# Foundations For Learning

## Foundation Phase Numeracy Lesson plans

## Second term

## Grade 2

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# SECOND TERM OVERVIEW

| | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 | Week 9 | Week 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Counting: Whole Class** | Daily rote counting to 200 | | | | | | | | | |
| | Daily rational counting using abacus, number lines, number grids etc. | | | | | | | | | |
| | Daily rational counting in 1s forwards and backwards, starting and stopping at any number | | | Daily rational counting in 2s, even and odd numbers | | Daily rational counting in 5s, starting and stopping at any number in the number range 44 to 201 | | | Daily rational counting in 2s, 5s and 10s starting and stopping at any number | |
| | Counts out objects to 50 | | | | Count on from a given number | | | | | |
| | | | | | | | | | | Orders numbers to 50th |

| | 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** | Develop vocabulary for the concepts being dealt with each week | | | | | | | | | |
| | | Knows, reads and writes number name and symbol for numbers 1 to 50 | | | | | | | | |
| | Builds up concept of numerosity of numbers to 50 | | | | | Builds up concept of numerosity of numbers to 100 | | | | |
| | Add and subtract a single digit number to a two-digit number | | | | | | | | | |
| | | | | Repeated addition and subtraction of 2, 5, 10 | Doubles and nearly doubles | Repeated addition and subtraction of 2, 5, 10 | Doubles and nearly doubles | | | |
| | Decomposes two-digit numbers as expanded notation using flard cards | | | | Addition and subtraction of whole tens using flard cards | | | | | |
| | Recognises and completes given number patterns | | | | | | | | | |
| | | | | | | Recognises patterns of multiples of 2, 5 and 10 | | | | |
| | Estimates, measures and compares length | | Estimates, measures and compared capacity | | | | | | | Estimates, measures and compared capacity |
| | | | | Recognises symmetry | | | Sort and compare 3-D objects that roll and slide | | Making shapes with 3-D objects | |
| | Collects and sorts data according to given criteria and draws graphs | | | | | | | | | |
| | Problem solving.<br>Work with 3 ability groups at their own level.<br>4 different word problem types done every week during group teaching time. | | | | | | | | | |

## THE ASSESSMENT FRAMEWORK

| | ACTIVITIES THAT WILL BE USED FOR ASSESSMENT | | |
|---|---|---|---|
| | COUNTING | CONCEPT DEVELOPMENT | PROBLEM SOLVING |
| **WEEK 1** | | | |
| **WEEK 2** | Oral activities dealing with counting to 100<br>Practical activity dealing with counting out to 50 | | Practical and written activity dealing with estimating, measuring and comparing length |
| **WEEK 3** | Oral activities dealing with counting to 100<br>Practical activity dealing with counting out to 50 | Practical and written activities dealing with number patterns. | Practical and written activity dealing with estimating, measuring and comparing capacity.<br>Oral and recorded problem solving activities. |
| **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 | Drawing a graph from collected data | |
| **WEEK 6** | Daily oral and written work dealing with aspects of counting | Recording collected data in a table.<br>Written work dealing with numerosity of numbers.<br>Practical and recorded activities dealing with repeated addition and subtraction. | Practical and recorded activities dealing with symmetry. |
| **ASSESSMENT TASK 2 COMPLETED** | | | |
| **WEEK 7** | | | |
| **WEEK 8** | | Practical and written activities dealing with expanded notation.<br>Written activities dealing with addition and subtraction of whole 10s.<br>Practical activities dealing with nearly doubles.<br>Practical and written activities dealing with recognition of patterns. | Oral, practical and written activities dealing with solving problems and explaining solutions. |
| **ASSESSMENT TASK 3 COMPLETED** | | | |
| **WEEK 9** | | | |
| **WEEK 10** | | | |

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

## SECOND TERM: WEEK 1

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2</td><td>• Counts out objects to 50<br>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200</td><td colspan="5">Daily:<br>• Rote counting in 1s forwards and backwards from 50 to 150<br>• Counting in 1s forwards and backwards in the range 45 - 101, starting and ending at any number<br>• Count out objects to 50</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO1<br>AS3,5,8,9,10<br>LO2 AS 2,4<br>LO5 AS1</td><td rowspan="3">• Writes and reads number symbols from 1 to 100<br>• Writes and reads number names from 1 to 50<br>• Uses flard cards to build 2-digit numbers to at least 50<br>• Identifies patterns in number work<br>• Estimates, measures and compares length and capacity<br>• Builds and breaks down numbers 1 to 50 e.g. 50 is double 25, but 10 less than 60</td><td colspan="5">Daily:<br>• Identifies number patterns<br>• Build up concept of numerosity of numbers to 50</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>Practical work with flard cards.<br><br>Fill in weather chart</td><td>Practical work with flard cards<br><br>Fill in weather chart</td><td>Practical work with flard cards<br><br>Fill in weather chart</td><td>Practical work with flard cards<br><br>Fill in weather chart</td><td rowspan="2">Whole class activity.<br><br>Estimate, measure and compare length<br><br>Fill in weather chart</td></tr>
<tr><td>GROUP TEACHING<br><br>LO1<br>AS7,10,11,12</td><td>• Estimates up to 34 objects<br>• Solves and explains equal sharing and grouping problems with solutions that lead to remainders or fractions<br>• Solve all types of problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td></tr>
<tr><td>Groups 1 and 3 each work with teacher, one group at a time<br>Ask 1 addition and 1 subtraction word problem<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 addition and 1 subtraction word problem<br>Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher<br>Ask 1 multiplication and 1 sharing with a remainder word problem<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 multiplication and 1 sharing with a remainder word problem<br>Group 1 works on its own.</td></tr>
</table>

## WEEK 1 : WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities what should be done every day. The specific concepts being developed are indicated every day e.g. Day 1
- This term learners should record the weather on a daily basis on their own in the form of a chart. During this week the learners will do this activity as a whole class to familiarise them with the activity. The data collected will be used to develop a table and a graph. Annexure 1 has an example of a calendar for you to use.
- Flard cards are also called expanded notation cards. It is important that each learner has his/her own set. If you make your own, spend time and make them really well, covering them with contact, so that they will last many years. Teach your learners to work with the apparatus carefully and responsibly and not to destroy something you took time to make.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

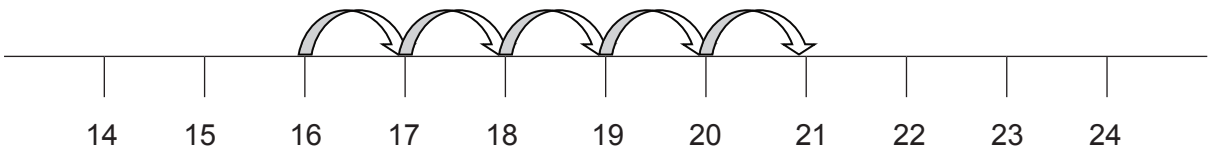
**Daily Activities**.(to take no more than 10 minutes)

***These must be done daily:***

- Learners rote count forwards and backwards in 1s from 50 to 150. This takes them over the completed tens and one hundred.
- Learners count in 1s forwards and backwards in the range 45 - 101, starting and ending at any number, using a number line, number grid, counters, etc.

***Choose from the following to make up the 10 minutes:***

- Let learners choose any number between 1 and 50. Each learner in the class tells a different number fact about that number
- Tell learners to add 1 to the numbers you point to on the number line. They just say the answer and one learner writes the answers horizontally on the board. Start by pointing to 1 (*learners add 1 and say 2*), then point to 11 (*learners add 1 and say 12),* then point to 21 (*learners add 1 and say 22)* and so on. Discuss the number pattern that is formed by the answers.
- Draw a number line on the board and ask different learners to come and show how they use a number line to find the answer e.g. 16+5:



**DAY 1** (to take no more than 20 minutes)

- Give each learner a strip of paper with two rows of 7 blocks i.e. for 1 week. In the top row learners write the days of the week from Sunday to Saturday. Talk about the weather – is it hot, cold windy, etc.? Each learner draws a symbol of the weather in the block for the day of the week e.g. if this lesson is done on Monday and it is sunny, learners draw a sun symbol in the block under Monday. They also need to complete the weather for Sunday. They then paste this strip in their books and complete it every day for the week.

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| ☼ | ☼ | | | | | |

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900.You can work in pairs if space is limited, or even in groups if you have a very large class. These cards should fit exactly on top of each other to make different numbers e.g. in the number 25 the card with 20 and the card with 5 are used and the 5 is placed on top of the 0 of the 20. See Annexure 2 for a set you can photocopy. They look like the following example:

| 1 | 2 | 3 | 4 | 1 0 | 2 0 | 3 0 | 1 0 0 | 2 0 0 | 2 | 5 |
|---|---|---|---|---|---|---|---|---|---|---|

Ask learners to put out the cards in any sequence they choose so that all the cards are visible. As this is the introduction to the concept of place value, you need to go slowly and make sure each learner understands each step. Therefore, **DO NOT** interfere with the way in which learners set out their cards. Once all the cards are set out, ask learners to hold up the number you call out e.g. 5, 9, 10, 30, 100. You will only call out single digit numbers, whole tens and whole hundreds at this stage. Once they have held up the number they need, they must put it back in its place before you call out the next number. Learners will soon realize that the numbers need to be sorted and arranged so that the single digit numbers are together, the tens are together and the hundreds are together. Do not use more than 20 minutes for this activity as you will do this every day this week. Tell learners to pack the cards away carefully, checking that none is on the floor!

*Many teachers think that Tens and Units are place value. However, that is the **final** part of developing an understanding of place value, **not the first**. You are only just beginning to develop the concept of place value in Grade 2. Learners need to still develop an understanding of numbers and their relationship e.g. 25 is 5 more than 20. The social knowledge they need is that the symbol for twenty is 20. The 2 and the 0 are both part of the number. The 0 is not a place holder – it is part of how 20 is written. The logico-mathematical knowledge learners need to develop is that 25 is 20+5 as well as 24+1 or 30-5 and so on.*

*This is why numerosity is done every day as it helps learners build up an understanding of the relationship between numbers. It will be a long time before learners reach the point of being able to understand column arithmetic and it is for this reason that working vertically in columns is found for* ***the first time in the Grade 5 Assessment Standards NOT Grade 2!***

**DAY 2** (to take no more than 20 minutes)

- Talk about the weather – is it hot, cold windy, etc.? Each learner draws a symbol of the weather in the block for the day of the week e.g. this lesson is done on Tuesday and it is sunny, so learners draw a sun symbol in the block under Tuesday, as they did for Monday.

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| ☼ | ☼ | ☼ | | | | |

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. You can work in pairs if space is limited. Ask learners how they would like to set their cards out and why. Allow each learner to do their own thinking in this regard. As a teacher you have your own way of wanting the cards set out and in the same way learners set out their cards to suit their individual ways of thinking. Therefore **DO NOT** interfere with the way in which learners set out their cards. Once all the cards are set out, ask learners to hold up the number you call out e.g. 5, 9, 10, 30, 100. You will only call out single digit numbers, whole tens and whole hundreds at this stage. Once they have held up the number they need to put it back in its place before you call out the next number. Learners will soon realize that the numbers need to be sorted and arranged so that the single digit numbers are together, the tens are together and the hundreds are together. Do not use more than 20 minutes for this as you will do this every day this week. Tell learners to pack the cards away carefully, checking that none is on the floor! This lesson is exactly the same as the day before as the learners are playing with the cards and becoming familiar with them. The more familiar they are, the quicker they will be able to set them out.

**DAY 3** (to take no more than 20 minutes)

- Talk about the weather – is it hot, cold windy, etc.? Each learner draws a symbol of the weather in the block for the day of the week e.g. this lesson is done on Wednesday and it is raining, so learners draw a symbol indicating rain in the block under Wednesday.

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| ☼ | ☼ | ☼ | ♦♦ | | | |

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. You can work in pairs if space is limited. Ask learners how they would like to set their cards out and why. If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 35, so learners find the 30 and the 5 and cover the 0 of the 30 with the 5.

| 3 0 | 5 | 3 5 |
|---|---|---|

- Once learners have made the two-digit number e.g. 35, using the two cards, they separate the cards to show the two numbers 30 and 5 and say thirty-five is made up of thirty and five. Someone points to the number 35 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.

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

- Briefly discuss the weather – is it hot, cold windy, etc.? Each learner draws a symbol of the weather in the block for the day of the week e.g. this lesson is done on Thursday and it is windy, so learners draw a symbol indicating wind in the block under Thursday.

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| ☼ | ☼ | ☼ | 🌧 | 〰〰〰 | | |

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. You can work in pairs if space is limited. Ask learners how they would like to set their cards out and why.
- You can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 35, so learners find the 30 and the 5 and cover the 0 of the 30 with the 5.

| 3 0 | 5 | 3 5 |
|---|---|---|

- Once learners have made the two-digit number e.g. 35, using the two cards they separate the cards to show the two numbers 30 and 5 and say thirty-five is made up of thirty and five. Someone points to the number 35 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number.

*Once again, this lesson is exactly the same as the previous lesson. Learners enjoy working with the cards and it is essential that this stage is not rushed if they are to build up their own understanding of place value. By laying solid foundations now, many of the later concepts (such as addition and subtraction of 2 two-digit numbers) will be better understood as learners are able to apply the knowledge they have acquired rather than having to remember rules.*

**DAY 5** (the whole lesson)

- Briefly discuss the weather – is it hot, cold windy, etc.? Each learner draws a symbol of the weather in the block for the day of the week e.g. this lesson is done on Friday and it is sunny, so learners draw a sun symbol in the block under Friday.

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| ☼ | ☼ | ☼ | ♦♦ | ≈≈≈ | ☼ | |

- Working in pairs ask learners to first estimate how tall their partner is if measured in hand-spans. They then measure each other and check their estimation. They also compare each other's measurement. Now mark out the hand-span measurement e.g. on the verandah using chalk, in the playground using stones, etc. and let the learner lie down and discover whether they measure the same standing or lying down! Let them investigate what will measure the same as they do e.g. if a learner measures 9 hand-spans, what else measures 9 hand-spans? Will it be 9 books? Or perhaps 3 suitcases? What about 5 rulers? Encourage learners to discuss what they do and what they find out.
- Do an art activity linked to measurement using hand-spans.

| | |
|---|---|
| **ASSESSMENT** | **Informal :** Unrecorded assessment of learners oral responses and ability to participate.<br><br>**Formal:** No formal assessment |

## WEEK 1 : GROUP TEACHING

| Week 1 | GROUP TEACHING COMPONENT (Concept Development and Problem Solving) |
|---|---|

**Notes to teacher**:

- By now you have established 3 groups. Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. You should do all the types of activities provided 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 at their desks/tables. You need to provide a variety of activities which reinforce and consolidate concepts already learnt. Try to vary the activities e.g. giving a practical activity (e.g. counting counters in counting bags), a written activity ( e.g. worksheet, workcard, workbook, copying from board,etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation.
- **NB: It is through solving problems that learners build up their own understanding of numbers, computations, fractions etc. Therefore you do not first teach, for example, addition and subtraction and then expect learners to use this knowledge to solve problems. Learners rather use the solving of problems to develop an understanding of the various mathematical concepts.**

### DAILY ACTIVITIES

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

- Repeated addition and subtraction number sentences
- Number patterns or other sequencing activity (e.g. pictures, shapes, etc.)
- Fill in the numbers you would use when counting in 2s, 5s and 10s on a number line or number square
- Complete number sentences using 2 operations
- Complete addition and subtraction number sentences using single digits with complete 10 using open frame sentences e.g. 10 + ☐ = 19 or 17 - ☐ = 10
- Doubling and halving activities

**Working with the group**

**GROUP 1**

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

- Do an estimation activity. Put any number of counters up to 34 in the middle of the group. Let the learners look at the counters then cover them. Ask learners to estimate how many there are. Give each learner a chance to say how many they think there are. Uncover the counters and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number?

- Learners use a number grid to count in 1s starting at a given number e.g. 14. They put their finger on the number they start from (14), then count on 5 putting down a counter on each of the numbers as they say them i.e. 15, 16, etc. Ask where they ended i.e. 19. Ask questions such as: what is 14 plus 5? What is 19 minus 5? Do 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 Monday the word problems will be 1 addition and 1 subtraction and on Wednesday you will ask 1 multiplication and 1 sharing with remainders problem. It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.

**GROUP 2**

*On **Tuesday** and **Thursday** this group works with the teacher for 20 minutes*.

- Do an estimation activity. Put any number of counters up to 34 in the middle of the group. Let the learners look at the counters then cover them. Ask learners to estimate how many there are. Give each learner a chance to say how many they think there are. Uncover the counters and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number?
- Learners use a number grid to count in 1s starting at a given number e.g. 14. They put their finger on the number they start from (14), then count on 5 putting down a counter on each of the numbers as they say them i.e. 15, 16, etc. Ask where they ended i.e. 19. Ask questions such as: what is 14 plus 5? What is 19 minus 5? Do this a few times with other numbers.
  *Tip: You are introducing the concept of counting on with this activity. If your learners find this activity too difficult, leave it for another week and then try again. It simply means that they are not yet ready to count on and still need to count out all the 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 and so on. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be 1 addition and 1 subtraction and on Thursday you will ask 1 multiplication and 1 sharing with remainders problem. It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.

**GROUP 3**

*This group works with the teacher **every day** for 20 minutes.*

- Do an **estimation activity**. Put any number of counters up to 34 in the middle of the group. Let the learners look at the counters then cover them. Ask learners to estimate how many there are. Give each learner a chance to say how many they think there are. Uncover the counters and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number?
- Learners count in 5's till you clap your hands e.g. clap at 25. Ask how many 5's in 25? If 5 5's are 25, what are 6 5's? If 5 5's are 25, what are 7 5's? If 5 5's are 25, what are 10 5's?
- Choose a number (possibly use the date e.g. 18 April, so use the number 18) and let each learner in the group tell you a different number fact about the number. Learners can also write down the number sentence for each of the number facts given.
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. Use the number range 1 to 50. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be 1 addition and 1 subtraction and on Wednesday and Thursday you will ask 1 multiplication and 1 sharing with remainders problem. It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.

| | |
|---|---|
| **Assessment** | **Informal :** Unrecorded assessment of learners oral responses and ability to participate.<br><br>**Formal:** No formal assessment |

## SECOND TERM: WEEK 2

<table>
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<tr><td>DAY 1<br><br>Identifies number patterns<br><br>Add and subtract numbers in the range 1 - 50<br><br>Fill in weather chart</td><td>DAY 2<br><br>Number names and symbols 10 to 29 and 30, 40 50.<br><br>Add and subtract numbers in the range 1 - 50<br><br>Fill in weather chart</td><td>DAY 3<br><br>Practical work with flard cards<br><br>Add and subtract numbers in the range 1 - 50<br><br>Fill in weather chart</td><td>DAY 4<br><br>Practical work with flard cards<br><br>Add and subtract numbers in the range 1 - 50<br><br>Fill in weather chart</td><td>DAY 5<br><br>Estimate, measure and compare length<br><br>Fill in weather chart</td></tr>
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<tr><td>Groups 1 and 3 each work with teacher, one group at a time<br>Ask 1 subtraction and 1 grouping word problem<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 subtraction and 1 grouping word problem<br>Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher<br>Ask 1 multiplication and 1 addition word problem<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 multiplication and 1 addition word problem<br>Group 1 works on their own.</td><td></td></tr>
</table>

## WEEK 2 : WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities what should be done every day. The specific concepts being developed are indicated every day e.g. Day 1
- This term learners should record the weather on a daily basis on their own in the form of a chart. Last week the learners did this activity as a whole class to familiarise them with the activity. This week they will do the activity on their own every day. The data collected will be used to develop a table and a graph.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***These must be done daily:***

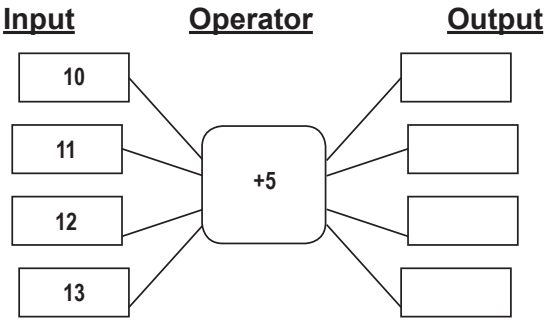
- Learners rote count forwards and backwards in 1s from 50 to 150. This takes them over the completed tens and one hundred.
- Learners count in 1s forwards and backwards in the range 45 - 101, starting and ending at any number, using a number line, number grid, counters, etc.
- Learners count in 5s using a number grid to identify the pattern.

***Choose from the following to make up the 10 minutes:***

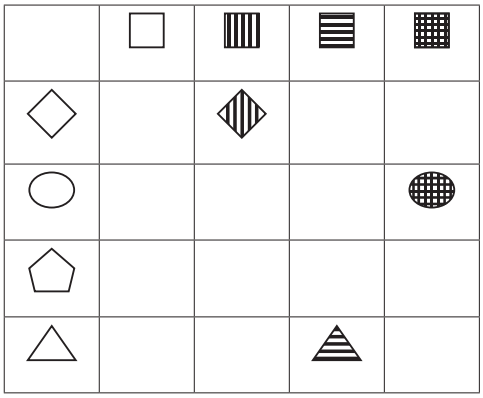
- Let learners choose any number between 1 and 50. Each learner in the class tells a different number fact about that number.
- Make a set of number names from ten to fifty as well as from one to nine if you don't have them. You will also need numerals from 10 to 50 e.g. 13, 48 etc. Take the class outside 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.
- Ask simple word problems which require concentration and thinking but that learners are able to work out in their heads e.g. 6 people got in the taxi and at the next stop 2 got out and 3 got in. At the next stop 4 got out and 2 got in. How many shoes/eyes/fingers/noses were there in the taxi at the end?

**DAY 1** (to take no more than 20 minutes)

- If learners have not done flow diagrams before, introduce them to this way of thinking about addition and subtraction. Later you can use this way of recording for multiplication as well. Explain that this is a special number machine. You put different numbers into the machine, it does the same thing to each of the numbers and provides the output number. Make sure learners understand which the input numbers are, which the output numbers are and that what happens in the middle is the operator.




- Clap a pattern and learners echo it back to you. As your learners become good at this, make the pattern more complicated, not just longer.
- Working in pairs let learners complete simple matrix patterns e.g.



**DAY 2** (to take no more than 20 minutes)

- Write some numbers and number names e.g. 29, twenty nine, 15, fifteen, etc. separately on pieces of paper and prestik them onto the walls. Try and hide them amongst the pictures, posters, charts etc. that you have on the walls of your classroom. Give the learners 5 minutes to find them and write them in their books. Tell them to keep it a secret once they have found a number or number name as the person with the most correct numbers and number names will get a prize e.g. a sweet, can choose the story for you to read, go out first at break time etc. You may have to give them a clue as to how many numbers are hidden on the walls.

- Write the numbers 99 and 26 on the board. Choose any learner e.g. the tallest in the class, and ask how old that learner is – e.g. 8 years old. Now let the learners help you as you keep taking that number away from 99 and see how many times you have to do this to get as close as possible to the number 26. Write the numbers down as the learners work out the answers e.g. 99-8= 91, 91-8=83, 83-8=75, 75-8=67 and so on. Allow learners to use their number grids if they need them, though many learners will count backwards using their fingers, which is also quite acceptable.
- Revise the spider diagrams from Day 1, giving the input number and the operator and learners have to find the output numbers.

**DAY 3** (to take no more than 20 minutes)

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. You can work in pairs if space is limited. Ask learners how they would like to set their cards out and why.
- If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. It is very important that you make sure learners use the whole numbers i.e. the number you say is 42, so learners find the 40 and the 2 and cover the 0 of the 40 with the 2.

| 4 0 | 2 | 4 | 2 |
|---|---|---|---|

Once learners have made the two-digit number e.g. 42, using the two cards, they separate the cards to show the two numbers 40 and 2 and say forty two is made up of forty and two. Someone points to the number 42 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.

- Write the number in the date on the board e.g. the date is 18 April, so you write the number 18 on the board. Also write a bigger number on the board e.g. 87. Choose any learner e.g. the shortest in the class, and ask how old they are. Now let learners help you as you keep adding that number to see how close you can get to the largest number written on the board. Write the number sentences on the board as the learners tell you what they are e.g. 18+7=25, 25+7=32, 32+7=39 and so on.

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

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. You can work in pairs if space is limited. Ask learners how they would like to set their cards out and why.
- If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. It is very important that you make sure learners use the whole numbers i.e. the number you say is 42, so learners find the 40 and the 2 and cover the 0 of the 40 with the 2.

| 4 0 | 2 | 4 | 2 |
|---|---|---|---|

Once learners have made the two-digit number e.g. 42, using the two cards, they separate the cards to show the two numbers 40 and 2 and say forty two is made up of forty and two. Someone points to the number 42 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.

- Revise the spider diagrams from Day 1, giving the input number and the operator and learners have to find the output numbers.

**DAY 5** (the whole lesson)

- Take the class outside and do the following measuring activities.
  - Tell learners to find a friend who:
    is taller than they are
    is shorter than they are
    is the same height as they are
    has the same size shoe
    has the same size hand span
    has the same length arm etc.
  - Let learners get into groups of 4. Tell them they are going to do a length hunt and give each group a piece of paper with instructions of things to find. Give them 10 minutes to find the items on the paper, then blow your whistle and the groups return to the designated place. The instructions can be to find objects that are :
    shorter than a ruler
    longer than a shoe
    not as long as a pencil
    about the same length as a book
    taller than a chair
    longer than 5 footsteps and so on

  - Mark out a number of large squares on the playground and place two learners at each corner of each square. Ask them if they think they would walk the same distance along either side to get to the next corner. Repeat the activity marking out a rectangle or a triangle.
- Back in the classroom let learners work in pairs and measure the length and width of a variety of items using any objects in the room to measure with. They record their findings e.g.

| Object measured | Measured with | How many |
|---|---|---|
| The length of the teacher's table | • Exercise book<br>• Ruler<br>• Pencil<br>• Paper clip<br>• Chalk | • 5 books<br>• 4 rulers<br>• 7 pencils<br>• 13 paper clips<br>• 5 pieces of chalk |
| The width of the door | • Exercise book<br>• Ruler<br>• Pencil<br>• Paper clip<br>• Chalk | |

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

| | |
|---|---|
| **ASSESSMENT** | **Informal :** Unrecorded assessment of learners oral responses and ability to participate.<br><br>**Formal:** Formal recorded assessment of the following milestones:<br>• Estimates, measures and compares length and capacity |

## WEEK 2: GROUP TEACHING

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

**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt. Try to vary the activities as learners get tired and bored if they just have to do lots of the same thing every day.
- 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. You should do all the types of activities provided 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.**
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- This term learners should record the weather on a daily basis on their own in the form of a chart. Last week the learners did this activity as a whole class to familiarise them with the activity. This week they will do the activity on their own every day. The data collected will be used to develop a table and a graph.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation.

### DAILY ACTIVITIES

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

- Fill in the weather chart every day for the month. Annexure 1 provides a template of a calendar for the month.
- Repeated addition and subtraction number sentences.
- Number patterns adding or subtracting the numbers 1 to 5 i.e. patterns such as

| | | | | | | |
|---|---|---|---|---|---|---|
| 21+1= | 31+2= | 41+3= | 1+1= | 21-1= | 52-2= | 1-1= |
| 22+1= | 32+2= | 42+3= etc | 21+1= | 22-1= | 52-2=etc. | 21-1= |
| 23+1= | 33+2= | | 31+1= | 23-1= | | 31-1= |
| 24+1= | 34+2= | 41+4= | 41+1= | 24-1= | 53-3= | |
| ……. | ……. | 42+4=etc. | …….. | …… | 54-3=etc. | |
| ……. | …….. | | ……. | ……. | | |
| | | 41+5= | | | 55-5= | |
| 30+1= | 40+2= | 42+5= etc. | 91+1= | 30-1= | 56-5=etc. | |

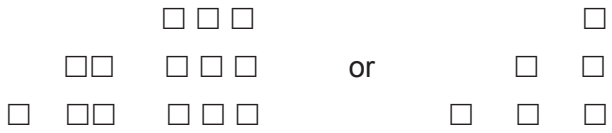
- Fill in the numbers you would use when counting in 2s, 5s and 10s on a number line or number square.
- Complete number sentences using 2 operations in the same number sentence.
- Complete addition and subtraction number sentences using single digits with complete 10 using open frame sentences e.g. 10 + ☐ = 19 or 17 - ☐ = 10.
- Doubling and halving activities.

**Working with the group**

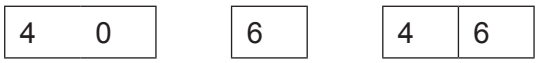
**GROUP 1**

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

- Give each learner a pile of unifix blocks or small wooden blocks or square pieces of paper, etc. Ask each learner to make a growing pattern with their counters i.e. a pattern where the number increases each time. Encourage learners to make their own pattern. Once everyone has made a pattern, let learners identify the patterns that others have made. Discuss the different patterns e.g. this pattern remains a square but with more blocks each time or this pattern increases by 1 each time,:




- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that here in the group learners work with the cards by themselves. Ask learners how they would like to set their cards out and why. If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 46, so learners find the 40 and the 6 and cover the 0 of the 40 with the 6.

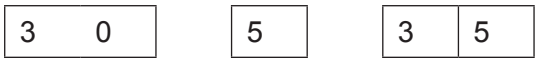



  Once learners have made the two-digit number e.g. 46, using the two cards, they separate the cards to show the two numbers 40 and 6 and say forty six is made up of forty and six. Someone points to the number 46 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.
- 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 Monday the word problems will be 1 subtraction and 1 grouping and on Wednesday you will ask 1 multiplication and 1 addition problem.
  ***Tip:*** *It is important that learners are given the opportunity to reflect on their thinking. Therefore it is better to give learners only one problem where they really need to think and explore different solutions, rather than giving them 4 problems to which they instantly know the answers.*

**GROUP 2**

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

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that here in the group learners work with the cards by themselves. Ask learners how they would like to set their cards out and why. If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 35, so learners find the 30 and the 5 and cover the 0 of the 30 with the 5.




  Once learners have made the two-digit number e.g. 35, using the two cards, they separate the cards to show the two numbers 30 and 5 and say thirty-five is made up of thirty and five. Someone points to the number 35 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.
- Learners use a number grid to count in 1s starting at a given number e.g. 11. They put their finger on the number they start from (11), then count on 4 putting down a counter on each of the numbers as they say them i.e. 12, 13, 14, 15. Ask where they ended i.e. 15. Ask questions such as: what is 11 plus 4? What is 15 minus 4? Do this a few times with other numbers.

  ***Tip**: You introduced the concept of counting on in Week 1. However, if your learners still find this activity too difficult, leave it for another week and then try again. It simply means that they are not yet ready to count on and still need to count out all the 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 and so on. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Tuesday the word problems will be 1 subtraction and 1 grouping and on Thursday you will ask 1 multiplication and 1 addition problem.

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

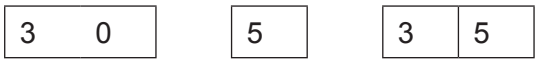
**GROUP 3**

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

- Put a pile of counters in the middle of the group and ask the learners to each count out 35 counters. Once they have done this ask them to arrange the counters in a way that will be easy for them to count.

***Tip**: You must not tell them what to do, but you will be looking for learners who put their counters in groups of 2 or 5 or even 10 to make the counting easier. These learners are moving onto level 2 and you may need to move them to Group 2.*

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that here in the group learners work with the cards by themselves. Ask learners how they would like to set their cards out and why. If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 35, so learners find the 30 and the 5 and cover the 0 of the 30 with the 5.




Once learners have made the two-digit number e.g. 35, using the two cards, they separate the cards to show the two numbers 30 and 5 and say thirty-five is made up of thirty and five. Someone points to the number 35 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.

- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures and so on. Use the number range 1 to 50. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be 1 subtraction and 1 grouping and on Wednesday and Thursday you will ask 1 multiplication and 1 addition problem.

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

| | |
|---|---|
| **Assessment** | **Informal :** Unrecorded assessment of learners oral responses and ability to participate.<br><br>**Formal:** No formal assessment |

## SECOND TERM: WEEK 3

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2</td><td>• Says the number names in sequence (rote counting)<br>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200</td><td colspan="5">Daily:<br>• Rote counting in 1s forwards and backwards from 100 to 200<br>• Counting on in 1s forwards and backwards in the range 149 to 199, starting and ending at any number<br>• Count out objects to 50</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL<br>LO1<br>AS3,5,8,10<br>LO2 AS1,2<br>LO4 AS6<br>LO5 AS1</td><td rowspan="2">• Writes and reads number symbols from 1-150<br>• Writes and reads number names from 1-100<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Identifies patterns in number work<br>• Estimates, measures and compares length and capacity<br>• Builds up and breaks down numbers 1 to 50 e.g. 50 is double 25, but 10 less than 60</td><td colspan="5">Daily:<br>• Identifies number patterns<br>• Build up concept of numerosity of numbers to 50<br>• Recognises and writes number names and symbols for numbers 1 to 50</td></tr>
<tr><td>DAY 1<br><br>Add and subtract single digit numbers with two digit numbers<br><br>Number patterns<br><br>Fill in weather chart</td><td>DAY 2<br><br>Add and subtract single digit numbers with two digit numbers<br><br>Number patterns<br><br>Fill in weather chart</td><td>DAY 3<br><br>Matches numbers and number names 1 - 50<br><br>Decompose two digit numbers as expanded notation<br><br>Fill in weather chart</td><td>DAY 4<br><br>Estimate, measure and compare capacity.<br><br>Fill in weather chart</td><td>DAY 5<br><br>WHOLE CLASS ACTIVITY<br><br>Estimate, measure and compare capacity<br><br>Fill in weather chart</td></tr>
<tr><td>GROUP TEACHING<br><br>LO 1 AS 8,10 11,12</td><td>• Counts out objects to 50<br>• Solve all types of problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 each work with teacher, one group at a time<br>Ask 1 grouping with a remainder and 1 multiplication word problems<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 grouping with a remainder and 1 multiplication word problems<br>Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher<br>Ask 1 multiplication and 1 grouping where the left over is a fraction word problems<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 multiplication and 1 grouping where the left over is a fraction word problems<br>Group 1 works on its own.</td></tr>
</table>

## WEEK 3: WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities what should be done every day. The specific concepts being developed are indicated every day e.g. Day 1
- This term learners should record the weather on a daily basis on their own in the form of a chart. The data collected will be used to develop a table and a graph.
- For the next two weeks you will be dealing with the concept of capacity, though you will assess it during this week.
- You are beginning to introduce your learners to counting on from a given number to a given number. This is not just a rote counting exercise. Learners have to think about what they are doing so make sure they begin and end at the correct number.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***These must be done daily:***

- Learners rote count forwards and backwards in 1s from 50 to 150. This takes them over the completed tens and one hundred.
- Learners count in 1s forwards and backwards in the range 149 - 199, starting and ending at any number, using a number line, number grid, counters, etc.

***Choose from the following to make up the 10 minutes:***

- Let learners choose any number between 1 and 50. Each learner in the class tells a different number fact about that number. Make sure you start with different learners each day otherwise it is always the same learners who have difficulty at the end. You can also vary this activity by only letting the girls answer, or only the boys while the other group listens for mistakes.
- Learners close their eyes and listen to the number of knocks you make on the board and the instructions you give before recording their answer. After each one, ask a number of learners what the answer is, even though the first answer may be correct. This makes each learner listen carefully, work out the answer and become confident in what they are doing. Use the following examples, or make up your own :
  - 4 knocks, then ask what number is double this
  - 5 knocks, then ask what 5 times this number will be
  - 2 knocks, then ask what 10 times this number will be
  - 14 knocks, then ask what number is 4 more, etc.
- Put a pile of counters in the middle of each group. Ask learners to estimate how many there are before counting them. Learners to work together with a partner to count the pile of counters.

***Tip**: This is one of the activities towards Assessment Task 1, so you will need to do it every day this week while you observe and record learners who are able to count out up to 50 objects.*

**DAY 1** (to take no more than 20 minutes)

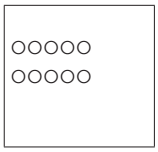
- Give every learner a strip of paper – you can probably get 8 strips from an A4 size paper. Let them fold the strip in half, then in half again, then in half again so that they have 8 blocks. Divide the class in half and one half writes two digit numbers in each of the blocks while the other half writes the numbers 0 to 5 randomly in their 8 blocks. Collect all the strips, keeping the two types separate. Learners work in pairs, one learner taking a strip of two digit numbers and the other learner taking a strip with single digit numbers and, putting the strips together, they make as many addition number sentences as they can in 5 minutes. Each time they shift the one strip down one number and both learners record the number sentence. Collect the strips at the end of the activity.

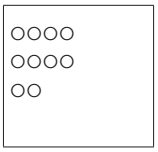
| | | |
|---|---|---|
| 25 | 4 | 25+4=29 |
| 30 | 0 | 30+0=30 |
| 12 | 1 | 12+1=13 |
| 46 | 5 | |
| 22 | 2 | |
| 51 | 0 | |
| 11 | 3 | |
| 10 | 3 | |

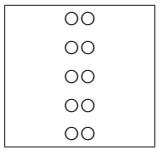
| | | |
|---|---|---|
| 25 | | |
| 30 | 4 | 30+4=3 |
| 12 | 0 | 12+0=12 |
| 46 | 1 | 46+1=47 |
| 22 | 5 | |
| 51 | 2 | |
| 11 | 0 | |
| 10 | 3 | |

| | |
|---|---|
| 25 | |
| 30 | |
| 12 | 4 |
| 46 | 0 |
| 22 | 1 |
| 51 | 5 |
| 11 | 2 |
| 10 | 0 |

- Give each pair of learners 10 circles and ask them to make as many patterns as they can with the circles. They need to try and record a number sentence for each pattern. The following are examples of what you are expecting them to do:







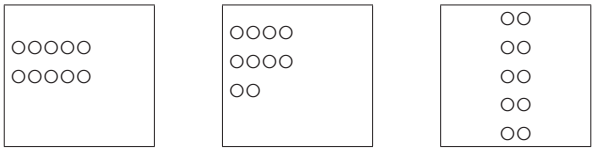
5+5=10 or 2x5 4+4+2=10 or 3+3+2+2 2+2+2+2+2=10 or 5x2 etc.

***Tip**: If this is too easy for your class, give them 20 or 30 or more counters to use. Use this activity towards Assessment Task 1. You will need to do it every day until you have observed all the learners and recorded the level of their achievement.*

**DAY 2** (to take no more than 20 minutes)

- Repeat the activity from Day 1 using the strips made then. However, today ask learners to make subtraction number sentences, not addition.
- Using a completed number grid, cut it up into different shapes and pieces. Put all the pieces in an envelope. The learners will work either in pairs or in groups of 4 for this activity, so make enough envelopes for your class. Give each group an envelope and ask them to fit the pieces together to make a complete, correct number grid. You will find a number grid which you may copy as Annexure 3.

  *Tip: Make this apparatus out of strong cardboard so that you can keep it for a number of years. However, if you only have paper to make it from, teach your learners to look after the pieces so that you can use this activity again. If you mark the back of each piece belonging to the same puzzle with the same mark (a red star, a blue dot, a tick, etc.) you will easily know where a piece found on the floor belongs!*
- Give each pair of learners 10 circles and ask them to make as many patterns as they can with the circles. They need to try and record a number sentence for each pattern. The following are examples of what you are expecting them to do:



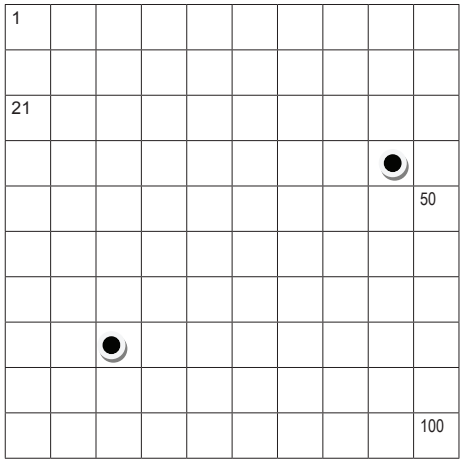
5+5=10 or 2x5 4+4+2=10 or 3+3+2+2 2+2+2+2+2=10 or 5x2 etc

*Tip: If this is too easy for your class, give them 20 or 30 or more counters to use. Use this activity towards Assessment Task 1. You will need to do it every day until you have observed all the learners and recorded the level of their achievement.*

**DAY 3** (to take no more than 20 minutes)

- Divide the class into 4 groups and give each learner two pieces of paper. Groups write the numerals and number names for numbers from 11 to 20, 21 to 30, 31 to 40 and 41 to 50. Put all the pieces of paper with numerals on in one box and the number names in another box. Learners take a piece of paper out of each of the boxes. Now ask them to order all the numerals from the smallest to the biggest by making a number line on the floor (or prestik the numbers on the board). Once the number line is correct, learners place their number word under the correct numeral. Now ask learners to each fetch one number word. Quickly rearrange the numbers so that they are not in any particular order and ask learners to now place their number word next to the correct numeral. Repeat this a few times.

  ***Tip**: Use this activity towards Assessment task 1.*
- Ask learners to set out their flard cards and then to use them to show you the numbers that you put onto a blank number board using counters. Here is an example:




Learners will find the numbers 30 and 9 to make 39 for the first number and 70 and 3 to make 73 for the second number. Place the dot on the blank square, then walk around and observe what the learners are doing as they find the cards.

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

- Hand out copies of the table for recording (see example at end of Day 4), tell learners to take a book to press on plus their pencils and take the class outside. Learners will work in pairs (or groups of 4) for this activity, each of them recording their findings in the table.
- Provide a number of different containers e.g. ice-cream container, milk carton, plastic juice bottle, lunch box, jug, frying pan, etc and different objects for measuring with e.g. water, rice, buttons, stones, etc. Learners choose 3 containers and estimate how many cups of water each container will hold. They record this in the table. Then they check their estimate by measuring accurately using water and a cup. They record their findings. They now arrange the containers in order from most to least. Repeat the activity using a different measuring unit. Learners decide before starting the second time whether the order will change or not, then check to see. An example of a table for recording is:

| **How many cups of water do they hold?** | | | |
|---|---|---|---|
| Container | Estimate | Measure | Order |
| Milk carton | 12 | 4 | 2 |
| Lunch box | 5 | 3 | 3 |
| Frying pan | 10 | 6 | 1 |
| **How many cups of rice do they hold?** | | | |
| Milk carton | | | |

**DAY 5** (the whole lesson)

- Today you are going to allow learners to investigate capacity and these activities should be done outside if possible. Use these activities for assessment purposes. Divide the class into 4 random groups and give each group a task to complete. After about 15 minutes rotate the groups. Each group will do all of the activities, but you will only assess the two activities which have some form of recording. Ideas for the activities are:
  - Learners predict which containers can and cannot hold certain substances e.g. a sieve will hold marbles but not water, a funnel will hold stones but not sand, etc. Provide the containers and substances for learners to use to test whether their predictions were accurate or not. Containers: sieve, funnel, colander, spoon, saucer. Substances: sand, water, buttons, stones, marbles, rice.
  - Learners investigate pouring substances from one utensil to another, discussing what happens e.g. what happens when a cup of marbles is poured into an empty detergent bottle? Provide empty detergent bottles, cups, plastic piping, small buckets, teapots, funnels, etc. as well as sand, marbles, beads, samp, water, etc.
  - Learners must find 3 objects which take up more space than the chalkboard duster, and 3 objects which take up less space. They make a poster of their findings e.g. ✂ take up less space than the duster.

    ***Tip**: Use this activity towards Assessment Task 1 by observing the groups doing this activity and recording your observations*
  - Learners investigate the capacity of various containers by firstly estimating how many objects a container will hold, then packing and counting the number of objects used. Some ideas of a container and objects are the following: *a box with chalk*, *a cup with marbles, an egg-cup with beads, a shoe-box with match-boxes, a school bag with lunch boxes.* Learners must record their results in a table:

| Container | Estimate | Actual | Comment |
|---|---|---|---|
| Chalk in a box | 26 | 45 | Too few |
| Lunch boxes in school bag | 14 | 11 | Too many |

***Tip:** Use this activity towards Assessment Task 1 by observing the groups doing this activity and recording your observations*

| | |
|---|---|
| **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 :<br>• Identifies patterns in number work<br>• Estimates, measures and compares length and capacity<br>• Writes and reads number symbols from 1-150<br>• Writes and reads number names from 1-100<br>• Counts out objects to 50<br>• Solves problems involving group and sharing including fractions and remainders. |

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

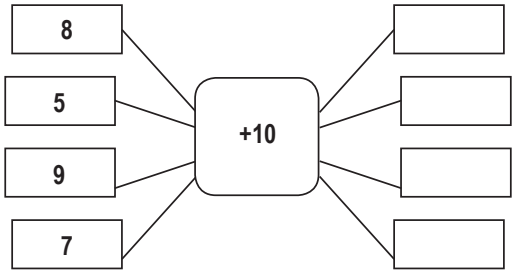
**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt.
- Learners of this age like the security of knowing what to do so try and establish an order of work to be done every day e.g. start with a counting activity (counting bag with objects, pictures on a card to count etc), then do some written work about one number (look at the numerosity of a number – write 5 number sentences where XX is the answer), then some addition, subtraction, pattern work etc. Vary the way addition and subtraction activities are presented - flow diagrams one day, dice another day and so on as learners get tired and bored if they just have to do lots of the same thing every day.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- 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. You should do all the types of activities provided 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.
- This term learners should record the weather on a daily basis on their own in the form of a chart. Last week the learners did this activity as a whole class to familiarise them with the activity. This week they will do the activity on their own every day. The data collected will be used to develop a table and a graph.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation.

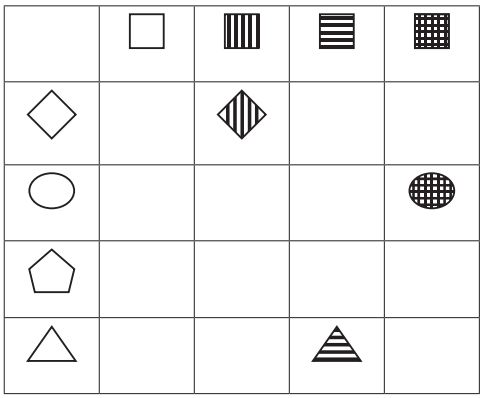
## DAILY ACTIVITIES

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

- Fill in the weather chart every day for the month. Annexure 1 provides a template of a calendar for the month.
- Repeated addition and subtraction number sentences.
- Number patterns (see Independent activities for Week 2 for examples). Use numbers over 100 e.g. 101+1=, 102+1=, 103+1= and so on adding and subtracting single digits 1 to 5.
- Fill in the numbers you would use when counting in 2's, 5's and 10's on a number line or number square
- Matches numbers and number names, and orders them according to given criteria.
  ***Tip**: These written activities can be used for assessment purposes towards Assessment Task 1.*
- Complete number sentences using 2 operations
- Complete addition and subtraction number sentences using single digits with complete 10 using open frame sentences e.g. 10 + ☐ = 19 or 17 - ☐ = 10
- Doubling and halving activities
- Flow diagrams (spider diagrams) e.g.




- 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.*

- 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.

  ***Tip**: This can be used as an activity towards Assessment Task 1.*
- Ask each learner to make a decreasing pattern with their counters i.e. a pattern where the number decreases each time. Encourage learners to make their own pattern. Once everyone has made a pattern, let learners identify the patterns that others have made. Discuss the different patterns e.g. this pattern remains a square but with fewer blocks each time, this pattern decreases by 1 each time, :

  □ □ □ □

  □ □ □ □ □ or □ □

  □ □ □ □ □ □ □ □ □

- 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 Monday the word problems will be 1 grouping with a remainder and 1 multiplication and on Wednesday you will ask 1 multiplication and 1 grouping where the left over portion is a fraction problems. It is important that learners are given the opportunity to reflect on their thinking.
  ***Tip**: Assess how learners solve the grouping word problems on Monday and Wednesday and use this towards Assessment Task 1.*

**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. They way learners count indicates the level they are working at.
  ***Tip**: This can be used as an activity towards Assessment Task 1.*
- Learners use a number grid to count in 1s starting at a given number e.g. 17. They put their finger on the number they start from (17), then count on 5 putting down a counter on each of the numbers as they say them i.e. 18, 19, 20, 21, 22. Ask where they ended i.e. 22. Ask questions such as: what is 17 plus 5? What is 22 minus 5? Do 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 the word problems will be 1 grouping with a remainder and 1 multiplication and on Thursday you will ask 1 multiplication and 1 grouping where the left over portion is a fraction problems. It is important that learners are given the opportunity to reflect on their thinking.
  ***Tip**: Assess how learners solve the grouping word problems on Tuesday and Thursday and use this towards Assessment Task 1.*

**GROUP 3**

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

- Learners count in 5's till you clap your hands e.g. clap at 25. Ask how many 5's in 25? If 5 5's are 25, what are 6 5's? If 5 5's are 25, what are 7 5's? If 5 5's are 25, what are 10 5's?

- 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.
  ***Tip**: This can be used as an activity 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 Monday and Tuesday the word problems will be 1 grouping with a remainder and 1 multiplication and on Wednesday and Thursday you will ask 1 multiplication and 1 grouping where the left over portion is a fraction problems. It is important that learners are given the opportunity to reflect on their thinking.
  ***Tip**: Assess how learners solve the grouping word problems and use this towards Assessment Task 1.*

| | |
|---|---|
| **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 :<br>• Identifies patterns in number work<br>• Estimates, measures and compares length and capacity<br>• Writes and reads number symbols from 1-150<br>• Writes and reads number names from 1-100<br>• Counts out objects to 50<br>• Solves problems involving equal grouping and sharing including fractions and remainders. |

**SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY SECOND TERM**

**TASK 1 : WEEK 3**

| COMPONENT | MILESTONES | WKS | TASKS |
|---|---|---|---|
| **COUNTING AND MENTAL/NUMBER SENSE** | • Cardinal value of numbers to 50<br>• Counts out objects to 50<br>• Identifies patterns in number work<br>• Estimates, measures and compares length and capacity | Wk 2<br><br><br><br>Wk 3 | • Use the practical and written activity on Day 5 to assess length.<br>• Use the practical activities on Days 1to 5 to assess learners' ability to count out to 50.<br>• Use the practical and written activity on Days 2 and 3 to assess learners' understanding of number patterns.<br>• Use the practical and written activity on Day 5 to assess capacity. |
| **PROBLEM SOLVING** | • Solves problems involving grouping and sharing including fractions and remainders | Wk 3 | • During Group Teaching time observe learners' willingness and ability to solve problems and reflect on their thinking |

## SECOND TERM: WEEK 4

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2</td><td>• Says the number names in sequence from 1 to 200 (rote counting)<br>• Counts out objects to 50<br>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200</td><td colspan="5">Daily:<br>• Rote counting in 1s forwards and backwards from 100 to 200<br>• Counting on in 2s forwards and backwards in the range 100 to 200<br>• Counting in 2s from 44 to 102 –even numbers<br>• Count out objects to 50</td></tr>
<tr><td rowspan="2">NUMBER SENSE AND MENTAL<br>LO1 AS 5,8,9,10<br>LO 2 AS1,4<br>LO 3 AS 4<br>LO5 AS1,2</td><td rowspan="2">• Identifies patterns in number work<br>• Estimates, measures and compares length and capacity<br>• Builds up and breaks down numbers 1 to 50 e.g. 50 is double 25, but 10 less than 60<br>• Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Completes repeated addition and subtraction of 2, 5 and 10<br>• Recognises symmetry</td><td colspan="5">Daily:<br>• Identifies number patterns<br>• Build up concept of numerosity of numbers to 50<br>• Recognises and writes number names and symbols for numbers 1 to 50</td></tr>
<tr><td>DAY 1<br><br>Add and subtract single digit numbers with two digit numbers<br><br>Count in 10s<br><br>Fill in weather chart</td><td>DAY 2<br><br>Add and subtract single digit numbers with two digit numbers<br><br>Count in 10s<br><br>Fill in weather chart</td><td>DAY 3<br><br>Repeated addition and subtraction of 2, 5 and 10<br><br>Identifies number patterns<br><br>Fill in weather chart</td><td>DAY 4<br><br>Repeated addition and subtraction of 2, 5 and 10<br><br>Identifies number patterns<br><br>Fill in weather chart</td><td>DAY 5<br><br>WHOLE CLASS ACTIVITY<br><br>Symmetry<br><br>Fill in weather chart</td></tr>
<tr><td rowspan="2">GROUP TEACHING<br><br>LO1 AS 5, 8, 11</td><td rowspan="2">• Uses flard cards to build 2-digit numbers to 50 e.g. 26=20+6<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 each work with teacher, one group at a time<br>Ask 1 sharing and 1 multiplication word problem involving doubling and halving<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher<br>Ask 1 sharing and 1 multiplication word problem involving doubling and halving<br>Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher<br>Ask any 2 different addition word problems<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher<br>Ask any 2 different addition word problems<br>Group 1 works on its own.</td></tr>
</table>

## WEEK 4: WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities what should be done every day. The specific concepts being developed are indicated every day e.g. Day 1
- This term learners should record the weather on a daily basis on their own in the form of a chart. The data collected will be used to develop a table and a graph.
- You are beginning to introduce your learners to counting on from a given number to a given number. This is not just a rote counting exercise. Learners have to think about what they are doing so make sure they begin and end at the correct number.
- The lesson on Day 5 should be integrated with Arts and Culture as an introduction to investigating the meaning of symmetry.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***These must be done daily:***

- Learners rote count forwards and backwards in 1s from 100 to 200.
- Learners count in 2s forwards and backwards in the range 100 - 200, using a number line, number grid, counters, etc.

***Choose from the following to make up the 10 minutes:***

- Play a game “Secret number”. Here are some examples:
  - My secret number is between 23 and 26 and is an even number. What is it?
  - My secret number is more than 40 but less than 50. If I count in 5s I will say this number. What is it?
  - My secret number is more than six twos but less than seven twos. What is it?
- Using a number grid, learners put a counter on the number 44. Now let them put a counter on each number that is 2 more than the previous number until they reach 100. When everyone has finished, let learners count in 2s starting at 44 by pointing to the numbers with counters on.

**DAY 1** (to take no more than 20 minutes)

- Call 1 learner to the front. Ask him/her to hold up their fingers and ask the class how many fingers they can see. Call another learner to the front and ask the same question – how many fingers can you see? Also ask how many children there are. Keep calling learners till you have 5 learners in front. Ask the questions: how many fingers? How many learners? Now ask “If 5 learners have 50 fingers, how many learners will I need if I want 60 fingers? 70 fingers? 80 fingers?” If learners are not sure, let them count all the fingers.

- Draw a flow chart in the board and let learners take turns to write the answer and extend the chart (by writing +2 and drawing the next box) e.g. 10 + 2 → [12] +2 → [14] +2→ [ ] +2 → [ ] +2 →[ ] and so on. After 10 learners have had a turn, start a new flow chart with different numbers e.g. start with 37 and + 4 each time. The concept you are developing is adding a single digit number to a two-digit number using repeated addition, so any numbers in this range will be fine.

  ***Tip**: This is a lovely activity as it can be changed to suit the concept you are dealing with i.e. this example is repeated addition of 2, but it is also adding a single digit number to a two-digit number. You can add 1, then 2, then 3, then 4, or you can fill in the boxes and the learners have to work out the missing number to be added e.g.*

  35 +3 → [38] +___ → [42] + ____ → [47] + ____ [54]

**DAY 2** (to take no more than 20 minutes)

- Repeat the flow chart activity from Day 1 using different numbers. However, today ask learners to make subtraction flow charts, not addition.
- Give each group a pile of matches and ask them, as a group, to count how matches there are in the pile. Each learner must participate in the activity. Once all the matches have been counted ask the group to put the matches in piles that can be counted easily e.g. piles of 2, or 5, or 10. Now let them count the matches by pointing to the piles e.g 2, 4, 6 etc. Discuss the quickest way to count all the matches i.e. by putting them into piles of 10. Change the number in each of the piles and ask the groups to count the matches by putting them into piles of 10 before counting them. Once this has been done, let a member of each group indicate the number of matches they have on the abacus as well as the number grid or number line.

**DAY 3** (to take no more than 20 minutes)

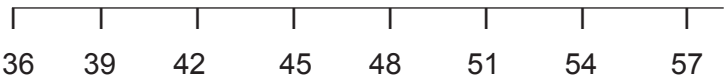
- Give each learner a piece of paper and ask them to write down a number between 20 and 75. Working in their groups they order their numbers from smallest to biggest. Now let them work out how many must be added each time to get from one number to the next e.g.

| | | | |
|---|---|---|---|
| 24 | 29 | 35 | 43 |

- What must be added to 24 to make 29? (+5) What must be added to 29 to make 35? (+6) etc. These numbers can be written on pieces of paper and put in the correct place between the boxes. Once all the groups have finished, learners leave their flow charts on their tables and move to another group to check whether the flow chart is correct or not.
- Now let the groups order their numbers from biggest to smallest and work out what must be subtracted each time to get from one number to the next. Once again do peer assessment.

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

- Using their number grids, learners place a counter on 10. Let them count on 10 and place another counter, count on another 10 and place a counter on the number. Once counters have been placed on all the 10s to 100 learners count in 10s pointing to the numbers with counters. Repeat the activity but start at 6, then start at 2 etc. After doing this a few times ask the learners to identify the pattern of counting in 10 i.e. the numbers always come under each other, the last digit remains the same, the first digit gets bigger by one etc.
- Give each learner an empty number line and ask them to make their own number pattern and fill in the numbers on the number line. Now let them swap their number lines within the group and each learner must identify the number pattern e.g. a number line has on it the following numbers:




This pattern is adding on 3 each time.

***Tip**: This activity allows learners to work at their own level within a whole class situation. Some learners may do a simple pattern of counting in 1s while another learner may make a more complicated pattern e.g. add 3, subtract1, add 3, subtract 1etc.*

**DAY 5** (the whole lesson)

- Using any even number e.g. 66, do the following:
  - Learners identify the numerosity of the number e.g. 66 is 65+1, 40+26, 70-4 etc.
  - Learners state which flard cards they would use to make up the number.
  - Find half of the number e.g. half of 66 is 33.
  - Find the numbers which are nearly half e.g. 32 or 34.
  - Find double the number and then nearly double the number.
  - Find the numbers one more than and one less than the number.
  - Find the number which is 10 more and 10 less, 20 more and 20 less, etc.
  - Ask what each of the digits mean i.e. 60 and 6.
  - Learners identify how many 2s, 5s and 10s are in the number and how many would be left e.g. 2s nothing left, 5s would have 1 left and 10s would have 6 left. Let them use counters if they need them.

    ***Tip***: *This activity revises a lot of the work done up to this point. Informal assessment during this activity will help you identify areas of weakness as well as learners who are able to cope with more advanced concepts.*
- Give each learner an A4 blank piece of paper. Learners fold the paper in half (this makes an A5 size) and starting from the fold, draw half of a butterfly i.e. head, thorax, abdomen and the two wings. Keeping the two sides together, learners cut out the shape avoiding cutting down the fold. They now open out the shape and the have a whole butterfly. Using paint, wax crayons, etc. learners decorate the butterfly with symmetrical patterns. It is only necessary to decorate the top of the butterfly.

| | |
|---|---|
| – Once this is finished, give learners another A4 piece of paper on which they draw, print or do rubbings of leaves and colour them in.<br>– Now let learners crumple up thin strips of newspaper and glue them to the back of the body so that the body becomes padded and the newspaper damp with glue. It is better if you use white glue for this.<br>– While the glue is still wet, paste the body of the butterfly onto the leaf picture keeping the wings free.<br>– Once dry, display the art around the classroom.<br>***Tip:*** *This activity may take longer than one lesson and can be done over a few weeks if necessary.* | |
| **ASSESSMENT** | • **Formal :** No formal, recorded Assessment.<br>• **Informal :** Unrecorded assessment of learners oral responses and ability to participate |

## WEEK 4: GROUP TEACHING

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

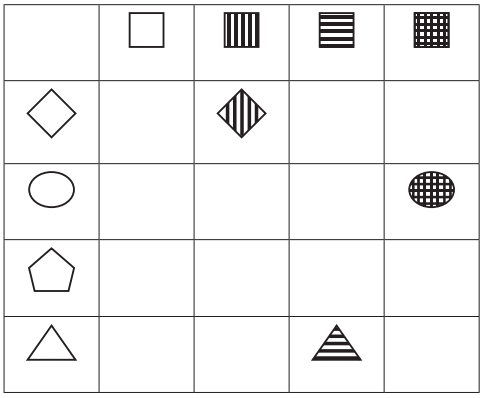
**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt.
- Learners of this age like the security of knowing what to do so try and establish an order of work to be done every day e.g. start with a counting activity (counting bag with objects, pictures on a card to count etc), then do some written work about one number (look at the numerosity of a number – write 5 number sentences where XX is the answer), then some addition, subtraction, pattern work etc. Vary the addition and subtraction activities - flow diagrams one day, dice another day and so on as learners get tired and bored if they just have to do lots of the same thing every day.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- 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. You should do all the types of activities provided 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 <u>at least 2 different word problems to solve every time you work with them.</u> **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.**
- This term learners should record the weather on a daily basis on their own in the form of a chart. They will do the activity on their own every day. The data collected will be used to develop a table and a graph.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation.

### DAILY ACTIVITIES

**<u>Examples of activities to be done independently.</u>** *Work from a Learner's Book, worksheets, workcards, work from the board etc.*

- Fill in the weather chart every day for the month. Annexure 1 provides a template of a calendar for the month.
- Repeated addition and subtraction number sentences.
- Number patterns (see Independent activities for Week 2 for examples). Use numbers over 100 e.g. 101+1=, 102+1=, 103+1= and so on adding and subtracting single digits 1 to 5.
- Fill in the numbers you would use when counting in 2s, 5s and 10's on a number line or number square
- Complete number sentences using 2 operations
- Doubling and halving activities
- Flow diagrams similar to those done on Day 1, 2 and 3
- Complete simple matrix patterns e.g



- Use the strips of paper made in Week 3

| | | |
|---|---|---|
| 25 | 4 | 25+4=29 |
| 30 | 0 | 30+0=30 |
| 12 | 1 | 12+1=13 |
| 46 | 5 | |
| 22 | 2 | |
| 51 | 0 | |
| 11 | 3 | |
| 10 | 3 | |

| | | |
|---|---|---|
| 25 | | |
| 30 | 4 | 30+4=3 |
| 12 | 0 | 12+0=12 |
| 46 | 1 | 46+1=47 |
| 22 | 5 | |
| 51 | 2 | |
| 11 | 0 | |
| 10 | 3 | |

| | |
|---|---|
| 25 | |
| 30 | |
| 12 | 4 |
| 46 | 0 |
| 22 | 1 |
| 51 | 5 |
| 11 | 2 |
| 10 | 0 |

**Working with the group**

**GROUP 1**

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

- Draw a picture of ladybird on cardboard and cut it out. You will need two ladybirds for this activity. Stick 10 big coloured spots on its body. Let the learners look at the ladybirds, then cover them. Ask learners to estimate how many spots are there. Give each learner a chance to say how many s/he thinks there are. Uncover the pictures and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number?
  ***Tip:*** *Use prestik for the spots so that you add or take off spots as desired. You can use as many ladybirds as you think the group will manage e.g. 5 with 10 spots each, or 7 with 5 spots each, etc*
- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that learners work with the cards by themselves. Learners set out the cards in sequence and make the numbers as you say them i.e. the number you say is 46, so learners find the 40 and the 6 and cover the 0 of the 40 with the 6.

| | | | | | |
|---|---|---|---|---|---|
| 4 | 0 | | 6 | 4 | 6 |

Once learners have made the two-digit number e.g. 46, using the two cards, they separate the cards to show the two numbers 40 and 6 and say forty six is made up of forty and six. Someone points to the number 46 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important. It is also extremely important that learners separate the two cards each time they make a number as you are developing the concept of place value.

- Ask learners to make a two-digit number e.g. 52 and show you the two cards needed. Now ask them to show you the new number they will get if they add 4 to the number i.e. add 4 to 52 and show the new number 56. Ask them to show the two cards needed for the new number and they should show you 50 and 6***. If learners show you 50 and 6 and 2 (because they put the 6 over the 2) discuss what the number will be if they use all those numbers – 58***. Do not rush this stage. It is very important that learners understand that when they add to, or subtract from, a number the whole number changes to the new number. In this case the 52 changed to 56 when 4 was added. Ask questions such as: *What was the first number? What was the new number after 4 was added? Which number changed? Why did the 2 change? Why did the 50 not change?* After doing this a few times, learners pack away their set of flard 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 some of the learners tell the group how s/he solved the problem. On Monday the word problems will be 1 sharing and 1 multiplication using doubling and halving and on Wednesday you will ask 2 different types of addition problems. It is important that learners are given the opportunity to reflect on their thinking.

  ***Tip****: It is through solving problems that learners build up their own understanding of numbers, computations, fractions etc. Therefore you do not first teach, for example, addition and subtraction and then expect learners to use this knowledge to solve problems. Learners rather use the solving of problems to develop an understanding of the various mathematical concepts.*

**GROUP 2**

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

- Give each learner a pile of unifix blocks or small wooden blocks or square pieces of paper, etc. Ask each learner to make a growing pattern with their counters i.e. a pattern where the number increases each time. Encourage learners to make their own pattern. Once everyone has made a pattern, let learners identify the patterns that others have made. Discuss the different patterns e.g. this pattern remains a square but with more blocks each time, this pattern increases by 1 each time :

□ □ □ □

□□ □ □ □ or □ □

□ □□ □ □ □ □ □ □

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that here in the group learners work with the cards by themselves. Ask learners how they would like to set their cards out and why. If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 46, so learners find the 40 and the 6 and cover the 0 of the 40 with the 6.

| 4 0 | 6 | 4 6 |
|---|---|---|

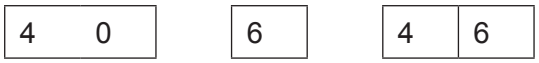
- Once learners have made the two-digit number e.g. 46, using the two cards, they separate the cards to show the two numbers 40 and 6 and say forty six is made up of forty and six. Someone points to the number 46 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important.
- Ask learners to make a two-digit number e.g. 52 and show you the two cards needed. Now ask them to show you the new number they will get if they add 4 to the number i.e. add 4 to 52 and show the new number 56. Ask them to show the two cards needed for the new number and they should show you 50 and 6***. If learners show you 50 and 6 and 2 (because they put the 6 over the 2) discuss what the number will be if they use all those numbers – 58***. Do not rush this stage. It is very important that learners understand that when they add to, or subtract from, a number the whole number changes to the new number. In this case the 52 changed to 56 when 4 was added. Ask questions such as: *What was the first number? What was the new number after 4 was added? Which number changed? Why did the 2 change? Why did the 50 not change?* After doing this a few times, learners pack away their set of flard 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 75. Let some of the learners tell the group how s/he solved the problem. On Tuesday the word problems will be 1 sharing and 1 multiplication using doubling and halving and on Thursday you will ask 2 different types of addition problems. It is important that learners are given the opportunity to reflect on their thinking.

  ***Tip:*** *It is through solving problems that learners build up their own understanding of numbers, computations, fractions etc. Therefore you do not first teach, for example, addition and subtraction and then expect learners to use this knowledge to solve problems. Learners rather use the solving of problems to develop an understanding of the various mathematical concepts.*

**GROUP 3**

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

- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that here in the group learners work with the cards by themselves. Ask learners how they would like to set their cards out and why. If you feel your learners are ready, you can now start giving double digit numbers e.g. 35, 91, etc. At this stage make sure learners use the whole numbers i.e. the number you say is 35, so learners find the 30 and the 5 and cover the 0 of the 30 with the 5.




  Once learners have made the two-digit number e.g. 35, using the two cards, they separate the cards to show the two numbers 30 and 5 and say thirty-five is made up of thirty and five. Someone points to the number 35 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. After making each number learners put the two cards back in their place so that the cards are easy to find. Do not rush this stage as it is very important.
- 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 50. Let some of the learners tell the group how s/he solved the problem. On Monday and Tuesday the word problems will be 1 sharing and 1 multiplication using doubling and halving and on Wednesday and Thursday you will ask 2 different types of addition problems. It is important that learners are given the opportunity to reflect on their thinking.

  ***Tip:** It is through solving problems that learners build up their own understanding of numbers, computations, fractions etc. Therefore you do not first teach, for example, addition and subtraction and then expect learners to use this knowledge to solve problems. Learners rather use the solving of problems to develop an understanding of the various mathematical concepts. **This is particularly important when working with learners who think more slowly.** Thinking is harder for these learners, but it is important that they are given the same opportunities to develop their own understanding of mathematical concepts.*

| | |
|---|---|
| **Assessment** | • **Formal :** No formal, recorded Assessment.<br>• **Informal :** Unrecorded assessment of learners oral responses and ability to participate |

## SECOND TERM: WEEK 5

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2</td><td>• Says the number names in sequence (rote counting)<br>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200<br>• Counts out objects to 50</td><td colspan="5">Daily :<br>• Rote counting in 1s and 2s between 100 and 200, forwards and backwards.<br>• Count in 2s in a given number range 45 to 101, forwards and backwards, using a number grid<br>• Count on from a given number</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO1 AS 3,8,9,10<br>LO2 AS 2<br>LO3 AS4<br>LO5 AS1,2,3</td><td rowspan="3">• Writes and reads number symbols from 1 to at least 100<br>• Writes and reads number names to at least 50<br>• Identifies patterns in number work<br>• Builds up and breaks down numbers up to 100 e.g. 24=20+4 or 23+1 or 10+10+4 or 30-6 etc.<br>• Uses flard cards to build 2-digit numbers i.e. 26=20+6<br>• Recognises patterns using doubles e.g. 24+4=28 : 24+5=29<br>• Recognises symmetry<br>• Collects and sorts data according to given criteria</td><td colspan="5">Daily :<br>• Develop the numerosity of numbers to 50<br>• Repeated addition<br>• Recognise and write number names and number symbols</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>Doubling of single digit numbers<br><br>Identifies patterns<br><br>Symmetry</td><td>Patterns using doubles of single digit numbers<br><br>Expanded notation<br><br>Symmetry</td><td>Patterns using doubles of bigger numbers<br><br>Adding and subtracting a complete 10<br><br>Symmetry</td><td>Analyzing number patterns<br><br>Symmetry</td><td>WHOLE CLASS ACTIVITY<br><br>Revision<br><br>Data Handling</td></tr>
<tr><td rowspan="2">GROUP TEACHING<br><br>LO1 AS 5,7,8,11, 12</td><td rowspan="2">• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Solves problems involving grouping and sharing including factions and remainders<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 multiplication and 1 grouping with a remainder word problem<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 multiplication and 1 grouping with a remainder word problem<br>Group 1 works on its own.</td><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 addition and 1 sharing where the left over is a fraction word problem<br>Group 2 works on its own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 addition and 1 sharing where the left over is a fraction word problem<br>Group 1 works on its own.</td></tr>
</table>

## WEEK 5: WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- During this week you will be dealing with symmetry. Learners need to investigate the symmetry of 2-D shapes and 3-D objects as well as symmetrical patterns and position.
- **The vocabulary of doubling and halving is very important at this stage because you are introducing further vocabulary to the concept of doubling. You are extending the learners' understanding of doubling by looking for patterns. For example, double 3 is 6, but nearly double is 3+2 (not quite there yet). However, 3+4 is a little more than double 3, but also nearly double 4. It is vital that you develop the learners' understanding of this relationship in order for them to be able to apply this knowledge to calculations. Remember, learners will already have used this concept during the solving of problems. You are now formalising it by introducing vocabulary.**
- Remind learners every day to fill in their weather chart that they are keeping for the month.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***To be done daily:***

- Rote count in 1s and 2s to 200, forwards and backwards.
- Count in 2s from 45 to 101 using a number grid.

***Choose from the following to make up the 10 minutes:***

- Choose any number from 20 to 50. Each learner tells a different number fact about the number.
- Play games with addition and subtraction to work out the secret number. Here are some examples:

  "Work out the secret number. My number is more than 12 and less than 18. It is an odd number and is found in the 5s pattern. What is my number?"

  "Work out the secret number. My number is more than 9 and less than 21. It is an even number. It is less than 10+8 but more than 7+7. What is my number?"

**DAY 1** (to take no more than 20 minutes)

- Ask learners to use their fingers to show double 2 (2 on one hand and 2 on the other hand), double 3, double 4 and double 5. Ask them to think of ways to show double 6, double 7, double 8, double 9 and double 10, still using fingers.
- Working in pairs, learners use their flard cards. As you call out a number, for example 4, one of the pair finds the number and holds it up e.g. 4. Now ask them to add 10. The other learner finds the 10 and holds it up. Write each number on the board i.e. 4+10. Ask learners to show the number the two cards make i.e. 14. Complete the number sentence e.g. 4+10=14. Repeat this using the other single digit numbers. Make sure you use all the numbers from 1 to 9, but ask them in a random order.

- Once all the number sentences are written up, learners order and record the number sentences from smallest to biggest. Discuss the patterns they find.

**DAY 2** (to take no more than 20 minutes)

- Ask learners to hold up 2 fingers on one hand. Now ask them to hold up fingers on the other hand that, when added to the 2, will nearly double 2. Learners will hold up either 1 finger or 3 fingers. Discuss what these mean i.e. if 1 finger has been held up, when added it is not quite double 2, whereas if 3 fingers have been held up, when added they make just more than double 2. Both will be correct. Repeat this activity using numbers up to 4 to be doubled and nearly doubled in this way.

  ***Tip**: You can do the same activity using counters or other objects.*
- Working in pairs, learners use their flard cards. As you call out a number e.g. 14, the pair work together to find the two cards i.e. 10 and 4. One learner finds the 10 and the other finds the 4. Together they make the number i.e. 14 and one of them holds up the number. Now ask them to show you the number that is 10 less than 14. The number 4 should be held up. Do this a few times using other numbers. You will need to record it on the board each time.
- Once all the number sentences are written up, learners order and record the number sentences from biggest to smallest. Discuss the patterns they find.

**DAY 3** (to take no more than 20 minutes)

- Learners use counters and work with a partner. One learner puts out a group of counters e.g. 5 and the other learner must make a group that when added to the 5 will nearly double that number. The second learner will put out either 4 or 6 counters. Learners record what they did on a piece of paper.

  ***Tip:** They will either draw or use symbols according to their level.*
- Still working in pairs, learners will follow your instructions and do the following:
  - One learner must count out 6 counters and put them in front of him/her.
  - The other learner must put out counters that, when added to the 6, will make up one less than double 6.
  - Learners record what they did i.e. 6+5=11 and you record it on the board.
  - Leave the original pile of 6 counters in place and make the second pile exactly the same. Discuss what they did i.e. this time they have made double 6.
  - They record 6+6=12 and you record the same on the board.
  - Working with the two piles of 6 counters, make one pile one more than double i.e. one pile will still be 6 and the second pile will be 7. After discussion, learners record 6+7=13 and you record it on the board.

    On the board you will have recorded: 6+5=11
    6+6=12
    6+7=13

    Ask learners what they notice about this pattern.

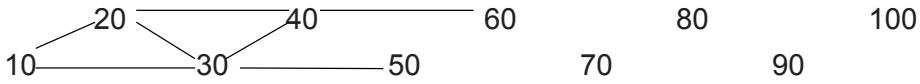
- Each learner uses a number grid and counters and follows your instructions. All the counters must remain in place on the grid as they are used. Use the following as a guide:
  - Put a counter on 5 and then put a counter on the number that is 10 more than 5.
  - What number have you reached? 15.
  - Now put a counter on the number that is 10 more than 15.
  - What number have you placed the counter on? 25.
  - Can you see a pattern yet? Discuss any answers without revealing the pattern.
  - Can you predict what number the next counter will be placed on? Listen to a few predictions then continue letting learners place counters adding on 10 each time to the previous number until number 95.
  - Once again ask if anyone can see a pattern and explain the reason for the pattern.
- Learners use the pattern shown on the grid by the counters and count in 10s, both forwards and backwards, pointing to the counters as they count e.g. 5, 15, 25, 35, etc. and 95, 85, 75, etc.

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

- Each learner uses a number grid and counters and follows your instructions. All the counters must remain in place on the grid as they are used. Use the following as a guide:
  - Put a counter on 20 and then put a counter on the number that is 20 more than 20.
  - What number have you reached? 40.
  - Now put a counter on the number that is 20 more than 40.
  - What number have you placed the counter on? 60.
  - Can you see a pattern yet? Discuss any answers without revealing the pattern.
  - Can you predict what number the next counter will be placed on? Listen to a few predictions then continue letting learners place counters adding on 20 each time to the previous number until number 100.
  - Once again ask if anyone can see a pattern and explain the reason for the pattern.
  - Write the pattern on the board i.e. 20, 40, 60 80, 100
  - Repeat the whole activity, but starting at 10.
  - Write the numbers 10, 30, 50 etc. under the first row of numbers - not directly under the number, but placing the 10 just to the left of the 20 and the 30 between the 20 and the 40. For example:
  -

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 20 | | 40 | | 60 | | 80 | | 100 |
| 10 | | 30 | | 50 | | 70 | | 90 | |

  - Ask learners to identify the patterns, first joining the top row, then the bottom row, then joining from the bottom to the top.




- Let learners record the patterns in their books.

- Learners use the pattern shown on the grid by the counters and count in 20s, both forwards and backwards, pointing to the counters as they count e.g. 20, 40, 60, etc. and 90, 70, 50, etc.
- Working in pairs, learners use their number grids and counters and investigate their own patterns. These need to be recorded in their books.

**DAY 5** (the whole lesson)

- The Weather Chart that learners have been filling in every day should have at least 3 weeks completed by this stage. They will need this data in order to do this activity. Prepare a blank graph beforehand with 5 columns and 10 rows. Number the rows at the left hand side, starting at the bottom, from 1 to 10. Learners decide how each of the columns will be labelled e.g. sunny, cloudy, windy, rainy, stormy etc. Write these on the chart.

| **Our Weather Chart** | | | | | |
|---|---|---|---|---|---|
| 10 | | | | | |
| 9 | | | | | |
| 8 | | | | | |
| 7 | | | | | |
| 6 | | | | | |
| 5 | | | | | |
| 4 | | | | | |
| 3 | | | | | |
| 2 | | | | | |
| 1 | | | | | |
| | | | | | |
| | Sunny | Cloudy | Windy | Rainy | Stormy |

Learners look at their individual weather charts and count the number of days of each kind. Although their charts should be the same, you may find some differences. Discuss the differences, but use consensus to decide on the number to be used in the graph. Let learners have turns to colour in blocks according to the data in order to make a block graph.

***Tip:*** *Display this graph because you will use it in Week 6 for assessment as part of Assessment Task 2.*

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

## WEEK 5: GROUP TEACHING

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

**Notes to teacher**:

- By now you have established 3 groups. Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. A number of types of activities are provided and you should do ALL the types each time you work with that group; but remember, although examples are provided, you should look for your own examples that will suit your learners. You will also give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- You will be developing a new concept- that of symmetry - during the group teaching times this week. This will enable you to work closely with, and observe, each learner. Much of the work will be practical, requiring many resources, so is therefore suitable for small group teaching.

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

- Fill in weather chart.
- Repeated addition and subtraction number sentences.
- Number patterns or other sequencing activity (e.g. pictures, shapes, etc.).
- Complete number sentences using 2 operations.
- Complete addition and subtraction number sentences using single digits with complete 10 using open frame sentences e.g. 10 + □ = 19 or 17 - □ = 10.
- Writes number names and symbols.
- Writes expanded notation of two-digit numbers e.g. 26=20+6, 30+2=32
- Doubling and halving activities.

**Working with the group**

**GROUP 1**

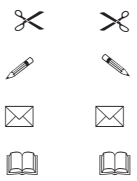
*On **Monday** and **Wednesday** this group works with the teacher for 25 minutes.*

- On **Monday** you are going to introduce the concept of symmetry . Start off by showing the group two objects, one which is symmetrical e.g. a vase, and the other asymmetrical e.g. a shoe. Ask learners to discuss the similarities and differences between the two objects. Now cover one half of the asymmetrical object e.g. the tea-pot with a piece of paper and ask if they drew the other half would it have the same shape and features as the part they can see. Cover the symmetrical object e.g. the vase and ask the same question. Encourage learners to discuss the reasons for the differences in the answers to the two questions. Put a variety of objects in the box e.g. geometric shapes, a shoe, a ruler, a jersey, etc. Each learner takes one of the objects, looks at it and decides if the two sides are mirror images (i.e. is symmetrical). Working in pairs one learner covers half his/her face with a piece of paper.

The other learner responds to your instructions, pointing to the correct place of the covered features e.g. point to the place where the cheek should be, point to the place where the eye should be, etc. Ask learners how they know where to point. Let learners swap around and repeat the activity so that all learners have had a chance to cover their faces.

- Give all learners a blank piece of A4 paper and ask them to fold it in half. Ask them to draw any large curved line shape starting from and ending on the fold and on one side only. Holding the folded paper carefully, learners cut along the drawn line, starting from and ending at the fold, but NOT CUTTING THE FOLD. They open the shape and discuss the symmetry of the whole shape. Learners can decorate their shapes.
  ***Tip:*** *As this is time consuming and needs to be done in a small group, you may not have time to do word problems on Monday.*
- On **Wednesday** each learner brings a selection of four objects to the mat. However, they must all bring two of each object e.g. two books, two pencils, two rulers, etc. You will also need to provide a selection of objects e.g. paper clips, drawing pins, chalk, etc. Working with a partner, one learner places eight objects in a sequence, vertically. The partner copies the sequence placing the same objects opposite the ones already placed. Discuss the symmetry of each sequence. Now ask the second learner to use the same objects, but to re-arrange them in a different sequence and place them horizontally. The partner copies the sequence.
  ***Tip:*** *Your focus is developing the concept of symmetry. However, this activity lends itself to discussing patterns, doubling, halving, counting in 2s, etc.*

Horizontal



Vertical



- Give all learners a piece of paper which they fold in half. Let them design their own sequences using the objects and placing them on the one half, then drawing the objects on the other half keeping the symmetry correct. Once all the objects have been drawn, learners remove the objects from the paper and draw them in, keeping the symmetry correct. When they go back to their desks they will paste this paper into their books and write a sentence about symmetry.
- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that learners work with the cards by themselves. Learners set out the cards in sequence and make the numbers as you say them i.e. the number you say is 46, so learners find the 40 and the 6 and cover the 0 of the 40 with the 6

| 4 0 | 6 | 4 6 |
|---|---|---|

Once learners have made the two-digit number e.g. 46, using the two cards, they separate the cards to show the two numbers 40 and 6 and say forty six is made up of forty and six. Someone points to the number 46 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important. It is also extremely important that learners separate the two cards each time they make a number as you are developing the concept of place value.

- Ask learners to make a two-digit number e.g. 52 and show you the two cards needed. Now ask them to show you the new number they will get if they add 4 to the number i.e. add 4 to 52 and show the new number 56. Ask them to show the two cards needed for the new number and they should show you 50 and 6. ***If learners show you 50 and 6 and 2 (because they put the 6 over the 2) discuss what the number will be if they use all those numbers – 58.*** Do not rush this stage. It is very important that learners understand that when they add to, or subtract from, a number the whole number changes to the new number. In this case the 52 changed to 56 when 4 was added. Ask questions such as: *What was the first number? What was the new number after 4 was added? Which number changed? Why did the 2 change? Why did the 50 not change?* After doing this a few times, learners pack away their set of flard cards.

**GROUP 2**

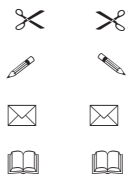
*On **Tuesday** and **Thursday** this group works with the teacher for 25 minutes.*

- On **Tuesday** you are going to introduce the concept of symmetry . Start off by showing the group two objects, one which is symmetrical e.g. a vase, and the other asymmetrical e.g. a shoe. Ask learners to discuss the similarities and differences between the two objects. Now cover one half of the asymmetrical object e.g. the tea-pot with a piece of paper and ask if they drew the other half would it have the same shape and features as the part they can see. Cover the symmetrical object e.g. the vase and ask the same question. Encourage learners to discuss the reasons for the differences in the answers to the two questions. Put a variety of objects in the box e.g. geometric shapes, a shoe, a ruler, a jersey, etc. Each learner takes one of the objects, looks at it and decides if the two sides are mirror images (i.e. are symmetrical). Working in pairs one learner covers half his/her face with a piece of paper. The other learner responds to your instructions, pointing to the correct place of the covered features e.g. point to the place where the cheek should be, point to the place where the eye should be, etc. Ask learners how they know where to point. Let learners swap around and repeat the activity so that all learners have had a chance to cover their faces.
- Give all learners a blank piece of A4 paper and ask them to fold it in half. Ask them to draw any large curved line shape starting from and ending on the fold and on one side only. Holding the folded paper carefully, learners cut along the drawn line, starting from and ending at the fold, but NOT CUTTING THE FOLD. They open the shape and discuss the symmetry of the whole shape. Learners can decorate their shapes.

***Tip:*** *As this is time consuming and needs to be done in a small group, you may not have time to do word problems on Tuesday.*

- On **Thursday** each learner brings a selection of four objects to the mat. However, they must all bring two of each object e.g. two books, two pencils, two rulers, etc. You will also need to provide a selection of objects e.g. paper clips, drawing pins, chalk, etc. Working with a partner, one learner places eight objects in a sequence, vertically. The partner copies the sequence placing the same objects opposite the ones already placed. Discuss the symmetry of each sequence. Now ask the second learner to use the same objects, but to re-arrange them in a different sequence and place them horizontally. The partner copies the sequence.
  ***Tip:*** *Your focus is developing the concept of symmetry. However, this activity lends itself to discussing patterns, doubling, halving, counting in 2s, etc.*

  Horizontal

  Vertical

- Give all learners a piece of paper which they fold in half. Let them design their own sequences using the objects and placing them on the one half, then drawing the objects on the other half keeping the symmetry correct. Once all the objects have been drawn, learners remove the objects from the paper and draw them in, keeping the symmetry correct. When they go back to their desks they will paste this paper into their books and write a sentence about symmetry.
- Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that learners work with the cards by themselves. Learners set out the cards in sequence and make the numbers as you say them i.e. the number you say is 46, so learners find the 40 and the 6 and cover the 0 of the 40 with the 6

| 4 | 0 |
|---|---|

| 6 |
|---|

| 4 | 6 |
|---|---|

Once learners have made the two-digit number e.g. 46, using the two cards, they separate the cards to show the two numbers 40 and 6 and say forty six is made up of forty and six. Someone points to the number 46 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important. It is also extremely important that learners separate the two cards each time they make a number as you are developing the concept of place value.

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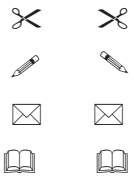
**GROUP 3**

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

- On **Monday** you are going to introduce the concept of symmetry . Start off by showing the group two objects, one which is symmetrical e.g. a vase, and the other asymmetrical e.g. a shoe. Ask learners to discuss the similarities and differences between the two objects. Now cover one half of the asymmetrical object e.g. the tea-pot with a piece of paper and ask if they drew the other half would it have the same shape and features as the part they can see. Cover the symmetrical object e.g. the vase and ask the same question. Encourage learners to discuss the reasons for the differences in the answers to the two questions. Put a variety of objects in the box e.g. geometric shapes, a shoe, a ruler, a jersey, etc. Each learner takes one of the objects, looks at it and decides if the two sides are mirror images (i.e. are symmetrical). Working in pairs one learner covers half his/her face with a piece of paper. The other learner responds to your instructions, pointing to the correct place of the covered features e.g. point to the place where the cheek should be, point to the place where the eye should be, etc. Ask learners how they know where to point. Let learners swap around and repeat the activity so that all learners have had a chance to cover their faces.
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Horizontal



Vertical



Give all learners a piece of paper which they fold in half. Let them design their own sequences using the objects and placing them on the one half, then drawing the objects on the other half keeping the symmetry correct. Once all the objects have been drawn, learners remove the objects from the paper and draw them in, keeping the symmetry correct. When they go back to their desks they will paste this paper into their books and write a sentence about symmetry.

- On **Thursday** you will do expanded notation using flard cards with this group. Give each learner a set of flard cards with the numbers 1 to 9, 10 to 90 and 100 to 900. It is important that learners work with the cards by themselves. Learners set out the cards in sequence and make the numbers as you say them i.e. the number you say is 46, so learners find the 40 and the 6 and cover the 0 of the 40 with the 6

| 4 0 | 6 | 4 6 |
|---|---|---|

Once learners have made the two-digit number e.g. 46, using the two cards, they separate the cards to show the two numbers 40 and 6 and say forty six is made up of forty and six. Someone points to the number 46 on the number grid or number line. Do this with different numbers each time identifying the two separate number cards needed to make the number. Do not rush this stage as it is very important. It is also extremely important that learners separate the two cards each time they make a number as you are developing the concept of place value.

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| | |
|---|---|
| number. In this case the 52 changed to 56 when 4 was added. Ask questions such as: *What was the first number? What was the new number after 4 was added? Which number changed? Why did the 2 change? Why did the 50 not change? After doing this a few times, learners pack away their set of flard cards.* | |
| **Assessment** | **Formal :** No formal, recorded Assessment.<br><br>**Informal :** Unrecorded assessment of learners oral responses and ability to participate. |

## SECOND TERM: WEEK 6

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2,3</td><td>• Counts forwards and backwards in 1, 2, 5, 10 to 200<br>• Counts out objects to 50</td><td colspan="5">Daily :<br>• Rote counting in 2s, 5s and 10s between 100 and 200, forwards and backwards.<br>• Count in 5s starting at a number in a given number range 45 to 201, forwards and backwards, using a number grid, e.g. starting at 45 and ending at 130.<br>• Count on from a given number.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO AS<br>LO AS</td><td rowspan="3">• Knows, reads and writes number names and symbols from 1-50 and explores their relationship<br>• Identifies patterns in number work<br>• Identifies numerosity of numbers to 100 e.g. 24=20+4 or 23+1 or 10+10+4 or 30-6 etc.<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Recognises nearly doubles e.g. 24+4=28 : 24+5=29<br>• Recognises symmetry<br>• Collects and sorts data according to given criteria</td><td colspan="5">Daily :<br>• Numerosity of numbers to 74<br>• Recognises number names and symbols for 1 to 50.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td colspan="2">DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Adding and subtracting a complete 10<br><br>Repeated addition and subtraction</td><td>Doubling and halving<br><br>Nearly doubles of single digit numbers<br><br>Symmetry</td><td colspan="2">Nearly doubles using bigger numbers<br><br>Adding and subtracting a complete 10</td><td>Symmetry</td><td>Data Handling</td></tr>
<tr><td>GROUP TEACHING<br><br>LO<br>AS</td><td>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Solves problems involving grouping and sharing including factions and remainders<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 200</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td><td rowspan="2">WHOLE CLASS ACTIVITY<br><br>Data Handling</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 subtraction and 1 sharing word problem<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 subtraction and 1 sharing word problem<br>Group 1 works on their own.</td><td colspan="2">Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 addition and 1 multiplication word problem<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 addition and 1 multiplication word problem<br>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:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- During this week you will be building on the concept of symmetry started in Week 5. Learners need to investigate the symmetry of 2-D shapes and 3-D objects as well as symmetrical patterns and position.
- **The vocabulary of doubling and halving is very important at this stage because you are introducing a new concept, that of 'nearly double'. For example, double 3 is 6, but nearly double is 3+2 (not quite there yet). However, 3+4 is a little more than double 3, but also nearly double 4. It is vital that you develop the learners' understanding of this relationship in order for them to be able to apply this knowledge to calculations.**
- Remind learners every day to fill in their weather chart that they are keeping for the month. This week you will use the information gathered to build a graph and this will be extended next week into an assessment activity.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***To be done daily:***

- Rote count in 1s and 2s to 200, forwards and backwards.
- Count in 2s from 45 to 101 using a number grid.

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

- Choose any number from 20 to 50. Each learner tells a different number fact about the number.
- Play games with addition and subtraction to work out the secret number. Here are some examples:

  "Work out the secret number. My number is more than 12 and less than 18. It is an odd number and is found in the 5s pattern. What is my number?"

  "Work out the secret number. My number is more than 9 and less than 21. It is an even number. It is less than 10+8 but more than 7+7. What is my number?"
- Call out one learner to the front of the class and ask them to show 6 fingers. Say you want the class to count in 5s. Ask if the learner is able to show another 5 fingers. Ask the class how they will be able to count in 5s showing 5 more fingers each time. Do what the learners suggest – get another learner to the front to hold up 5 fingers, then another 5 and so on. Learners must count in 5s, but start at 6 – 6, 11, 16, 21. Write the numbers on the board as they are counted. Tell the class that as soon as anyone recognises the pattern they must say so. Once the pattern is recognised stop writing down the numbers.
- Leave the numbers on the boards – 6, 11, 16, 21, 26, etc. and ask learners to predict what the next number will be after the last number written, using the pattern that has been identified.
- Do the same activity, but start with the number 4 instead of 6. Discuss the 2 patterns.

**DAY 1** (to take no more than 20 minutes)

- Each learner has a number grid and some counters. Ask different learners to choose a number and everyone puts a counter on that number. Now ask them to put a counter on the number which is 10 more, or 10 less, than the first number. If possible, let learners record the numbers each time e.g. 26+10=36 or 48-10=38
- Tell learners that you are going to clap some numbers and they must write them down and find the answer. Each time you will indicate what number the clap stands for e.g. this time a clap is 5, so if you clap 4 times learners will write 5+5+5+5=20. If the clap stands for 10 and you clap 4 times, learners will write 10+10+10+10=40.
- Repeat the activity, but this time you will also indicate the starting number and learners must take away the numbers of claps indicated e.g. each clap stands for 5. Start at 40 and take away 3 claps. Learners record 40-5-5-5=25

**DAY 2** (to take no more than 20 minutes)

- Call out 3 learners to the front of the class. Ask what you must do if you want to double the number of legs – you need to call out 3 more learners. Do this a few times doubling different body parts e.g. eyes, fingers, knees, etc. Do the same, but with halving e.g. call out 6 learners and ask what you must do if you only want to see half the number of shoes, etc.
- Learners use counters and work with a partner. One learner puts out a group of counters e.g. 5 and the other learner puts out a group that is either 1 more or one less. The second learner will put out either 4 or 6 counters. Learners record what they did on a piece of paper.
  ***Tip**: They will either draw or use symbols according to their level.*
- Still working in pairs, learners will follow your instructions and do the following:
  - One learner must count out 6 counters and put them in front of him/her.
  - The other learner must put out counters to show one less than double 6.
  - Learners record what they did i.e. 6+5=11 and you record it on the board.
  - Leave the original pile of 6 counters in place and make the second pile exactly the same. Discuss what they did i.e. this time they have made double 6.
  - They record 6+6=12 and you record the same on the board.
  - Working with the two piles of 6 counters, make one pile one more than double i.e. one pile will still be 6 and the second pile will be 7. After discussion, learners record 6+7=13 and you record it on the board.

    On the board you will have recorded:
    6+5=11
    6+6=12
    6+7=13

    Ask learners what the notice about this pattern.
- Give learners a selection of cut-out paper shapes e.g. square, rectangle, circle, triangles (both ones that are symmetrical and ones that are not), hearts etc. Learners fold the paper shapes to find the line, or lines, of symmetry which they then mark. Ask learners to write their names on each shape, collect the shapes and keep them for the activity on Day 4.

**DAY 3** (to take no more than 20 minutes)

- Working in pairs, repeat the activity from Day 2 but use bigger numbers. Learners will follow your instructions, using a number grid to help them if they need it, and do the following:
  - One learner must count out 15 counters and put them in front of him/her.
  - The other learner must put out counters to show one less than double 15. (*They can count out 15 and then put one back)*
  - Learners record what they did i.e. 15+14=29 and you record it on the board.
  - Leave the original pile of 15 counters in place and make the second pile exactly the same. Discuss what they did i.e. this time they have made double 15.
  - They record 15+15=30 and you record the same on the board.
  - Working with the two piles of 15 counters, make one pile one more than double i.e. one pile will still be 15 and the second pile will be 16. After discussion, learners record 15+16 and you record it on the board.
  - On the board you will have recorded: 15+14=29
    15+15=30
    15+16=31

    Ask learners what the notice about this pattern. Repeat the activity using 25
- Ask learners if they can use the pattern to work out the nearly doubles for 16 and 14 and also 26 and 24.
- Each learner uses a number grid and counters and follows your instructions. All the counters must remain in place on the grid as they are used. Use the following as a guide:
  - Put a counter on 9 and then put a counter on the number that is 10 more than 9.
  - What number have you reached? 19.
  - Now put a counter on the number that is 10 more than 19.
  - What number have you placed the counter on? 29.
  - Can you see a pattern yet? Discuss any answers without revealing the pattern.
  - Can you predict what number the next counter will be placed on? Listen to a few predictions then continue letting learners place counters adding on 10 each time to the previous number until number 99.
  - Once again ask if anyone can see a pattern and explain the reason for the pattern.
- Learners use the pattern shown on the grid by the counters and count in 10s, both forwards and backwards, pointing to the counters as they count e.g. 9, 19, 29, 39, etc. and 99, 89, 79, etc.

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

- Hand out the shapes from the activity done on Day 2. Working in groups, learners use the shapes to develop posters of symmetrical and asymmetrical shapes.

**DAY 5** (the whole lesson)

- The Weather Chart that learners have been filling in every day should have at least 3 weeks completed by this stage. They will need this data in order to do this activity. Prepare a blank graph beforehand with 5 columns and 10 rows. Number the rows at the left hand side,

starting at the bottom, from 1 to 10. Learners decide how each of the columns will be labeled e.g. sunny, cloudy, windy, rainy, stormy etc. Write these on the chart.

| **Our Weather Chart** | | | | | |
|---|---|---|---|---|---|
| 10 | | | | | |
| 9 | | | | | |
| 8 | | | | | |
| 7 | | | | | |
| 6 | | | | | |
| 5 | | | | | |
| 4 | | | | | |
| 3 | | | | | |
| 2 | | | | | |
| 1 | | | | | |
| | Sunny | Cloudy | Windy | | |

Learners look at their individual weather charts and count the number of days of each kind. Although their charts should be the same, you may find some differences. Discuss the differences, but use consensus to decide on the number to be used in the graph. Let learners have turns to colour in blocks according to the data in order to make a block graph.
***Tip:*** *Display this graph because you will use it in Week 7 for assessment as part of Assessment Task 2.*

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

## WEEK 6 : GROUP TEACHING

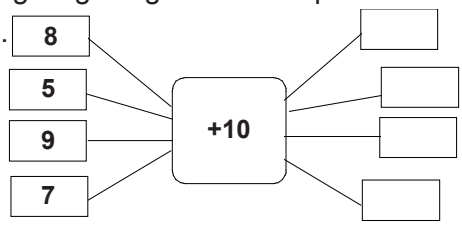
| Week 6 | GROUP TEACHNG COMPONENT (Concept Development and Problem Solving) |
|---|---|

**Notes to teacher**:

- By now you have established 3 groups. Every day you will work with 2 different groups in a small group situation e.g. sitting on the mat together. During this time you will do activities to develop number concepts at the level of the learners in the group. A number of types of activities are provided and you should do ALL the types each time you work with that group; but remember, although examples are provided, you should look for your own examples that will suit your learners. You will also give the learners at least 2 different word problems to solve every time you work with them. It is through solving problems and discussing the solutions that learners develop a sense of number, an understanding of the operations and the ability to reflect on their thinking.
- While you are working with a group, the rest of the class will be working independently. You need to provide them with a variety of activities which reinforce and consolidate concepts already learnt. Try to vary the activities e.g. giving a practical activity (counting counters in counting bags), a written activity (filling in numbers, sequencing, etc.) and a fun activity (dot-to-dot pictures, puzzles, etc.)
- You will be developing a new concept- that of symmetry - during the group teaching times this week. This will enable you to work closely with, and observe, each learner. Much of the work will be practical, requiring many resources, so is therefore suitable for small group teaching.

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

- Fill in weather chart.
- Repeated addition and subtraction number sentences.
- Write the expanded notation for two-digit numbers.
- Fill in the numbers you would use when counting in 10s on a number line or number square.
- Complete addition and subtraction number sentences using single digits with complete 10 using open frame sentences e.g. □+9 = 19 or □- 7 = 10.
- Doubling and halving activities.
- Make up 10 sums where the answer is 46.
- Use a spider diagram where the input number is given.




**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 37. Which two numbers did you use? How much is 30+7? How much is 37-7?
- Using the cards ask the following type of questions
  - Show me the number which is 1 more. What is the new number? What numbers make the new number? Which number changed? Why did the 7 change and not the 30?
  - Show me the number which is 1 less. What is the new number? What numbers make the new number? Which number changed? Why did the 7 change and not the 30?
  - Show me the number which is 4 more. Which number changed? What is the new number? What numbers make the new number? Why did the 30 and the 7 change?

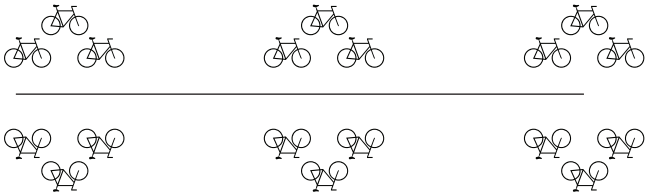
- Show me the number which is 10 more than 37. What is the new number? What numbers make the new number? Why did the 30 change and not the 7?

***Tip:*** *Do the expanded notation activity on Monday and the symmetry activity on Wednesday. Ask word problems both days.*

- Draw a pattern on the board e.g.



Learners copy the pattern, either using counters or drawing. Now draw a line under the pattern and learners draw the symmetrical pattern under the line.



Do this a few times using patterns that this group can cope with i.e. either more complex or simpler.

***Tip****: Note how these patterns, as well as being symmetrical, also use the concepts of repeated addition, counting, doubling and halving.*

- 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 it, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how they solved the problem. On Monday you will ask 1 subtraction and 1 sharing word problem and on Wednesday the word problems will be 1 addition and 1 multiplication. It is important that learners are given the opportunity to reflect on their thinking.

**GROUP 2**

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

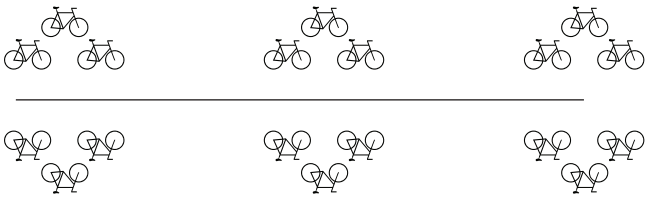
- Each learner sets out their flard cards in a sequence. Work with the cards asking learners to build and break down 2 digit numbers e.g. show me the cards which make 37. Which two numbers did you use? How much is 30+7? How much is 37-7? Show me the number which is 1 more. What is the new number? Which number changed? Why did the 7 change and not the 30? Show me the number which is 1 less. What is the new number? Which number changed? Why did the 7 change and not the 30?

***Tip:*** *Do the expanded notation activity on Tuesday and the symmetry activity on Thursday. Ask word problems both days.*

- Draw a pattern on the board e.g.



Learners copy the pattern, either using counters or drawing. Now draw a line under the pattern and learners draw the symmetrical pattern under the line.



Do this a few times using patterns that this group can cope with i.e. either more complex or simpler.

***Tip**: Note how these patterns, as well as being symmetrical, also use the concepts of repeated addition, counting, doubling and halving.*

- 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 it, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how they solved the problem. On Tuesday you will ask 1 subtraction and 1 sharing word problem and on Thursday the word problems will be 1 addition and 1 multiplication. It is important that learners are given the opportunity to reflect on their thinking.

**GROUP 3**

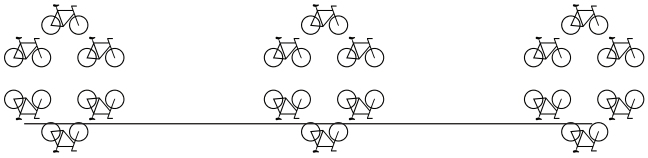
*This group works with the teacher **every day** for 25 minutes.*

- 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 37. Which two numbers did you use? How much is 30+7? How much is 37-7? Show me 37 on the number grid. What other ways can you break up the number 37?

  ***Tip:** Do the expanded notation activity on Monday and the symmetry activity on Wednesday. Ask word problems on Tuesday and Thursday..*
- Draw a pattern on the board e.g.



Learners copy the pattern, either using counters or drawing. Now draw a line under the pattern and learners draw the symmetrical pattern under the line.



Do this a few times using patterns that this group can cope with i.e. either more complex or simpler.

*Tip: Note how these patterns, as well as being symmetrical, also use the concepts of repeated addition, counting, doubling and halving.*

- 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 it, drawing pictures, writing numbers, etc. Use the number range 1 to 50. Let each learner tell the group how they solved the problem. On Tuesday you will ask 1 subtraction and 1 sharing word problem and on Thursday the word problems will be 1 addition and 1 multiplication. It is important that learners are given the opportunity to reflect on their thinking.

| | |
|---|---|
| **Assessment** | **Formal:** No formal, recorded Assessment.<br><br>**Informal:** Unrecorded assessment of learners oral responses and ability to participate. |

## SECOND TERM: WEEK 7

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2</td><td>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200<br>• Counts out objects to 50</td><td colspan="5">Daily :<br>• Rote counting in 2s, 5s and 10s between 100 and 200, forwards and backwards.<br>• Count in 5s starting at a number in a given number range 45 to 201, forwards and backwards, using a number grid, e.g. starting at 45 and ending at 130.<br>• Count on from a given number.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO 1 AS3, 5, 8, 9,10<br>LO 2 AS 2<br>LO 3 AS 2, 4</td><td rowspan="3">• Knows, reads and writes number names and symbols from 1-50 and explores their relationship<br>• Identifies patterns in number work<br>• Identifies numerosity of numbers to 100 e.g. 24=20+4 or 23+1 or 10+10+4 or 30-6 etc.<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Recognises nearly doubles e.g. 24+4=28 : 24+5=29<br>• Sorts and compares 3-dimensional objects according to size and objects that roll or slide</td><td colspan="5">Daily :<br>• Numerosity of numbers to 74<br>• Recognises number names and symbols for 1 to 50.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td colspan="2">DAY 3</td><td>DAY 4</td></tr>
<tr><td>Adding and subtracting a complete 10<br><br>Repeated addition and subtraction</td><td>Doubling and halving<br><br>Nearly doubles of single digit numbers</td><td colspan="2">Nearly doubles using bigger numbers<br><br>Adding and subtracting a complete 10</td><td>Symmetry</td><td>WHOLE CLASS ACTIVITY<br><br>Sorts and compares 3-dimensional objects according to size and objects that roll or slide</td></tr>
<tr><td>GROUP TEACHING<br><br>LO 1 AS5,7, 8, 11</td><td>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Solves problems involving grouping and sharing including factions and remainders<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 200</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td><td></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 subtraction and 1 sharing word problem<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 subtraction and 1 sharing word problem<br>Group 1 works on their own.</td><td colspan="2">Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 addition and 1 multiplication word problem<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 addition and 1 multiplication word problem<br>Group 1 works on their own.</td><td></td></tr>
</table>

## WEEK 7: WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- During this week you will be building on the concept of symmetry started in Week 5. Learners need to investigate the symmetry of 2-D shapes and 3-D objects as well as symmetrical patterns and position.
- **The vocabulary of doubling and halving is very important at this stage because you are introducing a new concept, that of 'nearly double'. For example, double 3 is 6, but nearly double is 3+2 (not quite there yet). However, 3+4 is a little more than double 3, but also nearly double 4. It is vital that you develop the learners' understanding of this relationship in order for them to be able to apply this knowledge to calculations.**

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***To be done daily:***

- Rote count in 1s and 2s to 200, forwards and backwards.
- Count in 2s from 45 to 101 using a number grid.

***Choose from the following to make up the 10 minutes:***

- Choose any number from 20 to 50. Each learner tells a different number fact about the number.
- Play games with addition and subtraction to work out the secret number. Here are some examples:
  "Work out the secret number. My number is more than 12 and less than 18. It is an odd number and is found in the 5s pattern. What is my number?"
  "Work out the secret number. My number is more than 9 and less than 21. It is an even number. It is less than 10+8 but more than 7+7. What is my number?"
- Call out one learner to the front of the class and ask him/her to show 6 fingers. Say you want the class to count in 5s. Ask if the learner is able to show another 5 fingers. Ask the class how they will be able to count in 5s showing 5 more fingers each time. Do what the learners suggest – get another learner to the front to hold up 5 fingers, then another 5 and so on. Learners must count in 5s, but start at 6 – 6, 11, 16, 21. Write the numbers on the board as they are counted. Tell the class that as soon as anyone recognises the pattern they must say so. Once the pattern is recognised stop writing down the numbers.
- Leave the numbers on the boards – 6, 11, 16, 21, 26, etc. and ask learners to predict what the next number will be after the last number written, using the pattern that has been identified.
- Do the same activity, but start with the number 4 instead of 6. Discuss the 2 patterns.

**DAY 1** (to take no more than 20 minutes)

- Each learner has a number grid and some counters. Ask different learners to choose a number and everyone puts a counter on that number. Now ask them to put a counter on the number which is 10 more, or 10 less, than the first number. If possible, let learners record the numbers each time e.g. 26+10=36 or 48-10=38
- Tell learners that you are going to clap some numbers and they must write them down and find the answer. Each time you will indicate what number the clap stands for e.g. this time a clap is 5, so if you clap 4 times learners will write 5+5+5+5=20. If the clap stands for 10 and you clap 4 times, learners will write 10+10+10+10=40.
- Repeat the activity, but this time you will also indicate the starting number and learners must take away the numbers of claps indicated e.g. each clap stands for 5. Start at 40 and take away 3 claps. Learners record 40-5-5-5=25

**DAY 2** (to take no more than 20 minutes)

- Call out 3 learners to the front of the class. Ask what you must do if you want to double the number of legs – you need to call out 3 more learners. Do this a few times doubling different body parts e.g. eyes, fingers, knees, etc. Do the same, but with halving e.g. call out 6 learners and ask what you must do if you only want to see half the number of shoes, etc.
- Learners use counters and work with a partner. One learner puts out a group of counters e.g. 5 and the other learner puts out a group that is either 1 more or one less. The second learner will put out either 4 or 6 counters. Learners record what they did on a piece of paper.
  ***Tip:*** *They will either draw or use symbols according to their level.*
- Still working in pairs, learners will follow your instructions and do the following:
  - One learner must count out 6 counters and put them in front of him/her.
  - The other learner must put out counters to show one less than double 6.
  - Learners record what they did i.e. 6+5=11 and you record it on the board.
  - Leave the original pile of 6 counters in place and make the second pile exactly the same. Discuss what they did i.e. this time they have made double 6.
  - They record 6+6=12 and you record the same on the board.
  - Working with the two piles of 6 counters, make one pile one more than double i.e. one pile will still be 6 and the second pile will be 7. After discussion, learners record 6+7=13 and you record it on the board.

    On the board you will have recorded: 6+5=11
    6+6=12
    6+7=13

    Ask learners what the notice about this pattern.

**DAY 3** (to take no more than 20 minutes)

- Working in pairs, repeat the activity from Day 2 but use bigger numbers. Learners will follow your instructions, using a number grid to help them if they need it, and do the following:
  - One learner must count out 15 counters and put them in front of him/her.
  - The other learner must put out counters to show one less than double 15. (*They can count out 15 and then put one back)*

- Learners record what they did i.e. 15+14=29 and you record it on the board.
- Leave the original pile of 15 counters in place and make the second pile exactly the same. Discuss what they did i.e. this time they have made double 15.
- They record 15+15=30 and you record the same on the board.
- Working with the two piles of 15 counters, make one pile one more than double i.e. one pile will still be 15 and the second pile will be 16. After discussion, learners record 15+16 and you record it on the board.
- On the board you will have recorded: 15+14=29
  15+15=30
  15+16=31

  Ask learners what the notice about this pattern. Repeat the activity using 25

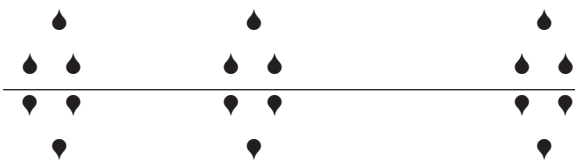
• Ask learners if they can use the pattern to work out the nearly doubles for 16 and 14 and also 26 and 24.
• Each learner uses a number grid and counters and follows your instructions. All the counters must remain in place on the grid as they are used. Use the following as a guide:
  - Put a counter on 9 and then put a counter on the number that is 10 more than 9.
  - What number have you reached? 19.
  - Now put a counter on the number that is 10 more than 19.
  - What number have you placed the counter on? 29.
  - Can you see a pattern yet? Discuss any answers without revealing the pattern.
  - Can you predict what number the next counter will be placed on? Listen to a few predictions then continue letting learners place counters adding on 10 each time to the previous number until number 99.
  - Once again ask if anyone can see a pattern and explain the reason for the pattern.
• Learners use the pattern shown on the grid by the counters and count in 10s, both forwards and backwards, pointing to the counters as they count e.g. 9, 19, 29, 39, etc. and 99, 89, 79, etc.

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

• Using their number grids, learners point to a given number e.g. 17 and then count on from that number until you clap your hands. Ask what the number is e.g. 26 and then ask how many they counted on. Repeat starting at other numbers.
• Draw a pattern on the board e.g.



Learners copy the pattern, either using counters or drawing. Now draw a line under the pattern and learners draw the symmetrical pattern under the line.



Do this a few times, giving different groups patterns they can cope with i.e. either more complex or simpler.

***Tip:*** *Note how these patterns, as well as being symmetrical, also use the concepts of repeated addition, counting, doubling and halving.*

**DAY 5** (the whole lesson)

- Take the class outside and also take a number of objects of different sizes which slide or roll e.g. basketball, tennis ball, golf ball, cereal box, toothpaste box, dice, etc. If possible, find some grass to do this lesson on, not a sandy patch, as the learners need to move their bodies in different ways. Tell the learners to find their own space within a demarcated area. Do a few stretching exercises with them using the vocabulary of up, down, front, back, left and right. Tell the class to hold hands and sit in a circle. Put the different objects in the middle of the circle and ask if anyone can identify a big object that can roll. Discuss the different possibilities such as: *Can a box roll? Can we roll dice? Is it only a ball that can roll? What other objects can roll?* Once the basketball has been identified as the best big object to roll, ask if anyone knows how to roll and what it feels like. Let the learners experiment with rolling their bodies. Encourage them to explore different possibilities. Ask questions such as :
  - If you stand up and turn around, is that rolling? Why?
  - Can you roll just your hands? Just your feet?
  - Can you roll your whole body? Show me how you do it.
  - Can you roll if you stay in the same place?
  - What does it feel like to roll?
  - If you work with a friend, will you be able to roll your whole bodies? Show me how you can do it.
  - Can you roll a ball? Try. Can you roll a box? Try.
- Call learners to sit back in the circle and discuss what it means to slide. Ask if they can slide their bodies. Allow them to move around, experimenting with sliding different parts of their bodies – feet, hands, bottoms, etc. Encourage them to:
  - Slide in different directions – forwards, backwards, sideways.
  - Keep one foot stuck to the ground and only slide the other foot.
  - Slide using two different body parts touching the ground at the same time.
  - Keeping both feet stuck to the ground, slide their hands e.g. together, on their legs, etc.
  - Work with a partner and experiment with different ways of sliding.
  - Slide a box or a ball.
- Put the learners into 6 rows facing you. Using the actions of rolling and sliding, teach them a dance sequence, section by section, and then put it all together. An example of a dance could be:
  - Slide your right foot forward, slide your left foot forward, slide your right foot forward, slide your left foot forward.
  - Stamp your feet – right foot, left foot, right foot, left foot- stamp your feet.
  - Slide to the right and slide to the right.
  - Clap your hands and turn around.

- Repeat the sequence, but slide backwards, and then slide to the left.

  ***Tip**: Have fun making up your own dance sequence!*

- Let the learners stand in a circle and gradually relax each body part until they are lying down, relaxed.

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## WEEK 7 : GROUP TEACHING

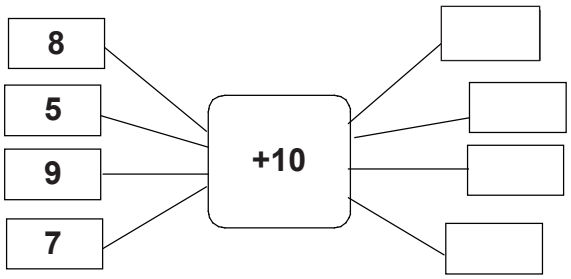
| Week 7 | GROUP TEACHNG COMPONENT (Concept Development and Problem Solving) |
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**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt.
- Learners of this age like the security of knowing what to do so try and establish an order of work to be done every day e.g. start with a counting activity (counting bag with objects, pictures on a card to count etc), then do some written work about one number (look at the numerosity of a number – write 5 number sentences where XX is the answer), then some addition, subtraction, pattern work etc. Vary the addition and subtraction activities - flow diagrams one day, dice another day and so on as learners get tired and bored if they just have to do lots of the same thing every day.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- 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. You should do all the types of activities provided 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 <u>at least 2 different word problems to solve every time you work with them.</u> 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.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation. From this term the overview for the week will provide the number of the problem type you should do with the groups during the week, rather than just saying an addition problem must be done – this will provide greater guidance as to what you should be doing during the mat session.

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

- Repeated addition and subtraction number sentences.
- Write the expanded notation for two-digit numbers.
- Fill in the numbers you would use when counting in 10s on a number line or number square.
- Complete addition and subtraction number sentences using single digits with complete 10 using open frame sentences e.g. ☐ +9 = 19 or ☐ - 7 = 10.
- Doubling and halving activities.
- Make up 10 sums where the answer is 74.
- Use a spider diagram where the input number is given.




**Working with the group**

**GROUP 1**

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

- Draw a picture of a ladybird on cardboard and cut it out. You will need three ladybirds for this activity. Stick 10 big coloured spots on its body. Let the learners look at the ladybirds, then cover them. Ask learners to estimate how many spots are there. Give each learner a chance to say how many s/he thinks there are. Uncover the pictures and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number? Ask what the number will be if the spots are doubled, or halved.

  ***Tip:*** *Use prestik for the spots so that you add or take off spots as desired. You can use as many ladybirds as you think the group will manage e.g. 5 with 10 spots each, or 7 with 5 spots each, 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?
- Using the cards ask the following type of questions
  - Show me the number which is 1 more. What is the new number? What numbers make the new number? Which number changed? Why did the 7 change and not the 30?
  - Show me the number which is 1 less. What is the new number? What numbers make the new number? Which number changed? Why did the 7 change and not the 30?
  - Show me the number which is 4 more. Which number changed? What is the new number? What numbers make the new number? Why did the 30 and the 7 change?
  - Show me the number which is 10 more than 37. What is the new number? What numbers make the new number? Why did the 30 change and not the 7?
- 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 Monday you will ask 1 subtraction and 1 sharing word problem and on Wednesday the word problems will be 1 addition and 1 multiplication. It is important that learners are given the opportunity to reflect on their thinking.

**GROUP 2**

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

- Draw a picture of a ladybird on cardboard and cut it out. You will need two ladybirds for this activity. Stick 10 big coloured spots on its body. Let the learners look at the ladybirds, then cover them. Ask learners to estimate how many spots are there. Give each learner a chance to say how many s/he thinks there are. Uncover the pictures and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number? ***Tip:*** *Use prestik for the spots so that you add or take off spots as desired. You can use as many ladybirds as you think the group will manage e.g. 5 with 10 spots each, or 7 with 5 spots each, 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 1 more. What is the new number? Which number changed? Why did the 7 change and not the 30? Show me the number which is 1 less. What is the new number? Which number changed? Why did the 7 change and not the 30?
- 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 Tuesday you will ask 1 subtraction and 1 sharing word problem and on Thursday the word problems will be 1 addition and 1 multiplication. It is important that learners are given the opportunity to reflect on their thinking.

**GROUP 3**

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

- Draw a picture of a ladybird on cardboard and cut it out. You will need two ladybirds for this activity. Stick 5 big coloured spots on its body. Let the learners look at the ladybirds, then cover them. Ask learners to estimate how many spots are there. Give each learner a chance to say how many s/he thinks there are. Uncover the pictures and count them. Ask who estimated too many and who estimated too few. Did anyone estimate the correct number? ***Tip:*** *Use prestik for the spots so that you add or take off spots as desired. You can use as many ladybirds as you think the group will manage e.g. 5 with 2 spots each, or 7 with 5 spots each, 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 37 on the number grid. What other ways can you break up the number 37?
- Ask learners to make a two-digit number e.g. 52 and show you the two cards needed. Now ask them to show you the new number they will get if they add 4 to the number i.e. add 4 to 52 and show the new number 56. Ask them to show the two cards needed for the new number and they should show you 50 and 6***. If learners show you 50 and 6 and 2 (because they put the 6 over the 2) discuss what the number will be if they use all***

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- ***those numbers – 58***. Do not rush this stage. It is very important that learners understand that when they add to, or subtract from, a number the whole number changes to the new number. In this case the 52 changed to 56 when 4 was added. Ask questions such as: *What was the first number? What was the new number after 4 was added? Which number changed? Why did the 2 change? Why did the 50 not change?* After doing this a few times, learners pack away their set of flard 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 50. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 1 subtraction and 1 sharing word problem and on Thursday the word problems will be 1 addition and 1 multiplication. It is important that learners are given the opportunity to reflect on their thinking.

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## SECOND TERM: WEEK 8

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<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO1 AS 5,8, 9,10<br>LO 2 AS 1, 2,3,4</td><td rowspan="3">• Identifies patterns in number work<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Is able to add and subtract whole 10s i.e. 20+10=<br>• Is able to add and subtract two two-digit numbers where one number is a whole 10 e.g. 24+10=<br>• Recognises nearly doubles e.g. 24+4=28 : 24+5=29</td><td colspan="5">Daily :<br>• Expanded notation of two-digit numbers<br>• Adding and subtracting a single digit number to a two-digit number.</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td colspan="2">DAY 3</td><td>DAY 4</td></tr>
<tr><td>Makes number patterns using groups of 5.<br><br>Nearly doubles</td><td>Count on in 2s from any number in the range 60 to 149<br><br>Recognition of patterns of multiples of 1, 2, 5 and 10.<br><br>Adding and subtracting whole 10s</td><td colspan="2">Count on in 10s from any number in the range 70 to 180</td><td>Count on in 10s from any number in the range 70 to 180<br><br>Nearly doubles</td><td>WHOLE CLASS ACTIVITY<br><br>Team games:<br>1. Using expanded notation of two-digit numbers.<br>2. Adding two two-digit numbers where one number is a whole 10.</td></tr>
<tr><td rowspan="2">GROUP TEACHING<br><br>LO 1 AS 5, 8,11, 12</td><td rowspan="2">• Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td><td rowspan="2"></td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 2 different types of addition word problems.<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 2 different types of addition word problems.<br>Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 2 different types of subtraction word problems.<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 2 different types of subtraction word problems.<br>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:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- This week you will be concentrating on number patterns. It is really important that you help your learners develop the skill of recognizing and working with patterns because they will eventually be able to use patterns to make calculating easier and quicker.
- Assessment Task 3 will be completed by the end of this week.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***To be done daily:***

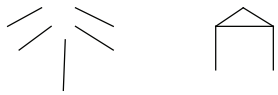
- Rote count in 1s, 2s, 5s and 10s to 200, forwards and backwards.
- Count in 2s, 5s and 10s from any number in the number range 58 to 198 e.g. 63 to 111 using a number grid.

***Choose from the following to make up the 10 minutes:***

- Go around the class and learners add 1 to the number you say. Learners stand behind their chairs and as they give their answer they sit down. Make sure everyone has a turn. Ask random numbers e.g. 48+1, 155+1, 199+1 etc.
- Repeat the activity, but this time learners add 10 to the number you say.

**DAY 1** (to take no more than 20 minutes)

- Give each learner 25 or 30 matches. Ask them to build patterns and pictures using only 5 matchsticks each time until they have used all their matches. E.g.



  Give each learner a box with the number 60 written on it (or just give them a piece of paper with the number 60 and tell them to pretend it is a box of matches). Tell them the matches came from this box and that 60 are still in the box. You want to know how many matches were in the box in the beginning. Learners must count in 5s by first pointing to the number 60 and then count on by pointing to each picture or pattern e.g. point to 60, say 65 as you point to the first picture. 70 as you point to the second picture etc.
- Working in pairs, learners will follow your instructions and do the following:
  - One learner must count out 6 counters and put them in front of him/her.
  - The other learner must put out counters together to show one less than double 6.
  - Learners record what they did i.e. 6+5=11 and you record it on the board.

- Leave the original pile of 6 counters in place and make the second pile exactly the same. Discuss what they did i.e. this time they have made double 6.
- They record 6+6=12 and you record the same on the board.
- Working with the two piles of 6 counters, make one pile one more than double i.e. one pile will still be 6 and the second pile will be 7. After discussion, learners record 6+7=13 and you record it on the board.

  On the board you will have recorded: 6+5=11
  6+6=12
  6+7=13

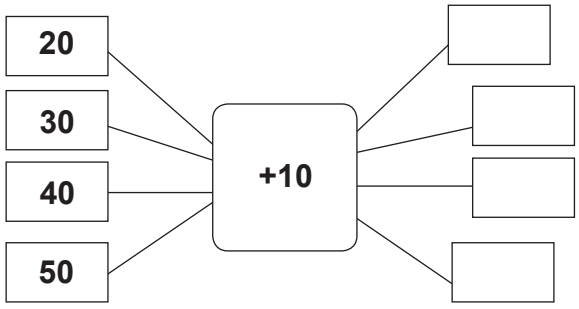
**DAY 2** (to take no more than 20 minutes)

- Write the following on the board :

  10+1=
  20+1=
  30+1= etc. up to 60+1=

  As learners give you the answer write it in. Once all the number sentences are complete ask the learners to identify the pattern made by the answers. Discuss the reasons for the pattern.
- Write a two-digit number on the board e.g. 65 and ask learners which two flard cards they would use for this number. Let one learner come up and draw them on the board. Give them 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. Draw the flard cards you will need to make the following numbers:
   26 = ☐ and ☐ 37= ☐ and ☐
   82= ☐ and ☐ 6 = ☐
2. Complete the following:
   20+6= 10+3=
   39-9= 74-4=
3. Complete the following:
   40+☐ = 46 58 - ☐=50
   ☐ +4=94 ☐ - 3 =80
4. Can you do these?




5. Fill in the missing numbers.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 138 | 140 | | | | | 150 | | | |
| | | | 164 | | | | | | 178 |

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

**DAY 3** (to take no more than 20 minutes)

- Write the following on the board :
  10+10=
  20+10=
  30+10= etc. up to 60+10=
  As learners give you the answer write it in. Once all the number sentences are complete ask the learners to identify the pattern made by the answers. Discuss the reasons for the pattern.
- Give each learner a grid with the numbers counting in 10s from 70 to 190. Numbers should be written randomly on the grid e.g. 70, 160, 100, 190 etc.

| | | | | |
|---|---|---|---|---|
| 90 | 120 | 170 | 70 | 100 |
| 130 | 80 | 110 | 190 | 140 |
| 150 | 180 | 160 | | |

  Learners cut out the numbers and rearrange them in order. They need to explain their order and then count in 10s pointing to the numbers. When they have finished they put the numbers in a packet/envelope etc.
  ***Tip**: This is an assessment activity. Observe and assess half the class today.*

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

- Give each learner a packet of numbers used the previous day. They must rearrange the numbers in order. They need to explain their order and then count in 10s pointing to the numbers.
  ***Tip**: This is an assessment activity. Observe and assess the other half of the class today.*
- Learners use counters and work with a partner. One learner puts out a group of counters e.g. 9 and the other learner must make a group that, when all the counters are added together, will nearly double that number. The second learner will put out either 10 or 8 counters. Learners record what they did on a piece of paper e.g. 9+10=19 or 9+8=17
  ***Tip**: Use this activity to assess understanding of nearly doubles for Assessment Task 3.*

**DAY 5** (the whole lesson)

- Divide your class into 2 teams (maybe you will need to make 4 teams if you have a large class). Let each member of the team write down one number sentence which they will ask the other team. Encourage them to have number sentences such as 20+□=23, □+3=33, 41-□=40. Before any questions are asked team members must check that they have not all written the same thing. They also need to check the answers. Take the class outside and teams stand in a line facing each other. Learners take turns to ask someone in the other team their question and once it has been answered the learner who answered sits down. The whole of Team A asks questions and then it is Team B's turn to ask the questions. The winner is the team which answered the most questions correctly.
- Divide the class into 4 teams and let them stand in a line shortest to tallest. Give the first person in each line a bean-bag and place a hoop (piece of paper, bucket, etc.) 10 steps

| | |
|---|---|
| • away. The value of the hoop is 55 (or any other two digit number). Each learner has 5 throws. They get 10 points for each time the bean-bag lands in the hoop. Encourage learners to discuss how many land in the hoop and how many outside e.g. Sipho had 5 throws. 3 landed in the hoop and 2 landed outside, so he has 30→10+10+10. Altogether he has 55+30→85 (the hoop has a value of 55 and the 3 throws have a value of 30). Make sure everyone has a turn to throw the bean-bag into the hoop. Learners record the number sentences each time. | |
| **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 :<br>• Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Is able to add and subtract whole tens i.e. 20+10<br>• Is able to add and subtract two two-digit numbers where one number is a whole 10 e.g. 24+10=?<br>• Recognises nearly doubles e.g. 24+4=28 : 24+5=29<br>• Identifies patterns in number work |

## WEEK 8: GROUP TEACHING

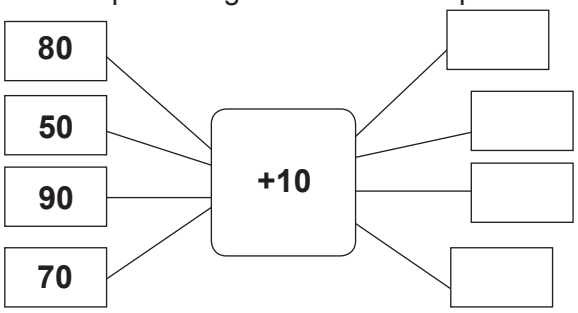
| Week 8 | GROUP TEACHNG COMPONENT (Concept Development and Problem Solving) |
|---|---|

**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt.
- Learners of this age like the security of knowing what to do so try and establish an order of work to be done every day e.g. start with a counting activity (counting bag with objects, pictures on a card to count etc), then do some written work about one number (look at the numerosity of a number – write 5 number sentences where XX is the answer), then some addition, subtraction, pattern work etc. Vary the addition and subtraction activities - flow diagrams one day, dice another day and so on as learners get tired and bored if they just have to do lots of the same thing every day.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- 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. You should do all the types of activities provided 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.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation. From this term the overview for the week will provide the number of the problem types you should do with the groups during the week, rather than just saying an addition problem must be done – this will provide greater guidance as to what you should be doing during the mat session.
- **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.*

- Repeated addition and subtraction number sentences.
- 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, as well as nearly doubling.
- Use a spider diagram where the input number is given.




***Tip** : You can use any of the relevant written activities as part of Assessment Task 3. Remember that assessment must take different forms so do not only use written activities for assessment purposes. By assessing a learner, for example, both orally and written, you are providing the learner with more than one opportunity to demonstrate his/her understanding of the concepts.*

**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 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?

  ***Tip**: Use this as towards Assessment Task 3.*
- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more than the number shown i.e. 53 with his/her own cards. Do this a few times taking turns to put out the first cards.

  ***Tip:** Observe the learners and ask questions such as "Why did you put that number?". Use this activity towards Assessment Task 3.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 100. Let each learner tell the group how s/he solved the problem. On Monday you will ask 2 different types of addition word problems and on Wednesday you will ask 2 different types of subtraction word problems. Use numbers which will allow learners to use the skill of doubling and halving, as well as that of nearly doubling. It is important that learners are given the opportunity to reflect on their thinking.

  ***Tip**: Observe and record how learners solve the problems as part of Assessment Task 3.*

**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 feet 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 i.e. double the number of people.
- 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.
  ***Tip:*** *Do this till everyone has had a chance to answer the questions. This activity is part of Assessment Task 3.*

• Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more than the number shown i.e. 53 with his/her own cards. Do this a few times taking turns to put out the first cards.
  ***Tip:*** *Observe the learners and ask questions such as "Why did you put that number?". Use this activity towards Assessment Task 3.*
• Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 75. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 2 different types of addition word problems and on Thursday you will ask 2 different types of subtraction word problems. Use numbers which will allow learners to use the skill of doubling and halving, as well as that of nearly doubling. It is important that learners are given the opportunity to reflect on their thinking.
  ***Tip****: Observe and record how learners solve the problems as part of Assessment Task 3.*

**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 feet 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 i.e. double the number of people.
• 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.
  ***Tip:*** *Do this till everyone has had a chance to answer the questions. This activity is part of Assessment Task 3.*

- Working in pairs one learner puts out 2 cards e.g. 40 and 3. The partner makes the number which is 10 more than the number shown i.e. 53 with his/her own cards. Do this a few times taking turns to put out the first cards.
  ***Tip:*** *Observe the learners and ask questions such as "Why did you put that number?". Use this activity towards Assessment Task 3.*
- Make sure each learner has access to paper, writing tools, counters and a number square. Ask them two different word problems which they solve by talking about them, drawing pictures, writing numbers, etc. Use the number range 1 to 50. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 2 different types of word problems and on Wednesday and Thursday you will ask 2 different types of subtraction word problems. Use numbers which will allow learners to use the skill of doubling and halving, as well as that of nearly doubling. It is important that learners are given the opportunity to reflect on their thinking.
  ***Tip****: Observe and record how learners solve the problems 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 :<br>• Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Is able to add and subtract whole tens i.e. 20+10<br>• Is able to add and subtract two two-digit numbers where one number is a whole 10 e.g. 24+10=?<br>• Recognises nearly doubles e.g. 24+4=28 : 24+5=29<br>• Identifies patterns in number work<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50 |

**SUGGESTED ASSESSMENT TASKS : GRADE 2 NUMERACY SECOND TERM**

**TASK 3 : WEEK 8**

| COMPONENT | MILESTONES | WKS | TASKS |
|---|---|---|---|
| **COUNTING AND MENTAL/NUMBER SENSE** | • Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Is able to add and subtract whole tens i.e. 20+10<br>• Is able to add and subtract two two-digit numbers where one number is a whole 10 e.g. 24+10=?<br>• Recognises nearly doubles e.g. 24+4=28 : 24+5=29<br>• Identifies patterns in number work | Wk 8 | • Use the written activity on Day 2 to assess expanded notation, place value, adding and subtracting a single digit number from a two-digit number and patterns.<br>• Use the practical activity on Days 3 and 4 to assess learners ability to recognise patterns as well as to add 10 to a whole two-digit number.<br>• Use the practical paired activity on Day 4 to assess learners' understanding of nearly doubles.<br>• Use any of the written work for assessment purposes. |
| **PROBLEM SOLVING** | • Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50 | Wk 8 | • Use the practical working with flard cards for assessing expanded notation and adding and subtracting a single digit from a two-digit number.<br>• Use the problem solving activities to assess learners understanding of the different concepts. |

## SECOND TERM: WEEK 9

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1, 2</td><td>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200</td><td colspan="5">Daily :<br>• Rote counting in 1s between 100 and 200, forwards and backwards.<br>• Count in 10s starting at any number e.g. 9 or 109, in a given number range 1 to 200, forwards and backwards, using a number grid.<br>• Count on from a given number.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO 1 AS 4, 5, 8, 9, 10<br>LO 2 AS 2<br>LO 3 AS3, 6</td><td rowspan="3">• Orders numbers to 50<br>• Identifies patterns in number work<br>• Identifies numerosity of numbers to 100 e.g. 24=20+4 or 23+1 or 10+10+4 or 30-6 etc.<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Is able to add and subtract whole 10s i.e. 20+10=<br>• Is able to add and subtract two two-digit numbers where one number is a whole 10 e.g. 24+10=<br>• Describes positional relationship between two 3-D objects</td><td colspan="5">Daily :<br>• Recognises number names and symbols for 1 to 50.<br>• Expanded notation of two-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>Numerosity of numbers to 100<br><br>Number patterns</td><td>Numerosity of numbers to 100<br><br>Recognition of patterns of multiples of 1, 2, 5 and 10.<br><br>Counts on from a given number.</td><td>Numerosity of numbers to 100<br><br>Recognition of patterns of multiples of 1, 2, 5 and 10.<br><br>Counts on from a given number.</td><td>Numerosity of numbers to 100<br><br>Counts on from a given number.<br><br>Recognition of nearly doubles.</td><td rowspan="3">WHOLE CLASS ACTIVITY<br><br>Making 3-D shapes</td></tr>
<tr><td>GROUP TEACHING<br><br>LO1 AS 5, 7, 8, 11, 12</td><td>• Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="4">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 sharing and 1subtraction word problem.<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 sharing and 1 subtraction word problem.<br>Group 1 works on their own.</td><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 grouping with a remainder and 1 addition word problem.<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 grouping with a remainder and 1 addition word problem.<br>Group 1 works on their own.</td></tr>
</table>

## WEEK 9: WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- This week you will be extending the learners understanding of the numerosity of numbers.
- You will revise much of what has been learned this term.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***To be done daily:***

- Count in 1s, 2s, 5s and 10s to 200, forwards and backwards.
- Count in 10s from any number in the number range 1 to 200 e.g. 58 to 198 using a number grid.

***Choose from the following to make up the 10 minutes:***

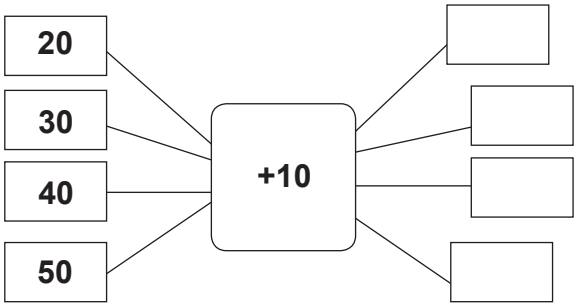
- Play games with addition and subtraction to work out the secret number. Here are some examples:

  "Work out the secret number. My number is more than 27 and less than 36. It is an odd number and is found in the 5s pattern. What is my number?"

  "Work out the secret number. My number is less than 30+6 but more than 16+16. It is an even number. It. What is my number?"
- Call 5 learners to the board and ask them to write the number 68. Now call another 5 learners and ask them to write the number word for the numeral on the board. Repeat this using other numbers.
- Make a set of number names from ten to fifty as well as from one to nine if you don't have them. You will also need numerals from 10 to 50 e.g. 13, 48 etc. 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.

**DAY 1** (to take no more than 20 minutes)

- Draw a spider diagram on the board e.g.




As learners give you the answer write it in. Once all the number sentences are complete ask the learners to identify the pattern made by the answers. Discuss the reasons for the pattern.

- Now draw a table on the board and ask the learners if they can help you complete it, using the information from the spider diagram i.e.

| | 20 | 30 | 40 | 50 |
|---|---|---|---|---|
| +10 | 30 | | | |

- Let each learner take some counters and put them on the desk in front if them. They follow the instructions and record their answers 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 which is half the actual number.

Write the numbers that come before and after the actual number
*Before:* *After:*

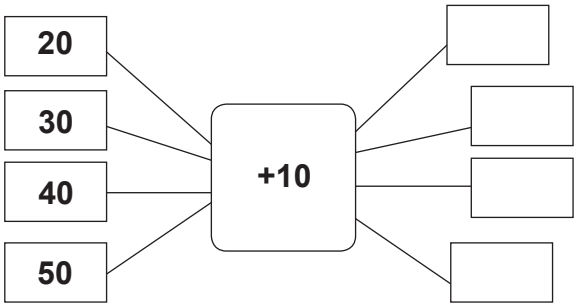
What is 10 more?

What is 10 less?

***Tip**: Each learner has a piece of paper with the instructions and fills in the answer on the paper. These papers are kept for an activity on Days 4 and 5. Encourage learners to use their counters to find the answers if they need them.*

**DAY 2** (to take no more than 20 minutes)

- Draw a spider diagram on the board e.g.




As learners give you the answer write it in. Once all the number sentences are complete ask the learners to identify the pattern made by the answers. Discuss the reasons for the pattern.

- Now draw a table on the board and ask the learners if they can help you complete it, using the information from the spider diagram i.e.

| | 20 | 30 | 40 | 50 |
|---|---|---|---|---|
| -10 | 10 | | | |

- Let each learner take some counters and put them on the desk in front if them. They follow the instructions and record their answers 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 2 more.

Write the number that is 2 less.

Write the number which is double the actual number

**DAY 3** (to take no more than 20 minutes)

- Write the following patterns on the board e.g.

10+1= 1+10=
20+1= 11+10=
30+1= 21+10= etc. up to 60+1= and 51+10=

Fill in the answers as the learners give them to you. Ask learners to compare the two patterns, telling you what is the same and what is different. To extend some of the learners you could ask why 20+1 is the same as 11+10.

- Let each learner take some counters and put them on the desk in front if them. They follow the instructions and record their answers e.g.

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

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

- Give the following instructions and learners respond:
  - Stand behind your chair
  - Kneel in front of a table.
  - Sit under your chair.
  - Stand on top of your chair.
  - Stand next to your friend, etc.
- Write the following on the board :

  11-1= 11-10=
  21-1= 21-10=
  31-1= 31-10= etc. up to 61-1= and 61-10=.

  As learners give you the answers write them on the board to complete the number sentences. Discuss the patterns and give reasons for the patterns.
- Let each learner take one of the pieces of paper from Days 1 to 3 and mark it.

**DAY 5** (the whole lesson)

- Take the class outside and tell them to each find their own space. Give the following instructions:
  - Get into groups of half of 4.
  - Get into groups of 1.
  - Get into groups of double 4.
  - Get into groups of 4+2.
  - Get into groups of 5

| | |
|---|---|
| - Working in your groups of 5, use your bodies to make an interesting shape. Tell learners to remember what shape they made.<br>• Back in the classroom give each learner an A4 sheet of paper and they draw the shape their group made.<br>***Tip***: *If you have access to playdough, clay, plasticine etc. this could rather be a modelling activity.* | |
| **ASSESSMENT** | **Informal :** Unrecorded assessment of learners oral responses and ability to participate.<br><br>**Formal:** No formal assessment |

## WEEK 9: GROUP TEACHING

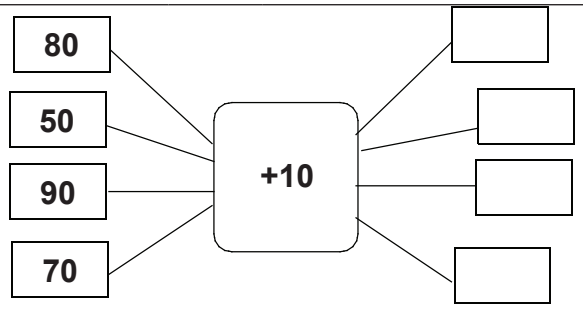
| **Week 9** | **GROUP TEACHNG COMPONENT (Concept Development and Problem Solving)** |
|---|---|

**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt.
- Learners of this age like the security of knowing what to do so try and establish an order of work to be done every day e.g. start with a counting activity (counting bag with objects, pictures on a card to count etc), then do some written work about one number (look at the numerosity of a number – write 5 number sentences where XX is the answer), then some addition, subtraction, pattern work etc. Vary the addition and subtraction activities - flow diagrams one day, dice another day and so on as learners get tired and bored if they just have to do lots of the same thing every day.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- 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. You should do all the types of activities provided 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.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation. From this term the overview for the week will provide the number of the problem type you should do with the groups during the week, rather than just saying an addition problem must be done – this will provide greater guidance as to what you should be doing during the mat session.

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

- Repeated addition and subtraction number sentences.
- 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.
- Use a spider diagram and table where the input number is given.




| | 80 | 50 | 90 | 70 |
|---|---|---|---|---|
| +10 | | | | |

- Use the strips of paper made in Week 3 to make addition and subtraction number sentences.

| | |
|---|---|
| 25 | 4 |
| 30 | 0 |
| 12 | 1 |
| 46 | 5 |
| 22 | 2 |
| 51 | 0 |
| 11 | 3 |
| 10 | 3 |

| | |
|---|---|
| 25 | |
| 30 | 4 |
| 12 | 0 |
| 46 | 1 |
| 22 | 5 |
| 51 | 2 |
| 11 | 0 |
| 10 | 3 |

| | |
|---|---|
| 25 | |
| 30 | |
| 12 | 4 |
| 46 | 0 |
| 22 | 1 |
| 51 | 5 |
| 11 | 2 |
| 10 | 0 |

**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.
- Each learner sets out their flard cards in a sequence and then makes one two-digit number and places it in front of them. Learners now arrange 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 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 Monday you will ask 1 sharing and 1 subtraction word problem and on Wednesday you will ask 1 grouping with a remainder and 1 addition word problem. It is important that learners are given the opportunity to reflect on their thinking.

**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.
- Ask each learner to make a decreasing pattern with their counters i.e. a pattern where the number decreases each time. Encourage learners to make their own pattern. Once everyone has made a pattern, let learners identify the patterns that others have made. Discuss the different patterns e.g. this pattern remains a square but with fewer blocks each time, this pattern decreases by 1 each time :

  □ □ □ □
  □ □ □ □ □ or □ □
  □ □ □ □ □ □ □ □ □

- 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 Tuesday you will ask 1 sharing and 1 subtraction word problem and on Thursday you will ask 1 grouping with a remainder and 1 addition word problem. It is important that learners are given the opportunity to reflect on their thinking

**GROUP 3**

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

- Give each learner a pile of unifix blocks or small wooden blocks or square pieces of paper, etc. Ask each learner to make a growing pattern with their counters i.e. a pattern where the number increases each time. Encourage learners to make their own pattern. Once everyone has made a pattern, let learners identify the patterns that others have made. Discuss the different patterns e.g. this pattern remains a square but with more blocks each time, this pattern increases by 1 each time :

  □ □ □ □
  □□ □ □ □ or □ □
  □ □□ □ □ □ □ □ □

- 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.

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

• 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 50. 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 1 grouping with a remainder and 1 addition word problems. It is important that learners are given the opportunity to reflect on their thinking.
</td></tr>
<tr><td>Assessment</td><td>• Informal : Unrecorded assessment of learners' oral responses and ability to participate.<br><br>• Formal: No formal assessment</td></tr>
</table>

## SECOND TERM: WEEK 10

<table>
<tr><th>COMPONENT</th><th>MILESTONES</th><th>DAY 1</th><th>DAY 2</th><th>DAY 3</th><th>DAY 4</th><th>DAY 5</th></tr>
<tr><td>COUNTING<br>LO 1 AS 1,2</td><td>• Counts forwards and backwards in 1s, 2s, 5s, 10s to 200</td><td colspan="5">Daily :<br>• Rote counting in 1s between 100 and 200, forwards and backwards.<br>• Count in 1s, 2s, 5s and 10s starting at any number in a given number range e.g. 81 to 201 forwards and backwards, using a number grid.<br>• Count on from a given number.</td></tr>
<tr><td rowspan="3">NUMBER SENSE AND MENTAL<br>LO1 AS 4,5,8,9, 10<br>LO 2 AS 2<br>LO4 AS6</td><td rowspan="3">• Orders numbers to 50<br>• Identifies patterns in number work<br>• Decomposes two-digit numbers as expanded notation i.e. 26=20+6 using flard cards<br>• Is able to add and subtract whole 10s i.e. 20+10=<br>• Is able to add and subtract two two-digit numbers where one number is a whole 10 e.g. 24+10=<br>• Estimates, measures and compares length and capacity</td><td colspan="5">Daily :<br>• Recognises number names and symbols for 1 to 50.<br>• Expanded notation of two-digit numbers</td></tr>
<tr><td>DAY 1</td><td>DAY 2</td><td colspan="2">DAY 3</td><td>DAY 4</td><td>DAY 5</td></tr>
<tr><td>Orders numbers<br><br>Repeated addition</td><td>Counts on from a given number.<br><br>Orders numbers<br><br>Adds and subtracts single and two-digit numbers</td><td colspan="2">Estimates and compares capacity</td><td>Adds and subtracts single and two-digit numbers<br><br>Doubles and halves single digit numbers</td><td>WHOLE CLASS ACTIVITY<br><br>Capacity : making water bombs</td></tr>
<tr><td>GROUP TEACHING<br><br>LO1 AS 5, 7, 8, 11, 12</td><td>• Uses flard cards to add and subtract single-digit numbers to any two-digit number e.g. 10+6=? 20+3=? 39-9=?<br>• Solve problems, and explains solutions, using number charts and counters if needed with numbers up to 50</td><td colspan="5">Ask each group the same problems. They can be solved using counters, drawings, etc.<br>Number range: Group 1 works in 1-100; Group 2 works in 1-75; Group 3 works in 1-50</td></tr>
<tr><td>Groups 1 and 3 work with teacher, one group at a time.<br>Ask 2 different multiplication word problems.<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 2 different multiplication word problems.<br>Group 1 works on their own.</td><td colspan="2">Groups 1 and 3 work with teacher, one group at a time.<br>Ask 1 grouping with a remainder and 1 addition word problem.<br>Group 2 works on their own.</td><td>Groups 2 and 3 work with teacher, one group at a time.<br>Ask 1 grouping with a remainder and 1 addition word problem.<br>Group 1 works on their own.</td><td></td></tr>
</table>

## WEEK 10: WHOLE CLASS

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

**Notes to the teacher:**

- Counting at the beginning of the day helps learners focus on numbers. Every day you will let your learners do rote counting (to develop the vocabulary of numbers) as well as rational counting (thinking what they are doing) activities. Counting at the beginning of the lesson is done with the whole class every day.
- Daily activities indicate activities that should be done every day. The specific concepts being developed are indicated every day e.g. Day 1.
- This is a consolidation week and should not be taken lightly. Observe which learners have not understood and try to spend extra time with them if possible to determine the amount and nature of remediation required.

### DAILY ACTIVITIES

### COUNTING AND MENTAL/NUMBER SENSE

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

***To be done daily:***

- Count in 1s, 2s, 5s and 10s to 200, forwards and backwards.
- Count in 2s, 5s and 10s from any number in the number range 1 to 200 e.g. 81 to 201 using a number grid.

***Choose from the following to make up the 10 minutes:***

- Let learners choose any number between 1 and 50. Each learner in the class tells a different number fact about that number. Make sure you start with different learners each day otherwise it is always the same learners who have difficulty at the end. You can also vary this activity by only letting the girls answer, or only the boys while the other group listens for mistakes.
- Ask simple word problems which require concentration and thinking but that learners are able to work out in their heads e.g. 12 people got in the taxi and at the next stop 3 got out and 1 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?
- Write 10 random numbers on the board e.g. 6, 1, 28, 76, 11, 92 etc. Ask learners to write them down in the correct order from smallest to biggest. Repeat using other numbers and ordering them from biggest to smallest.
- 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 |

**DAY 1** (to take no more than 20 minutes)

- Working in pairs, child 1 chooses an even number in the range 41 to 81 as the starting number and child 2 chooses an even number as the final number. They write these two numbers at either end of a strip of paper e.g. 48 and 70. They take turns to put out 2 counters at a time until the final number is reached and then write the repeated addition between the two numbers i.e. 48 +2+2+2+2+2+2+2+2+2+2+2=70. Now they count the number of 2s needed (11) and write the number sentence 48+(11x2)=48+22=70
- Draw a table on the board and ask the learners if they can help you complete it i.e.

| | 25 | 26 | 27 | 28 |
|---|---|---|---|---|
| +10 | 35 | | | |

Now ask them to work in pairs and draw a spider diagram using the information from the table.

**DAY 2** (to take no more than 20 minutes)

- Make a packet of numbers for each group, using the numbers 2, 5 and 10, e.g. eleven 2s, eight 5s and one 10 per packet or nine 2s, six 5s and five 10s, etc. There should be about 20 of each of these numbers in each packet. 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.

**DAY 3** (to take no more than 20 minutes)

- Place a collection of containers in the front of the class e.g. a 2l plastic bottle, a 1l jug, a small bucket etc. Have enough containers for each pair of learners to have one container. You will also need enough small containers of the same size for each pair e.g. polystyrene cups. After discussion, each pair of learners estimates how many cups of water will fill their container, and records this estimate. As a class discuss the different estimates e.g. why are the estimates not all the same? Who has the same type of container? Are these estimates the same? Why? Who should estimate the most cups? Who should estimate the least cups?
- Now let the learners go outside and use water to measure the number of cups of water needed to fill their container. Back in the classroom they record the actual number of cups needed. Discuss the results.
- Give the class the following word problem to solve :
  I need $1\frac{1}{2}$cups of milk to make a cake. How many cups will I need to make 2 cakes? 3 cakes? 4 cakes? Etc.
  ***Tip**: Through the word problems learners will have built up an understanding of the concept of fractions and should be familiar with the term 'half' and what it means.*

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

- Use the packet of numbers from Day 2 for each group. Learners take turns to shake the packet and take 3 numbers. They place the numbers in front of them and add them to get a total.
- Now tell learners to double the numbers and write the two sets on numbers in their books
  e.g. 2 5 5 = 12
  4 10 10 = 24
- Repeat the activity a few times. If your learners are able to, let them take 4 or 5 numbers and double them.
- Repeat the activity, but this time learners halve the numbers and write them in their books.

**DAY 5** (the whole lesson)

- You will need enough small plastic packets or balloons for your class for this activity. Take the class outside and let them sit in a big circle. Give each learner a balloon (or small plastic packet) and ask them to estimate how many cups of water they will need to fill their balloon/packet. Then let them discuss how they can get the water into the balloon/packet. Once they have decided this, let them work in pairs helping each fill their balloon/packet, counting the number of cups needed. Discuss how close their estimate was to the actual number used.
- Place a rope, piece of string, or draw a line with chalk to indicate the starting line. Taking turns, let learners estimate how far they will be able to throw their water bomb and mark the distance. Once 10 learners have estimated, let them throw their water bombs and see how accurate their estimate was. Then let another 10 learners estimate and throw. Continue until everyone has had a turn to estimate and then throw their water bomb. Discuss who threw their water bomb closest to the distance estimated.
  ***Tip**: A lot of discussion can take place around the heaviness of the different water bombs, which ones were thrown the furthest and why this happened.*

| | |
|---|---|
| **ASSESSMENT** | **Informal :** Unrecorded assessment of learners oral responses and ability to participate.<br><br>**Formal:** No formal assessment |

## WEEK 10: GROUP TEACHING

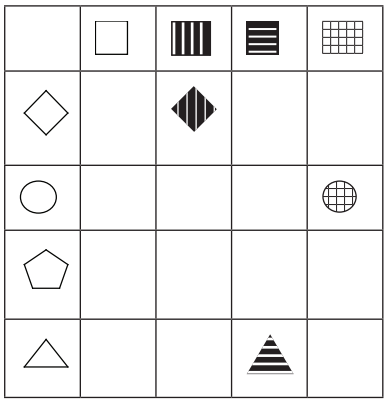
| Week 10 | GROUP TEACHNG COMPONENT (Concept Development and Problem Solving) |
|---|---|

**Notes to teacher**:

- You have established a routine in the class where you work with a small group on the mat while the rest of the class is occupied and working at their tables/desks. The work done independently at their desks is work that learners are already familiar with and which will reinforce and consolidate concepts already learnt.
- Learners **must do** the work set. Once they have completed this they may choose any mathematical activity e.g. jigsaw puzzle.
- 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. You should do all the types of activities provided 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.
- A list of the different problem types was provided in the Term 1 annexures. Use this list to design your own problems, changing the names, numbers, etc. to suit your situation. From this term the overview for the week will provide the number of the problem type you should do with the groups during the week, rather than just saying an addition problem must be done – this will provide greater guidance as to what you should be doing during the mat session.

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

- Repeated addition and subtraction number sentences.
- 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.
- 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*.

- Ask the learners to write down the numbers when counting in 3s, starting at 0, then 1, then 2, then 3 and then 4. Once they have 5 numbers in a row they must start the next row. Ask them what pattern they observe. i.e.

| *Adding 3 each time* | | | | | | *Adding 4 each time* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3 | 6 | 9 | 12 | 15 | 0 | 4 | 8 | 12 | 16 |
| 1 | 4 | 7 | 10 | | | 1 | 5 | 9 | 13 | |
| 2 | | | | | | 2 | | | | |
| 3 | | | | | | 3 | | | | |
| 4 | | | | | | 4 | | | | |

- Repeat this activity, but count in 4s then 5s. Discuss the pattern that appears and why this should be so.
- 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 Monday you will ask 2 different multiplication word problems and on Wednesday you will ask 1 grouping with a remainder and 1 addition word problem. It is important that learners are given the opportunity to reflect on their thinking.

**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. They way learners count indicates the level they are working at.
- Each learner sets out their flard cards in a sequence and then makes one two-digit number and places it in front of them. Learners now arrange 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 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 75. Let each learner tell the group how s/he solved the problem. On Tuesday you will ask 2 different multiplication word problems and on Thursday you will ask 1 grouping with a remainder and 1 addition word problem. It is important that learners are given the opportunity to reflect on their thinking

**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.

| | |
|---|---|
| • Ask each learner to make a decreasing pattern with their counters i.e. a pattern where the number decreases each time. Encourage learners to make their own pattern. Once everyone has made a pattern, let learners identify the patterns that others have made. Discuss the different patterns e.g. this pattern remains a square but with fewer blocks each time , this pattern decreases by 1 each time:<br>□ □ □ □<br>□ □ □ □ □ or □ □<br>□ □ □ □ □ □ □ □<br>• 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 50. Let each learner tell the group how s/he solved the problem. On Monday and Tuesday you will ask 2 different multiplication word problems and on Wednesday and Thursday you will ask 1 grouping with a remainder and 1 addition word problems. It is important that learners are given the opportunity to reflect on their thinking. | |
| **Assessment** | • **Informal :** Unrecorded assessment of learners' oral responses and ability to participate.<br>• **Formal:** No formal assessment |

# Annexures

**Annexure 1: Blank calendar for data collection.**

**Annexure 2: Flard Cards**

## Annexure 1

*An example of a blank calendar to be used as a weather chart for collecting data.*

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Sunny

Cloudy

Windy

Stormy

Rainy

Cold

**Annexure 2**

| | |
|---|---|
| 1000 | 2000 |
| 3000 | 4000 |

| | | |
|---|---|---|
| 900 | 800 | 1 |
| 700 | 600 | 2 |
| 500 | 400 | 3 |
| 300 | 200 | 4 |

| | | |
|---|---|---|
| 100 | 90 | 5 |
| 80 | 70 | 6 |
| 60 | 50 | 7 |
| 40 | 30 | 8 |
| 20 | 10 | 9 |

***Notes:***

***Notes:***