different things that can be done to the left over 7th counter i.e. it is a remainder, it could be cut in half and each person gets a half , etc. Repeat using other odd numbers. Make sure learners understand that even numbers can be halved equally with no remainder, but that when an odd number is halved equally there will be a fraction.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 1 sharing with a remainder and 1 change type word problem and on Wednesday and Thursday you will ask 1 grouping with a remainder and 1 repeated addition type word problem. It is important that learners are given the opportunity to reflect on their thinking as well as to verbalise their thought processes.

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

Annexures

Annexure 1: Blank timetable

Annexure 2: Template

Annexure 3: Data collection sheet, Week 5

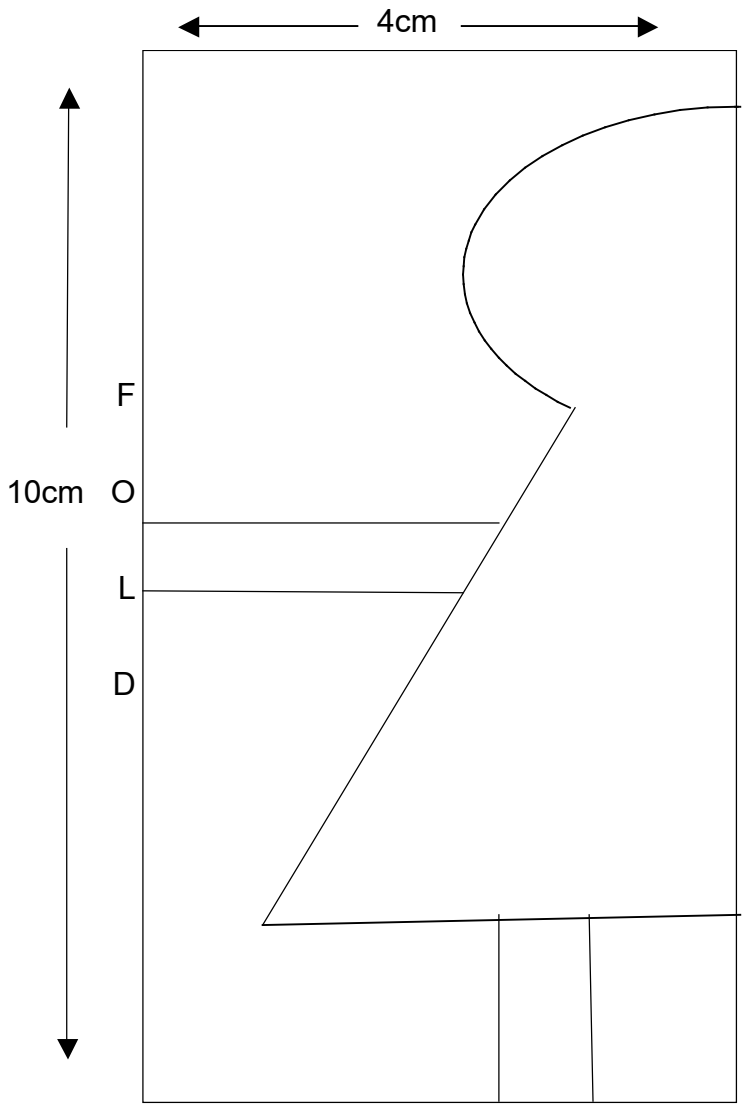
Annexure 4: Data collection sheet, Week 6

Annexure 1

An example of a blank timetable to be used to identify patterns in everyday life.

Timetable for Grade 2									
	1st	**2nd**	**3rd**	**4th**	**5th**	**6th**	**7th**	**8th**	**9th**
Monday									
Tuesday									
Wednesday									
Thursday									
Friday									

Annexure 2



Annexure 3

An example of a data collection sheet for Week 5, Day 5.

	Monday	Tuesday	Wednesday	Thursday	Friday
Porridge					
Meat					
Chicken					
Milk					
Bread					
Banana					
Apple					
Potatoes					
Pumpkin					

Annexure 4

An example of a data collection sheet for Week 6, Day 5.

Data Collection Sheet		Total
bananas		
apples		
grapes		
pineapples		

An example of a grid for the pictograph of types of fruit.

Types of fruit on the poster									
bananas									
apples									
grapes									
pineapples									
Number of fruits	2	4	6	8	10	12	14	16	18

Notes:

Notes:

Notes: