# Mathematics

## Teacher Toolkit: CAPS Aligned Lesson Plans

# A MESSAGE FROM THE NECT

## NATIONAL EDUCATION COLLABORATION TRUST (NECT)

**Dear Teachers**

This learning programme and training is provided by the National Education Collaboration Trust (NECT) on behalf of the Department of Basic Education (DBE)!  We hope that this programme provides you with additional skills, methodologies and content knowledge that you can use to teach your learners more effectively.

**What is NECT?**
In 2012 our government launched the National Development Plan (NDP) as a way to eliminate poverty and reduce inequality by the year 2030.  Improving education is an important goal in the NDP which states that 90% of learners will pass Maths, Science and languages with at least 50% by 2030.  This is a very ambitious goal for the DBE to achieve on its own, so the NECT was established in 2015 to assist in improving education.

The NECT has successfully brought together groups of people interested in education so that we can work collaboratively to improve education.  These groups include the teacher unions, businesses, religious groups, trusts, foundations and NGOs.

**What are the learning programmes?**

One of the programmes that the NECT implements on behalf of the DBE is the 'District Development Programme'.  This programme works directly with district officials, principals, teachers, parents and learners; you are all part of this programme! The programme began in 2015 with a small group of schools called the Fresh Start Schools (FSS).  Curriculum learning programmes were developed for Maths, Science and Language teachers in FSS who received training and support on their implementation.  The FSS teachers remain part of the programme, and we encourage them to mentor and share their experience with other teachers.

The FSS helped the DBE trial the NECT learning programmes so that they could be improved and used by many more teachers.  NECT has already begun this scale-up process in its Universalisation Programme and in its Provincialisation Programme.

Everyone using the learning programmes comes from one of these groups; but you are now brought together in the spirit of collaboration that defines the manner in which the NECT works.  Teachers with more experience using the learning programmes will deepen their knowledge and understanding, while some teachers will be experiencing the learning programmes for the first time.

Let's work together constructively in the spirit of collaboration so that we can help South Africa eliminate poverty and improve education!

# CONTENTS

# ABOUT THE LESSON PLANS AND RESOURCES

The lesson plans in this book are part of the Teacher Toolkit for Mathematics Grade 2 Term 3. The other documents in the toolkit are:
- a CAPS aligned Planner, Tracker and Assessment Resources
- a Resource Pack

**A variety of printable resources that you can copy for yourself and/or your learners are included in a separate Resource Pack. They include:**

a) **Resource sheets:** These comprise a variety of teaching and learning aids that are needed in certain lessons. The specific resource sheet, and the number of copies needed, is noted in the relevant lesson plan and in the tracker so that you can prepare them in advance.

b) **Mental mathematics challenge cards:** A pack of eight mental mathematics challenge cards (solutions are provided) are included to allow for routine weekly mental mathematics activities that you can record.

c) **Enrichment activity cards:** A pack of 32 enrichment activity cards (solutions are provided) are included for learners who complete the day's classwork activities ahead of the class.

## A. About the lesson plans

The lesson plans give detailed information about how to teach a CAPS-aligned lesson every day. By following the lesson plans, you will ensure that you cover the content and assessment tasks specified in the curriculum and give your learners the best possible chance of developing the knowledge and skills required for Mathematics in this grade.

### 1. Curriculum alignment

The lessons are sequenced according to the topics in the CAPS and weighted according to requirements given there, and the programme of assessment is accommodated. Every lesson shows the CAPS content and skill being focussed on in the lesson.

### 2. Links to the DBE workbooks

Links are given in the lessons to all appropriate DBE worksheets. Note that the pages referred to are all from the 2017 edition of the DBE workbook. This changes very little from year to year, but if you use a different edition of the workbook, you should check that the worksheet on the same page in this different edition is still appropriate for your purpose.

Bilingual learner material is provided in the LoLT of the school in accordance with the Foundation Phase language policy.

### 3. Broad overview of the content of the lesson plans

Each lesson plan provides a set of steps to guide you in delivering the lesson. In addition, it contains learner activities that will help learners develop the concepts and skills set for the lesson. These include the required daily mental mathematics activity, whole class oral activities led by the teacher, classwork and homework activities, as well as answers for these. All the classwork and homework activities are given in the lesson plans, learners must either copy these into their books or teachers can photocopy the activity.

### 4. Assessment

The programme of assessment suggested in the lesson plans and tracker is adaptable and can be adjusted to comply with the CAPS as amended by Circular S1 of 2017 and provincial responses to this. The lesson plans and tracker provide a number of resources to support both formal and informal assessment in this programme, as noted below:
- Oral and practical activities which you can use to assess learners as you observe and interact with them in class are provided in the tracker. Rubrics and checklists with criteria for this assessment are provided in the tracker, at the end of the table for the week in which the assessment is suggested.
- There is an item bank of written assessment questions, with marking memos in the tracker.

Items that are relevant to a specific lesson are noted in the resources column for the lesson in the tracker.

- A complete overview of the programme of assessment for the term is given in the tracker. This shows you when it is suggested you carry out both formal (and informal) assessment tasks which are oral, practical and written. This will assist you in planning and monitoring your assessment programme.
- There is also a recommended mark record sheet in the tracker. This has been drawn up to assist you as you record your marks on SA-SAMS.

## 5. Managing the lesson programme

A set of orientation activities on eight different topics aligned with the CAPS baseline assessment requirements is provided for the start of the term. You should use all or a selection of these activities in the first week of term before the formal teaching of the numbered lesson plans begins.

The formal curriculum for Term 3 of Grade 2 is covered in a set of 40 numbered, fully developed lesson plans, paced to cover a 50-day teaching term. There are four such lesson plans each week for ten weeks of the term. There is no formal numbered lesson plan for the fifth lesson each week; instead, it is assigned for you to use for a variety of purposes. You can use this time to catch up, remediate or consolidate the content covered in the week's formal lessons. Learners can complete the worksheets from the DBE workbook related to topics taught in the week if they did not manage to do them in the course of the week.

Each lesson is designed to last 90 minutes. If your school's timetable has different period lengths, you will have to adjust the amount of work done in each lesson to accommodate this. However, each school should allow seven hours for Mathematics each week, and it should be possible to fit in all the work for the week, even if the lengths of periods are not the same as in the lesson plans.

## 6. Sequence adherence and pacing

Each lesson and its contents have been carefully sequenced. It is therefore important that lessons are not skipped. Should you miss a Mathematics lesson for any reason, you should continue the next day from where you last left off. Do not leave a lesson out. You may need to speed up the pace of delivery to catch up a missed lesson by covering the lesson concept content of two consecutive days in one day. To do this you could cut out or cut back on some of the routine activities like mental mathematics or homework reflection to save time until you are back on track with the expected delivery of the plans. You need to prepare very well as this will help you to manage the full set of lessons at the appropriate pace.

## 7. Lesson preparation

The lesson plans provide a detailed lesson design for you to follow. However, to deliver the lessons successfully **you must do the necessary preparation yourself**. The information below outlines some key aspects of preparation.

a) **Term focus:** Start by looking at the CAPS document and **orientating** yourself to the CAPS content focus for the term. It is important that you are clear about the content focus, as this will frame everything you do in your Mathematics lessons during the term.

b) **Prepare resources:** The resources needed for each lesson are listed in each lesson plan and in the tracker. It is very important that you check what is required for each lesson ahead of time, so that you have all your resources ready for use every day (e.g. counters, number boards, paper cut-outs, examples of shapes, etc.).
   - **Your lessons will not succeed if you have not prepared properly for them.**
   - If you do not have all the necessary resources readily available, see how best you can improvise, e.g. get learners to collect bottle tops or small stones to be used for counting, or make your own flard cards/number boards using pieces of cardboard and a marker pen.
   - Collect empty cool drink cans, cereal boxes, washing powder boxes, plastic bottles, etc. for the **shop activity** in the week long in advance, so that you have all the necessary goods to stock your shop.

- Use newspapers and magazines to cut out pictures that could be used in your teaching. If you have access to the internet, search for and print out pictures that you may need to use as illustrations in your lessons.

c) **Prepare for the written classwork and homework activities:** When preparing your lessons, check the lesson activity requirements. In some instances you will need to write information or draw some diagrams on the board that you will use while you do the interactive whole-class-teaching component of the lesson. Also mark the homework activities as often as you can, so that you can give useful feedback to the learners each day, and be aware of any difficulties learners are having as soon as they become apparent.

d) **Prepare to teach the concepts and skills associated with the lesson topic:** Think carefully about what it is that you will teach your learners in the lesson. Prepare a short introduction to the topic, so that you can explain it in simple terms to your learners. Make sure you have prepared for the teaching of the concepts before you teach – you need to be able to explain new Mathematics content and skills to the learners. Be sure you have gone through the oral teaching activities provided in the lesson plans. Also make sure that you have thought about how to use the resources in the lesson effectively. This preparation needs to be done in advance, so that you do not waste time during the lesson. Be sure you are familiar with the sequence of activities in the lesson plan. Prepare yourself to assist learners with any questions they might have during the lesson. Also give some thought to how you will accommodate learners with barriers to learning.

e) **Lesson pace:** Think about how much time you will spend on each activity. It is important to plan how you will manage the pace of the lesson carefully; otherwise you will not manage to cover all the lesson content. Not all learners work at the same pace. You need to determine the pace – be guided by the average learner and the recommendations in the lesson plans. Be careful not to slow down to the pace of the slowest learners as this will disadvantage the other learners.

f) **Organisation of learners:** Think about how you will organise learners when they do the classwork activities. Will they work alone, in pairs or in small groups? How will you organise the pairs or groups if you choose to use them? You need to organise the learners quickly at the beginning of the lesson, so that you do not waste too much time on this.

g) **Inclusive education:** Consider the needs of any learners with barriers to learning in your class, and how best you can support them. The DBE has published some excellent materials to support you in working with learners with learning barriers. Two such publications are:
- Directorate Inclusive Education, Department of Basic Education (2011) *Guidelines for Responding to Learner Diversity in the Classroom Through Curriculum and Assessment Policy Statements*. Pretoria. www.education.gov.za, www.thutong.doe.gov.za/InclusiveEducation.
- Directorate Inclusive Education, Department of Basic Education (2010) *Guidelines for Inclusive Teaching and Learning. Education White Paper 6. Special needs education: Building an inclusive education and training system*. Pretoria. www.education.gov.za, www.thutong.doe.gov.za/InclusiveEducation.

# LESSON PLAN OUTLINE

| Lesson Plan Outline | |
|---|---|
| Each lesson plan has several components. Information about each is given in the table below. This information tells you how to use each of the components of the lesson plans and how they fit together to create a well-paced and properly scaffolded Mathematics lesson each day. You need to read this outline as you prepare each lesson until you are fully familiar with the general lesson plan components, pace and structure. | |
| **Lesson topic** | Each lesson has a topic with specific detail about the day's lesson. |
| **CAPS topics** | The CAPS content related to the day's lesson is given here, together with the reference number for this content in the expansion of content section in the CAPS document for this term. You are encouraged to look at the CAPS to read about the selected curricular topics for the day. |
| **Lesson vocabulary** | A list of all mathematical terms used in the lesson is given here. Go through the lesson vocabulary each day as you prepare for the lesson. These terms are important, as they are the language of Mathematics that each learner needs to learn and understand in order to build a solid foundation and understanding of this subject. It is important to explain these words to your learners and to practise using them with your learners during the lesson. |
| **Prior knowledge and lesson concept** | The prior knowledge and lesson concept section gives information about content that learners should have learnt in earlier grades that will be built on in this lesson.<br><br>• You need to read through this section when you do your lesson preparation.<br>• No time is allocated to this part of the plan because it does not form part of the teaching of the day's lesson.<br>• The information about prior knowledge may help you to assist learners who struggle to understand the content of the lesson because there are gaps in the prior knowledge on which the lesson is based. You can use the information about prior knowledge to help you identify such gaps and to diagnose learners' needs in relation to content they do not yet know that may be preventing them from understanding the day's lesson.<br>• Remediation may be needed on prior knowledge that you notice is not properly in place. |
| **Assessment** | A reminder to refer to the tracker for the formal/informal oral, practical or written assessment activity for the day is given here.<br><br>• On-going formal/informal oral and practical assessment should be done virtually every day in your class. This means you will record a mark for a few learners for a certain criterion from the curriculum each day. Decide how many learners to assess every day, so that you assess your whole class in the time allocated to each assessment activity.<br>• Rubrics and checklists to guide you in giving ratings for the oral and practical assessments are given in the tracker at the end of the tracker table for each week. Each day you need to use the appropriate rubric or checklist for the assessment activity of that day.<br>• Written test items and their memos are provided in the tracker. Links to these items are given in the resources column of the tracker to show you in which lesson they should best be used.<br>• A *Suggested Assessment Record Sheet* that you can use to record your term marks is given in the tracker. This sheet aligns with the SA-SAMS. |
| **Remediation** | *Optional as required.* You could use these activities to assist slower learners.<br><br>You need to decide, based on your observation of the learners while you are teaching the lesson content, whether to use this content and with which learners. It will be done with a smaller group of learners/individual learners while the rest of the class is working through the Classwork activity.. |

## Lesson Plan Outline

| | |
|---|---|
| **Enrichment** | ***Optional as required.*** You could use these activities as extra work for fast learners or others interested in doing them. |
| | Activities that you can use for enrichment opportunities for learners who have completed the lesson activities are provided in a set of enrichment activity cards in the Resource Pack. Ideally, you should photocopy the enrichment cards, paste them onto cardboard and laminate them, so that they can be used as a resource, not only this year, but in the future as well. |
| | Learners should work on these cards independently or with their peers who have also completed the classwork. They may work through the cards in any order. You may need to explain some of the activities to the learners who use them. You should tell them to ask questions it they have any. |
| | All learners who show an interest in the enrichment activities should be encouraged to work through the cards. |
| **Mental mathematics**<br>**(15 minutes)** | This is the first component of the lesson. We recommend that you take at most 15 minutes to do the mental mathematics activity. There are two parts to the mental mathematics activity, a counting activity and a set of questions to drill recall and basic mathematical strategies. |
| | Mental mathematics is not a concrete activity (as the title suggests). However, if there are learners who need concrete aids to complete the mental mathematics activities, we suggest that you allow them to use their fingers to count on. |
| | • Observe which learners struggle with mental activities, and make sure you spend time to assist them to reach the required level of competence by offering remediation activities using concrete aids.<br>• The answers to the ten mental mathematics questions are given in the answer column in the lesson plans.<br>• It would be far better to do all ten questions per day, but if you find that your learners struggle to finish these in ten minutes, do a minimum of five questions. |
| | There is a set of mental mathematics challenge cards in the Resource Pack. Learners write the answers to the questions given on these cards. We recommend that learners only do written mental mathematics once a week and oral mental mathematics on all the other days. You can use this work to obtain a mental mathematics activity mark each week. |
| **Correction/reflection on homework**<br>**(15 minutes)** | This is the second component of the lesson. We recommend that you take 15 minutes to remediate and correct the previous day's homework. Read out answers to all of the homework questions. Let learners/peers mark the work. Also try to check homework yourself as often as you can. |
| | Choose one or two activities that you realise were problematic to work through in full with the whole class. In this part of the lesson you may reflect on the previous day's work. Allow learners the opportunity to write corrections as needed. |

| Lesson Plan Outline | |
|---|---|
| **Lesson content – concept development** <br> **(30 minutes)** | This is the third component of the lesson. It is the body of the lesson, in which learners are introduced to the new work planned for the day. We recommend that you actively teach your class for 30 minutes – going through the activities interactively with your learners. <br><br> • Activities on the content that you will teach with worked examples and suggested explanations are given. These activities have been carefully sequenced and scaffolded so that they support the teaching of the concepts for the day. You should work through each of these with your class. <br> • It is important to manage the pace of the lesson carefully, otherwise you will not manage to cover all the lesson content. Once you have introduced the new concept, work through Activity 1 of the lesson with the whole class (or with learners in groups). Then immediately move on to the next activity, and provide a reasonable time for the learners to complete Activity 2, but do not wait for the last learner to finish before moving on. If there are further activities, continue pacing yourself in this way, so that you work through all of the activities in each lesson. A few activities are marked as *optional* – these need only be done if you have sufficient time. |
| **Classwork activity** <br> **(25 minutes)** | This is the fourth component of the lesson. We recommend that you allocate 25 minutes to classwork. You could go over one or two of the classwork activities orally with the whole class before allowing the class to complete the activities independently (individually or in groups). <br><br> • Learners do most of the activities in their Mathematics books (an exercise book for learner Mathematics writing activities). Some activities are done in the DBE workbook. <br> • You should allow the learners opportunities to do these activities alone, in pairs and in groups so that they experience working alone as well as with their peers. <br> • Wrap up the lesson each day by giving the learners the answers to the classwork, and allow time for corrections to be written if and when necessary. |
| **Homework activity** <br> **(5 minutes)** | This is the fifth and final component of the lesson. We have allocated five minutes to give you time to tell the learners about the homework each day. Here you find a set of activities on the day's content that you can set for your class to do for homework. This is to consolidate the Mathematics that you have taught them that day. Homework also promotes learner writing and development of their mathematical knowledge. |
| **Reflection** | Each day there is a reminder to note your thoughts about the day's lesson. You will use these notes as you plan and prepare for your teaching. |

# WEEK 1

## LESSON 1: NUMBERS 50–60 PLACE VALUE

| Teacher's notes |
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| **CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.16 Mental mathematics. |
| **Lesson vocabulary:** Forwards, backwards, more than, less than, greater than, greatest, equal to, smaller than, smallest, order, compare, describe, whole number, biggest, between, tens, units, number line, place value. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Recognise, read and write number names 1 to 20.<br>• Write numerals, describe, compare and order up to 20 objects and numbers to 20. |
| **Concepts:**<br>• Order and compare whole numbers to 99, from greatest to smallest, smallest to greatest, smaller than, greater than, more than, less than and is equal to. |
| **Resources:** Scrap paper/white boards, base ten blocks (see Term 1 *Printable Resources*), flard cards (see Term 1 *Printable Resources*), Unifix blocks. |
| **DBE workbook activities relevant to this lesson:**<br>• DBE Worksheet 65 (p. 2). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Ask learners to show the following numbers using base ten blocks, beads, sticks or Unifix blocks: 51, 52, 53, 54, 55, 56, 57, 58, 59, 60. **You may need to revise groups of 10.** Ask questions such as: *What would you do with your counters to make it one more or one less? What number comes before 55? What number comes after 55?* |
| **Enrichment:** See enrichment activity cards. |

## 1.   Mental maths

### 1.1   Counting (5 minutes)
• Count forwards and backwards in 1s from 0 to 60.

### 1.2   Recall and strategies (10 minutes)

| | Order from smallest to biggest: | Answer | | | Order from smallest to biggest: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 15, 55, 50, 49, 12 | 12, 15, 49, 50, 55 | | 6. | 53, 45, 9, 38, 50 | 9, 38, 45, 50, 53 |
| 2. | 29, 48, 44, 39, 51 | 29, 39, 44, 48, 51 | | 7. | 18, 3, 45,44,54 | 3, 18, 44, 45, 54 |
| 3. | 8, 50, 49, 32, 16 | 8, 16, 32, 49, 50 | | 8. | 12, 55, 7, 42, 31 | 7, 12, 31, 42, 55 |
| 4. | 52, 41, 39, 23, 15 | 15, 23, 39, 41, 52 | | 9. | 4, 54, 52, 38, 16 | 4, 16, 38, 52, 54 |
| 5. | 54, 48, 33, 11, 12 | 11, 12, 33, 48, 54 | | 10. | 9, 23, 5, 50, 49 | 5, 9, 23, 49, 50 |

## 2.   Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.   Lesson content – concept development (30 minutes)

This is the first of six lessons which focus on place value and further extend the range of numbers that learners work with. In these lessons you will use base ten blocks, flard cards, number lines and a hundred board while you work with numbers. The displays of numbers are used to help learners realise the meaning of place value. While you work with numbers you should use good mathematical language to model this for learners. You should talk about the tens and units in each number to continue to develop learners' fluency in the use of mathematical language.

This series of six lessons on place value also gives opportunities for learners to compare numbers and to use the mathematical vocabulary of comparison between numbers (e.g. *more than* and *less than*). Remember to allow all learners to use this vocabulary in discussion and in response to your questions.

## Activity 1: Learners work in groups

- Give each group of learners a set of base ten blocks and flard cards. If you don't have these, do drawings on the board like those shown in the lesson plan and explain to the class what the drawings show.
- Stick/write the number symbol and name for numbers 50 to 60 in order on the board. Choose one number as an example, e.g. 52.
- Ask learners to show it using their base ten blocks. (There are 5 tens blocks and 2 units blocks.)
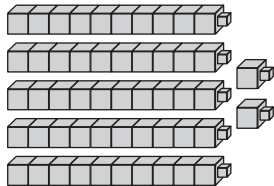


- Then they must show the number using their flard cards. (Use a 50 card and a 2 card.)
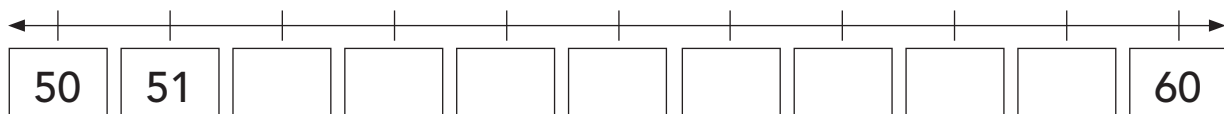
52  **5 2**

- Ask the learners to write the number name on their scrap paper/white board (fifty-two).

## Activity 2: Whole class activity

- Draw a 50–60 number line on the board.



| 50 | 51 | | | | | | | | | 60 |

- Call on different learners to come to the board and fill in these numbers: 59, 53, 57, 60, 52, 54, 56, 55, 58.
- Ask the learners the following questions:
  - *Which number is one less than 54?* (53)
  - *One more than 54?* (55)
  - *Two less than 54?* (52)
  - *Two more than 54?* (56)
  - Ask many such questions using different numbers.

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

## Term 3 Lesson 1: Numbers 50–60 place value

### Classwork

1. Draw a picture of counters or base ten blocks to show each of the following numbers: 54 and 59. Write the number name below. (Learners will draw blocks/etc. Check that the correct number of blocks have been drawn and that the grouping into tens has been done. They should have 5 tens and 4 units for 54, and 5 tens and 9 units for 59.)

2. Draw a 50–60 number line and fill in all the numbers.

| 50 | 51 | | | | | | | | | 60 |
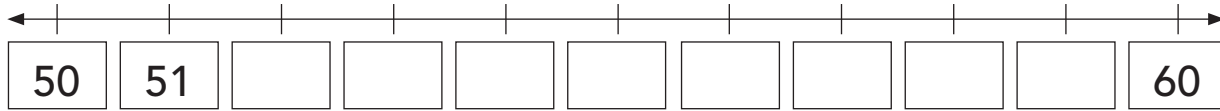
(51, 52, 53, 54, 55, 56, 57, 58, 59)

3. Arrange these numbers from the smallest to the biggest: 53, 55, 52, 56, 54.
   (52, 53, 54, 55, 56)

4. Arrange these numbers from the biggest to the smallest: 58, 59, 56, 57, 55.
   (59, 58, 57, 56, 55)

5. Complete the following:
   a) 50 + ____ = 57 (7)
   b) 50 + 8 = ____ (58)

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### Homework

(Answers will vary)
1. Choose two numbers between 50 and 60. Write them down as well as their number name.
2. Write down two numbers that are bigger than 54, but not bigger than 58.
3. Draw and label a number line from 50 to 60.
4. On your number line:
   a) Colour the number that is two bigger than 54 in red.
   b) Colour the number that is two smaller than 59 in yellow.

# LESSON 2: NUMBERS 50–60

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers 1.16 Mental mathematics.

**Lesson vocabulary:** Forwards, backwards, more than, less than, greater than, greatest, equal to, smaller than, smallest, order, compare, tens and units/ones, biggest.

**Prior knowledge:** Learners should have been taught how to:
• Recognise and read number symbols 1–100.
• Write number symbols 1–20.
• Recognise, read and write number names 1–10.
• Describe, compare and order up to 20 objects and numbers to 20.

**Concepts:**
• Recognise, identify, read and write number symbols and names 0–60.
• Order and compare whole numbers to 99, from greatest to smallest, smallest to greatest, smaller than, greater than, more than, less than and is equal to.
• Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 75.

**Resources:** 0–100 number boards, base ten blocks (see Term 1 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 65 (p. 3).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners base ten blocks. Ask them how they would count 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60 (10, 20, 30, 40, 50, 51, 52, etc.). Ask the learners to arrange the groups from the smallest to the biggest. Learners should remember that the sizes of the objects do not influence the number of objects.

**Enrichment:** See enrichment activity cards.

## 1.    Mental maths

### 1.1   Counting (5 minutes)
• Count forwards and backwards in 2s between 0 and 60, e.g. 18, 20, 22, …

### 1.2   Recall and strategies (10 minutes)

| | Put these numbers in order from the biggest to the smallest. | Answer | | Put these numbers in order from the biggest to the smallest. | Answer |
|---|---|---|---|---|---|
| 1. | 15, 55, 50, 49, 12 | 55, 50, 49, 15, 12 | 6. | 53, 45, 9, 38, 50 | 53, 50, 45, 38, 9 |
| 2. | 29, 48, 44, 39, 51 | 51, 48, 44, 39, 29 | 7. | 18, 3, 45,44,54 | 54, 45,44, 18, 3 |
| 3. | 8, 50, 49, 32, 16 | 50, 49, 32, 16, 8 | 8. | 12, 55, 7, 42, 31 | 55, 42, 31, 12, 7 |
| 4. | 52, 41, 39, 23, 15 | 52, 41, 39, 23, 15 | 9. | 4, 54, 52, 38, 16 | 54, 52, 38, 16, 4 |
| 5. | 54, 48, 33, 11, 12 | 54, 48, 33, 12, 11 | 10. | 9, 23, 5, 50, 49 | 50, 49, 23, 9, 5 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

In Activity 3 of this lesson you are given an opportunity to talk about subtraction using place value – if you subtract 8 from 56 you need to break down one of the tens in 56 in order to subtract. It is very important to help learners understand how they work with numbers using place value when they do operations such as subtraction.

## Activity 1: Whole class activity

- Draw the number symbol and write the name for the numbers 50 to 60 on the board in random order.
- The whole class counts from 0 to 60, but when they reach 50 they must slow down for the teacher to point to the numbers 50 to 60 on the board.
- Write the number names underneath the correct number.
- Ask the learners to look at numbers 51 to 60. Ask: *What do you notice?* (The tens are different – 51 has 5 tens and 60 has 6 tens. The units are different, 51 has 1 unit and 60 has no units.)
- Learners should learn these number names and how to spell them.
- Use base ten blocks to model each or some of the numbers to make sure learners understand the place values represented by each of the digits in the numbers.

## Activity 2: Whole class activity

Solve the following word sums as a class:
- Thando has 56 marbles. He gives 8 to Vusi. How many marbles does he have left? (Make use of concrete aids if necessary and talk about the place value while you work with the numbers. This question revises the operation of subtraction.)
- Thulani has 47 marbles and he wins 5 marbles at break. How many marbles does he have now? (Make use of concrete aids if necessary and talk about the place value while you work with the numbers. This question revises the operation of addition.)
- Work through more word problems if you have time. Allow learners to make up the stories for the word problems if possible. Guide and encourage them to use numbers in the appropriate number range for Grade 2 Term 3. (Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 75.)

4.  **Classwork activity (25 minutes) (See next page)**

5.  **Homework activity (5 minutes) (See next page)**

6.  **Reflection on lesson**

## Term 3 Lesson 2: Numbers 50–60

### Classwork

1. Draw a picture of counters or base ten blocks to show each of the following numbers: 57, 52, 58 and 55. (Learners will draw blocks/etc. Check that the correct number of blocks have been drawn and that the grouping into tens has been done. They should have 5 tens and the correct numbers of units.)

2. Write down the number and number name for the following numbers: 53, 59, 54 and 56. (fifty-three, fifty-nine, fifty-four, fifty-six)

3. Write these numbers from the greatest to the smallest: 53, 59, 54, 56 (59, 56, 54, 53)

4. Give two numbers that are greater than 56, but not bigger than 60. (57, 58, 59, 60)

5. Give two numbers that are smaller than 54, but not smaller than 51. (51, 52, 53)

6. Write the number name for the number that is greater than 54, but smaller than 56. (fifty-five)

---

### Homework

1. Draw a picture of counters or base ten blocks to show the number 53. (Check they draw 5 tens and 3 units.)

2. Write the number name for 58. (fifty-eight)

3. Write the number and number name for the number that is bigger than 55 but smaller than 57. (56, fifty-six)

4. Arrange these numbers from the greatest to the smallest: 53, 57, 55, 56, 54 (57, 56, 55, 54, 53)

# LESSON 3: NUMBERS 60–70 PLACE VALUE

| Teacher's notes |
| --- |

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Compare, order and describe numbers, 1.16 Mental mathematics.

**Lesson vocabulary:** Place value, forwards, backwards, more than, less than, greater than, greatest, equal to, smaller than, smallest, order, estimate, decompose, two-digit number, multiple, tens, units/ones, between.

**Prior knowledge:** Learners should have been taught how to:
• Recognise and read number symbols 1–100.
• Recognise, read and write number names 1–20.
• Describe, compare and order up to 20 objects and numbers to 20.

**Concepts:**
• Recognise, identify, read and write number symbols and number names 0–70.
• Decompose two-digit numbers into multiples of tens and ones/units.
• Order and compare whole numbers to 70, from greatest to smallest, smallest to greatest, smaller than, greater than, more than, less than and is equal to.

**Resources:** Flard cards, base ten blocks (see Term 1 *Printable Resources*), scrap paper/white boards.

**DBE workbook activities relevant to this lesson:**
• N/A

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Ask learners to show the following numbers using base ten blocks: 61, 62, 63, 64, 65, 66, 67, 68, 69, 70. Ask questions such as: *What would you do with your blocks to make it one more or one less? What number comes before 67? (66). What number comes after 67? (68).*

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 2s from any given number between 0 and 70, e.g. 21, 23, 25, 27, …

### 1.2 Recall and strategies (10 minutes)

| | What is 1 more than: | Answer | | | What is 1 more than: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 45 | 46 | | 6. | 29 | 30 |
| 2. | 50 | 51 | | 7. | 12 | 13 |
| 3. | 44 | 45 | | 8. | 52 | 53 |
| 4. | 39 | 40 | | 9. | 51 | 52 |
| 5. | 19 | 20 | | 10. | 28 | 29 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

This is the third lesson in which you focus on numbers and place value (the number range is extended to 70 in this lesson). If you don't have flard cards and base ten blocks for all the groups of learners, do drawings on the board like those shown in the lesson plan and explain to the class what the drawings show.

## Activity 1: Learners work in groups

- Give each group of learners a set of flard cards and base ten blocks.
- Ask the class to count from 10 to 64 – in groups of ten up to 60 and then on in units to 64 – using the base ten blocks. (10, 20, 30 40, 50, 60, 61, 62, 63, 64.)
- Repeat the counting, using different numbers in the number range.
- On the board write the numbers 61 to 70, one at a time.
- Choose one number as an example, e.g. 62.
- Ask learners to show the number, first using their base ten blocks and then with the flard cards. They keep the cards on their desks in the correct order.
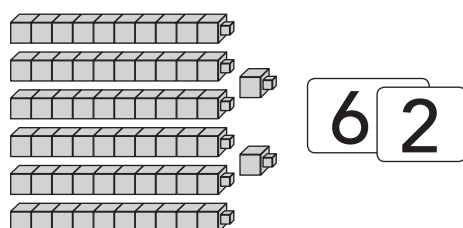


- Ask the learners to write the number names on their scrap paper/white board, one by one.

## Activity 2: Whole class activity

- Ask 11 learners to choose a number between 60 and 70 and to come to the front of the class to show their number using flard cards.
- The whole class looks at the numbers being held up by the learners in front.
- Ask a learner if she/he can see two numbers that are the same. If the learner identifies a pair of numbers that are the same – she/he should exchange places with one of the learners in the pair, bringing up a different number to the front of the class.
- Continue in this way until there are no duplicates and the numbers from 60 to 70 are shown. (They do not have to be in numerical order – you will order them in the next step of this activity.)
- Ask the learners in front to line up so that the numbers they are showing will be in order from the biggest to the smallest number. (Learners move around until they stand in a line with the numbers in order going from 70 to 61.)
- Ask the rest of the class the following questions, using the learners with the numbers in the front of the class as their reference:
  - *Are the numbers in order from the greatest to the smallest?* (Yes)
  - *Which number is one less than 64?* (63)
  - *One more than 64?* (65)
  - *Equal to 64?* (64)
- Let the learners who are in front now stand in order from the smallest to the greatest.
- Repeat questions comparing numbers using other numbers in the number range (60 to 70).

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

## Term 3 Lesson 3: Numbers 60–70 place value

### Classwork

1. Draw a diagram for numbers 63, 68, 70 and 64, showing the tens and units. (Learners will draw blocks/etc. Check that the correct number of blocks have been drawn and that the grouping into tens and units has been done.)

2. Write the number names for 65, 62, 69 and 68. (sixty-five, sixty-two, sixty-nine, sixty-eight)

3. Draw a 60–70 number line and fill in the numbers.



| 60 | 6 1 | | | | | | | | | 70 |
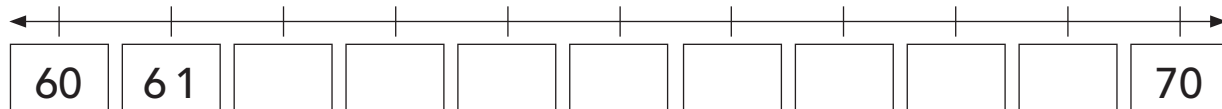
   (61, 62, 63, 64, 65, 66, 67, 68, 69)

4. Colour all the numbers on the number line that are greater than 68 blue (69, 70) and the numbers smaller than 65 green (64, 63, 62, 61, 60).

5. Complete the following:
   a) 60 + ____ = 69 (9)
   b) 60 + 4 = ____ (64)

6. Complete the following: 24, 26, __, __, __, 34, __, __, __, 42.
   (28, 30, 32, 36, 38, 40)

7. Write down the numbers 68 and 70. What is:
   a) the number that comes between them? (69)
   b) the number that is 2 less than the smaller of the two? (66)
   c) the number that is 1 less than the bigger of the two numbers? (69).

---

### Homework

1. Choose any two numbers between 61 and 70. Write them down as well as their number names.
   (e.g. 62 sixty-two/65 sixty-five)

2. Write down two numbers that are greater than 67, but not bigger than 70. (68, 69, 70)

3. Complete the following:
   a) 60 + ____ = 63 (3)
   b) 60 + 6 = ____ (66)

# LESSON 4: NUMBERS 60–70

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.16 Mental mathematics.

**Lesson vocabulary:** Forwards, backwards, count on, more than, less than, greater than, greatest, equal to, smaller than, smallest, order, compare, odd, even, between, bigger, biggest

**Prior knowledge:** Learners should have been taught how to:
- Recognise and read number symbols 1–100.
- Recognise, read and write number names 1–20.
- Describe, compare and order up to 20 objects and numbers to 20.

**Concepts:**
- Recognise, identify, read and write number symbols and number names 0–70.
- Order and compare whole numbers to 99, from greatest to smallest, smallest to greatest, smaller than, greater than, more than, less than and is equal to.

**Resources:** Counters, old magazines/books (ensure they have at least 70 pages), 100 number boards (see Term 1 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
- N/A

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give each learner counters (between 60 and 70) and tell them to count on, starting from 60: 61, 69. Ask the learners which is the bigger number. Discuss by how many. Remind learners that the size of the objects does not influence the number of objects.

Problem solving: *My mother gave me 2 more marbles than my sister. My sister has 65 marbles. How many marbles do I have?* (67). Show how to solve the problem using concrete objects.

Ask other similar problem questions using different numbers of different objects.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 2s from any given number between 0 and 80, e.g. 53, 55, 57,  …

### 1.2 Recall and strategies (10 minutes)

| | What is 2 more than: | Answer | | | What is 2 more than: | Answer |
|---|---|---|---|---|---|---|
| 1. | 16 | 18 | | 6. | 45 | 47 |
| 2. | 25 | 27 | | 7. | 17 | 19 |
| 3. | 53 | 55 | | 8. | 50 | 52 |
| 4. | 37 | 39 | | 9. | 36 | 38 |
| 5. | 42 | 44 | | 10. | 23 | 25 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In this lesson you need to use old magazines/the DBE book – you will use them in Activity 1 of this lesson. The activity calls on learners to work with numbers in the range 60 to 70. This varies the 'number' activities that you do and helps learners to think about numbers in a different context. You should try to collect old magazines so that you are able to do this activity with them.

In Activity 2 of this lesson you are encouraged to allow learners to ask each other comparative questions about number in the range 60 to 70. This gives learners the opportunity to use their mathematical language and to think about the comparisons in a meaningful way.

## Activity 1: Learners work in groups

- Give each group of learners an old magazine/the DBE workbook and ask them to turn to page 61.
- Stick the number symbol and name card for 61 on the board.
- Learners read the number name.
- Ask the learners:
  - *Find the page number that is 2 greater than 61.* (63)
  - *Find the page number that is 3 smaller than 69.* (66)
- Repeat this exercise using other numbers from 62 to 70.

## Activity 2: Learners work in groups

- Learners use their number boards as well as magazines.
- Ask the learners the following questions:
  - *Show the following numbers: 64, 68, 70, 61, 66, 63, 62, 65, 67 and 69.*
  - *Which number is one less than 64?* (63)
  - *Which number is one more than 64?* (65)
  - *Which number is equal to 64?* (64)
  - *Etc.* Allow learners to ask each other comparative questions, in the number range.

## Activity 3: Whole class activity

- As preparation for the classwork activity you should revise the meaning of the odd and even numbers.
- Remind learners that:
  - the **even numbers** are those numbers that can be divided by 2 (or into half) without leaving a remainder. For example: 2, 4, 6, 8 or (bigger numbers) – 44, 46, 48, etc.
  - the **odd numbers** are those that leave a remainder of 1 when they are divided by 2. For example: 3, 7, 11, 15, 39, etc.
- Write the words **odd** and **even** on the board with a few examples of each type of number next to the word.

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

## Term 3 Lesson 4: Numbers 60–70

### Classwork

1.  Write down the numbers between 61 and 70. Arrange them in order from smallest to biggest.
    (62, 63, 64, 65, 66, 67, 68, 69)

2.  Circle the odd numbers in green and the even ones in red.
    (Even: 62, 64, 66, 68, 70. Odd: 61, 63, 65, 67, 69.)

3.  Write the number and number names for the following:
    The number that is 3 more than 62. (65, sixty-five)
    The number that comes between 66 and 68. (67, sixty-seven)

4.  Arrange these numbers from the smallest to the biggest:
    70, 65, 69, 61. (61, 65, 69, 70)

5.  Complete the pattern: 0, 5, __ , 15, 20, __ , __ , __ , __ , __ , 50.
    (10, 25, 30, 35, 40, 45)

---

### Homework

1.  Choose any two numbers between 61 and 70. Write them down as well as their number names.
    (Answers will vary)

2.  Write down two numbers that are greater than 67, but not bigger than 70. (68, 69, 70)

3.  Write down two numbers that are smaller than 64, but not smaller than 61. (63, 62, 61)

4.  Put these numbers in order from the greatest to the smallest: 63, 61, 65, 60. (65, 63, 61, 60)

# WEEK 2

## LESSON 5: NUMBERS 70–75 PLACE VALUE

<table>
<tr><td colspan="2" style="background:#333;color:white"><strong>Teacher's notes</strong></td></tr>
<tr><td colspan="2"><strong>CAPS topics:</strong> 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.5 Place value, 1.16 Mental mathematics.</td></tr>
<tr><td colspan="2"><strong>Lesson vocabulary:</strong> Place value, forwards, backwards, count on, more than, less than, greater than, greatest, equal to, smaller than, smallest, compare, decompose, two-digit number, digit, multiple, tens, units/ones, pattern.</td></tr>
<tr><td colspan="2"><strong>Prior knowledge:</strong> Learners should have been taught how to:
<ul>
<li>Recognise and read number symbols 1–100.</li>
<li>Recognise, read and write number names 1–20.</li>
<li>Describe, compare and order up to 20 objects and numbers to 20.</li>
</ul></td></tr>
<tr><td colspan="2"><strong>Concepts:</strong>
<ul>
<li>Recognise, identify, read and write number symbols and names 0–75.</li>
<li>Decompose two-digit numbers into multiples of tens and ones/units.</li>
<li>Identify and state the value of each digit.</li>
</ul></td></tr>
<tr><td colspan="2"><strong>Resources:</strong> 100 number boards (see Term 1 <em>Printable Resources</em>), scrap paper/white boards, flard cards, base ten blocks (see Term 1 <em>Printable Resources</em>).</td></tr>
<tr><td colspan="2"><strong>DBE workbook activities relevant to this lesson:</strong>
<ul>
<li>N/A</li>
</ul></td></tr>
<tr><td colspan="2"><strong>Assessment:</strong> Refer to the tracker for today's formal/informal oral, practical or written assessment activity.</td></tr>
<tr><td colspan="2"><strong>Remediation:</strong> Ask learners to show the following numbers using base ten blocks: 71, 72, 73, 74, and 75. Ask questions such as: <em>What would you do with your blocks to make it one more or one less? What number comes before 73? What number comes after 73?</em></td></tr>
<tr><td colspan="2"><strong>Enrichment:</strong> See enrichment activity cards.</td></tr>
</table>

## 1. Mental maths

### 1.1 Counting (5 minutes)

- Count forwards and backwards in 2s from any given number between 0 and 90, e.g. 55, 57, 59, …

### 1.2 Recall and strategies (10 minutes)

| | What is 2 less than: | Answer | | | What is 2 less than: | Answer |
|---|---|---|---|---|---|---|
| 1. | 16 | 14 | | 6. | 45 | 43 |
| 2. | 25 | 23 | | 7. | 17 | 15 |
| 3. | 53 | 51 | | 8. | 50 | 48 |
| 4. | 37 | 35 | | 9. | 36 | 34 |
| 5. | 42 | 40 | | 10. | 23 | 21 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In this lesson the number range is extended to 75. You should continue to use the language of place value consistently as you should have done in previous lessons to help learners establish their understanding of place value.

## Activity 1: Learners work in groups

- Give each group of learners a set of base ten blocks and flard cards. If you don't have these, do drawings on the board like those shown in the lesson plan and explain to the class what the drawings show.
- Write the number symbol and name card for numbers 70 to 75 on the board. (Paste number symbol and name cards on the board instead if you have these.)
- Learners read the number names and copy them on their scrap paper/whiteboards.
- Learners use their base ten blocks and flard cards to show the numbers 70 to 75.
- Let them put out only the 70 card. Then give them number 1 to put on top of the 0.



*What number do you have now?* (71)
- Discuss with the class that you have shown the number 71 which has 7 tens and 1 unit. The 7 tens makes 70. The one unit makes 1. The total value is 71.
- Repeat using numbers 72, 73, 74 and 75.

## Activity 2: Whole class activity

Discuss the place value and total value of the digits in the numbers between 70 and 75. These repetitive questions allow learners to consolidate their understanding of place value. Allow learners to ask the questions as well if possible. This will really help them consolidate their knowledge. Guide them if necessary.

- Ask the learners the following questions about the numbers 70, 71, 72, 73, 74, and 75:
    - *What is the place value of the 1 in 71?* (units)
    - *What is the value of the 1 in 71?* (1)
    - *What is the place value of the 7 in 71?* (tens)
    - *What is the value of the 7 in 71?* (70)
    - *What is the total value of the number 71?* (70 + 1 = 71)
    - *What is the place value of the 7 in 74?* (tens)
    - *What is the value of the 7 in 74?* (70)
    - *What is the place value of the 4 in 74?* (units)
    - *What is the value of 4 in 74?* (4)
    - *What is the total value of the number 74?* (70 + 4 = 74)
    - *Etc.*

4.  **Classwork activity (25 minutes) (See next page)**

5.  **Homework activity (5 minutes) (See next page)**

6.  **Reflection on lesson**

## Term 3 Lesson 5: Numbers 70–75 place value

### Classwork

1. Draw a picture to show these numbers, using tens and units: 71 to 75. (Learners will draw blocks/etc. Check that the correct number of blocks have been drawn and that the grouping into tens has been done.)

2. Write each number's name underneath your picture. (seventy-one, seventy-two, seventy-three, seventy-four, seventy-five)

3. What is the value of the 3 in 73? (3)

4. What is the value of the 7 in 75? (70)

5. Complete the following:
   a) $70 + \_\_\_\_ = 73$ (3)
   b) $\_\_\_\_ + 2 = 72$ (70)

---

### Homework

1. Complete the pattern: 68, 69, __, 71, __, __. (70, 72, 73)

2. What is 5 less than 75? (70)

3. What is two more than 71? (73)

4. Thabo has 60 marbles. He finds 13 more. How many does he have altogether? (73)

---

# LESSON 6: NUMBERS 70–75

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.16 Mental mathematics.

**Lesson vocabulary:** Forwards, backwards, count on, more than, less than, greater than, greatest, equal to, smaller than, smallest, ordinal number, first, second, third, fourth, fifth, order, place, position, tens, ones, pattern.

**Prior knowledge:** Learners should have been taught how to:
- Recognise, read and write number names 1–10 and number symbols 1–20.
- Describe, compare and order up to 20 objects and numbers to 20.

**Concepts:**
- Recognise, identify, read and write number symbols and names 0–75.
- Order and compare whole numbers to 99, from greatest to smallest, smallest to greatest, smaller than, greater than, more than, less than and is equal to.
- Use ordinal numbers to show order, place or position.

**Resources:** 100 number boards (see Term 1 *Printable Resources*), sticks/blocks, and base 10 blocks (see Term 1 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
- N/A

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Using base 10 blocks, learners count out 75. Ask them how they would count 71, 72, 73, 74, and 75 (starting from 70). Ask the learners to arrange the groups from the smallest to the biggest. Ask: *Which number is first?* (70), *which number is last?* (75). Learners should remember that the sizes of the objects do not influence the number of objects.

**Enrichment:** See enrichment activity cards.

## 1.    Mental maths

### 1.1   Counting (5 minutes)
- Count forwards and backwards in 5s from any number between 0 and 50, e.g. 23, 28, 33, …

### 1.2   Recall and strategies (10 minutes)

| | What is 3 less than: | Answer |
|---|---|---|
| 1. | 16 | 13 |
| 2. | 52 | 49 |
| 3. | 53 | 50 |
| 4. | 58 | 55 |
| 5. | 42 | 39 |

| | What is 3 more than: | Answer |
|---|---|---|
| 6. | 40 | 43 |
| 7. | 17 | 20 |
| 8. | 54 | 57 |
| 9. | 36 | 39 |
| 10. | 23 | 26 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

In this lesson while you are teaching place value you also use the language of ordinal numbers. You use ordinal numbers to show order, place or position.

## Activity 1: Learners work in groups of 4

- Give each group 75 sticks/blocks.
- Let them count out the sticks in groups of ten.
- Ask: *Are there any sticks left over that cannot be grouped into a ten?* (5)
- Learners count the sticks in groups of tens and ones. (10, 20, 30, 40, 50, 60, 70, 71, 72, 73, 74, 75)

## Activity 2: Learners work in groups of 4

- Write the number symbols and number names 70 to 75 on the board for the learners.
- Discuss these questions:
  - *Which is the third number?* (72)
  - *Which is the fifth number?* (74)
  - *Which is the first number?* (70)

## Activity 3: Learners work in groups of 4

- Using the numbers on the board, ask the learners the following questions:
  - *Which number is one smaller than 74?* (73)
  - *Which number is one greater than 71?* (72)
  - *Which number is equal to 71?* (71)
- Ask more questions about numbers:
  - *Which are less than/more than/equal to in the number range 70–75?*

## 4.	Classwork activity (25 minutes) (See next page)

## 5.	Homework activity (5 minutes) (See next page)

## 6.	Reflection on lesson

## Term 3 Lesson 6: Numbers 70–75

### Classwork

1.  Write the numbers 71 to 75 in the correct order underneath one another. (71, 72, 73, 74)

2.  Write the number name for each number next to it. (seventy one, seventy two, seventy three, seventy four)

3.  Draw two circles. In the first circle write down all the numbers greater than 73 (74, 75) and in the other circle all the numbers smaller than 73 (70, 71, 72).

4.  Draw 75 sticks, showing groups of tens and units. (7 groups of 10 and 5 single units)

5.  Show how you will count them in groups of tens and then in ones.
    (10, 20, 30, 40, 50, 60, 70, 71, 72, 73, 74, 75)

6.  Complete the pattern: 15, 20, __, __ , 35, __ , __ , __ , 55, __, 65, __, __ , 80.
    (25, 30, 40, 45, 50, 60, 70, 75)

---

### Homework

1.  Choose any two numbers between 70 and 75. Write them down as well as their number names.
    (Answers will vary)

2.  Choose another two numbers between 70 and 75 and draw pictures of them, showing the tens and units.
    (Answers will vary)

3.  Write down the numbers 70–75 and do the following: (70, 71, 72, 73, 74, 75)
    a)  Colour the second number in red (71)
    b)  Colour the sixth number in yellow (75)
    c)  Colour the third number in blue. (72)

---

# LESSON 7: CAPACITY

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 5s from any number between 0 and 50, e.g. 48, 43, 38, …

### 1.2 Recall and strategies (10 minutes)

| | What is 1 less than | Answer | | | What is 2 less than | Answer |
|---|---|---|---|---|---|---|
| 1. | 42 | 41 | | 6. | 49 | 47 |
| 2. | 30 | 29 | | 7. | 53 | 51 |
| 3. | 45 | 44 | | 8. | 20 | 18 |
| 4. | 12 | 11 | | 9. | 55 | 53 |
| 5. | 10 | 9 | | 10. | 21 | 19 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

This is the first of two lessons on capacity in the third term. In these lessons you should remember to help learners establish the concept of capacity – which is the amount a container can hold when it is full. Refer to the *Dictionary of Mathematical Terms* if necessary for lesson vocabulary.

It is important that you allow learners to work with containers in this lesson or that you demonstrate the practical activities in front of the class (with learners participating if possible). Remember: Learners in the Foundation Phase learn best when they are actively involved in their learning using their bodies.

## Activity 1: Learners work in groups

Take the class outside for this activity.
Note: You can use sand instead of water.
- Each group of learners needs a teaspoon and a cup to do this activity.
- Give each group an extra container filled with water.
- Explain to the learners that they are going to use the spoons to fill the cups (half full and full) with water.
- Let them first estimate how many spoonfuls they will use to do this.
- Ask the learners to now fill their cups halfway.
- They need to count how many spoonfuls they use to do this.
- The learners now compare their own estimation and answer, and then compare answers within their group or between groups.

## Activity 2: Whole class activity

Take the learners back into the class for the second activity of the lesson.
- Draw a picture of a bottle and a cup on the board.
- Show the learners up to where 1 cup of water will fill the bottle.
- They now have to work out how many cups of water were used to fill the other bottles.



| | (1 cup) | (2 cups) | (4 cups) |
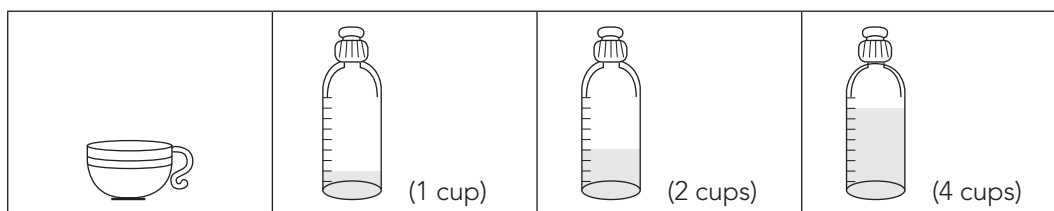
Ask the learners which unit would be easier to use to measure the water in the bottles – a spoon or a cup? (A cup. Discuss.)

**4. Classwork activity (25 minutes) (See next page)**

**5. Homework activity (5 minutes) (See next page)**

**6. Reflection on lesson**

# Term 3 Lesson 7: Capacity

## Classwork

1. How many cups of sand do you think will fill up a 2 l bottle? (Estimate)

2. Fill a 2 l bottle with sand and compare your estimation with the answer. (8 cups)

3. Draw this bottle in your book.

   1
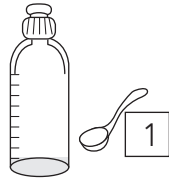
   Now draw the following and write how many spoonfuls of water were used:
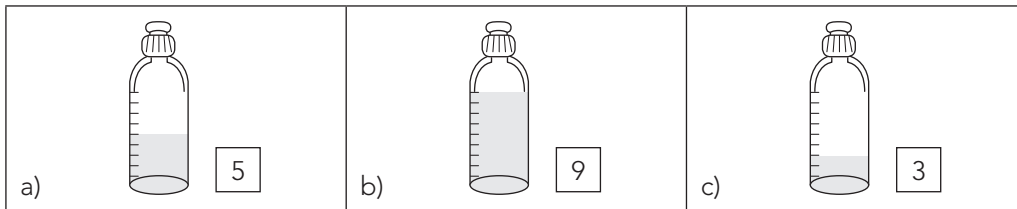
   | | | |
   |---|---|---|
   | a) 5 | b) 9 | c) 3 |
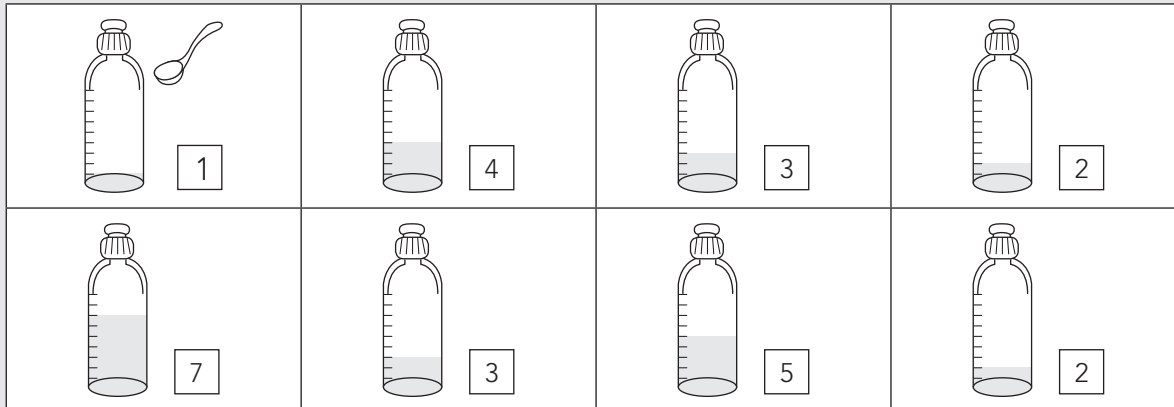
# LESSON 8: CAPACITY – LITRES

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.16 Mental mathematics.

**Lesson vocabulary:** Litres, non-standard measure, capacity, informal unit, estimate, measure, compare, record, order, calibration.

**Prior knowledge:** Learners should have been taught how to:
- Estimate, measure, compare, order and record the capacity of containers by using non-standard measures, e.g. spoons and cups.

**Concepts:**
- Estimate, measure, compare, order and record the capacity of containers by measuring in litres using: bottles with a capacity of 1 litre, a measuring jug which has numbered calibration lines in litres.
- Compare, order and record the capacity of commercially packaged objects whose capacity is stated in litres, e.g. 2 litres of milk, etc.

**Resources:** Clean, empty household containers – 1 litre, 2 litres, 1.5 litres, 5 litres (make sure the containers are cleaned out and don't have any traces of the content), water, sand.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 68 (pp. 8 and 9).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners an empty 1 litre container. Give them containers smaller than 1 litre. *Will these containers take more or less water?* Give the learners containers bigger than 1 litre. *Will these containers take more or less water than the others?*

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 5s from any multiple between 0 and 100, 56, 61, 66, …

### 1.2 Recall and strategies (10 minutes)

| | What is 2 less than: | Answer |
|---|---|---|
| 1. | 53 | 51 |
| 2. | 33 | 31 |
| 3. | 45 | 43 |
| 4. | 21 | 19 |
| 5. | 33 | 31 |

| | What is 5 more than: | Answer |
|---|---|---|
| 6. | 49 | 54 |
| 7. | 53 | 58 |
| 8. | 20 | 25 |
| 9. | 41 | 46 |
| 10. | 29 | 34 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

It is important that you bring the empty containers to class for this lesson. Learners need to see real objects to help them develop their understanding of the concept of capacity.
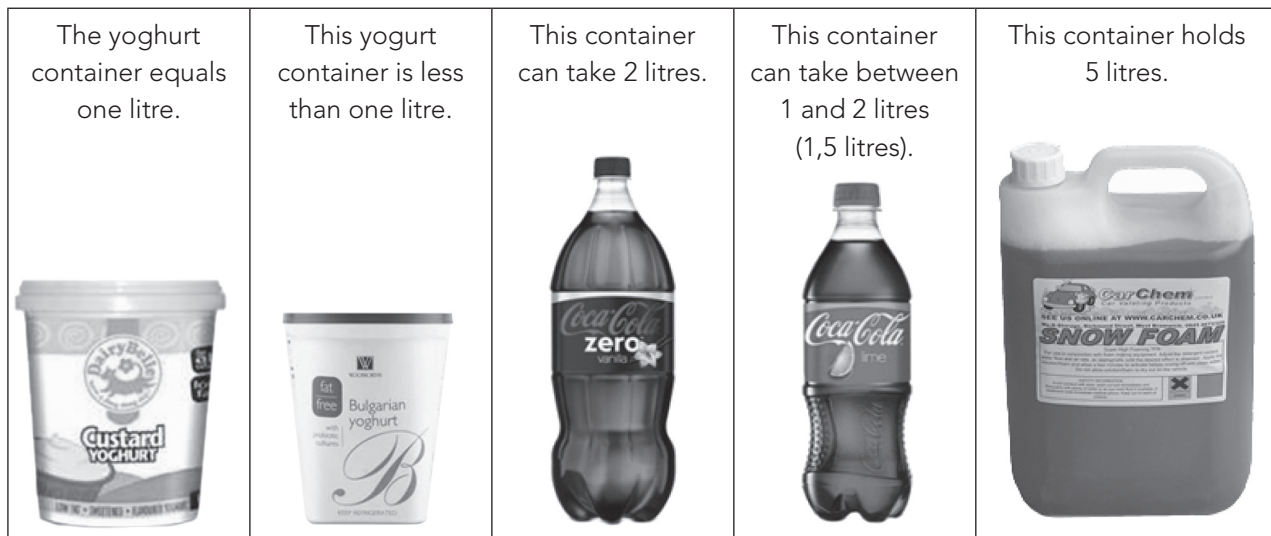
## Activity 1: Whole class activity

- Place empty containers in the front of the class: 1 litre, 2 litres, 1,5 litres, 5 litres. (Try to find all of these containers and bring them to class.)
- Discuss the different sizes of the containers with the learners.
- Some containers are the same height, but one holds more than the other because it is wider/"fatter" than the other.
- Discuss the labels on the containers and their meaning.

| 1 litre | 2 litres | Between 1 and 2 litres | 5 litres |
|---------|----------|------------------------|----------|
|  |  |  |  |
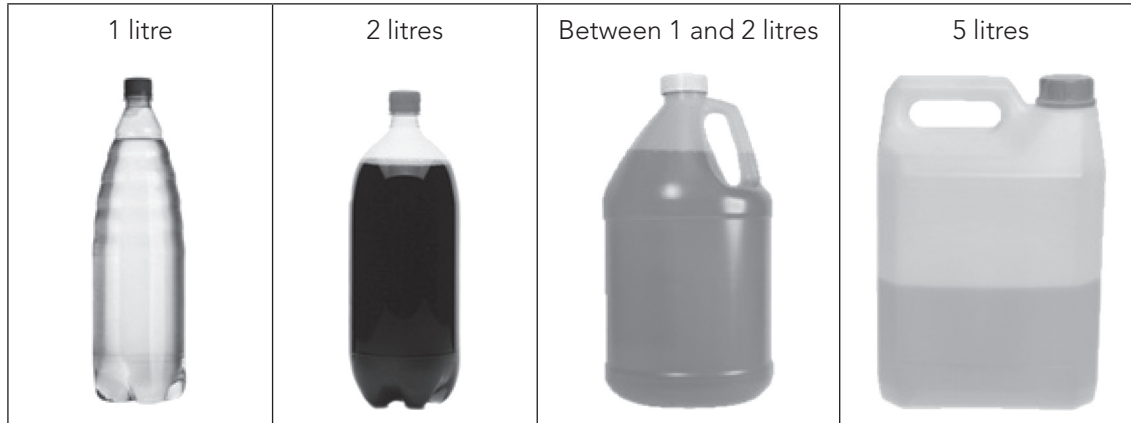
## Activity 2: Whole class activity

- Now give the learners the following empty containers (or containers that you could find) one by one, and ask them to compare these to the empty containers above.
- Hand the containers to different learners in the class or let individual learners come to the front to participate in this comparison activity.
- Learners should test if they are correct by pouring water or sand from the one container to the other.

| The yoghurt container equals one litre. | This yogurt container is less than one litre. | This container can take 2 litres. | This container can take between 1 and 2 litres (1,5 litres). | This container holds 5 litres. |
|---|---|---|---|---|
|  |  |  |  |  |

4.   **Classwork activity (25 minutes) (See next page)**

5.   **Homework activity (5 minutes) (See next page)**

6.   **Reflection on lesson**

# Term 3 Lesson 8: Capacity – litres

## Classwork

1. How do we write litre in short? (ℓ)

2. Use the same containers as for the class activity. Put them in order from the container that holds the most to the container that holds the least. (5 ℓ, 2 ℓ, between 1 and 2 ℓ, 1 ℓ)

3. Find the following pictures in a magazine and stick them in or draw the objects:
   a) Containers that hold less than 1 litre
   b) Containers that hold 1 litre
   c) Containers that hold more than 1 litre.

4. Mom buys 2 litres of milk. There are 3 people in our family. Each of them drinks 1 litre of milk for breakfast every day. Did Mom buy enough milk? (No, because we need 3 litres.)

## Homework

1. Draw 3 containers in your book and label them as follow: holds less than 1 litre, holds 1 litre, and holds more than one litre.

2. Draw three pictures of items in your kitchen cupboard or fridge and say if it holds more or less or exactly 1 litre.

3. You have invited 7 friends to your house. Would you buy 1 litre of juice for them to drink and why?
   (No, it will not be enough for all of them.)

# WEEK 3

## LESSON 9: ADDITION – FAMILY FACTS

| Teacher's notes |
|---|
| **CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.7 Addition and subtraction, 1.12 Techniques, 1.16 Mental mathematics. 1.1 Count objects, 1.2 Count forwards and backwards, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.16 Mental mathematics. |
| **Lesson vocabulary:** Forwards, backwards, family facts, addition, subtraction, number line, demarcations. |
| **Prior knowledge:** Learners should have been taught how to: <br>• Use apparatus, pictures, number lines, breaking down and building up of numbers when solving and explaining problems and performing calculations. <br>• Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 50. <br>• Add and subtract up to 50 as well as using the appropriate symbols: +, -, □, = . |
| **Concepts:** <br>• Use techniques when solving problems and explain solutions to problems, like drawing or apparatus and number lines. <br>• Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 75. |
| **Resources:** Base ten blocks (see Term 1 *Printable Resources*), Unifix cubes. |
| **DBE workbook activities relevant to this lesson:** <br>• DBE Worksheet 72 (pp. 16 and 17). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Support learners with regards to the family facts of 20. First tell them to give you any two numbers that will make 20, e.g. 8 + 12 = 20. Show this family fact using Unifix blocks. Ask them to count out 20 Unifix blocks. Take 12 away. *How many blocks do you have left that you cannot group into a ten?* (8) Use the 20 Unifix blocks again and take 6 away. *How many blocks do you have left that you cannot group into a ten?* (14). Etc. |
| **Enrichment:** See enrichment activity cards. |

## 1.    Mental maths

### 1.1   Counting (5 minutes)
• Count forwards and backwards in 10s from any given number between 0 and 150, e.g. 51, 61, 71, …

### 1.2   Recall and strategies (10 minutes)

| | What is 3 less than: | Answer |
|---|---|---|
| 1. | 45 | 42 |
| 2. | 50 | 47 |
| 3. | 32 | 29 |
| 4. | 30 | 27 |
| 5. | 49 | 46 |

| | What is 3 more than: | Answer |
|---|---|---|
| 6. | 51 | 54 |
| 7. | 29 | 32 |
| 8. | 61 | 64 |
| 9. | 45 | 48 |
| 10. | 62 | 65 |

## 2.    Correction/reflection on homework (15 minutes)
Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

- Basic revision of building up to 10, using smaller numbers.
- Use number lines and counters to do the following activities with your learners.
  Encourage them to give you as many number sentences as they can, with ten as the answer.
- 3 + 7 (10), 4 + 6 (10), 1 + 4 + 5 (10), 3 + 3 + 4 (10).
- Example using a number line:

3 + 7 = 10
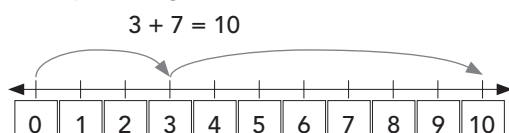


## Activity 2: Learners work in groups

Give each group of learners about 60 Unifix cubes or a set of base ten blocks.
- Ask learners to give you any two numbers that make 49, e.g. 47 + 2 = 49, 44 + 5 = 49.
- Learners could use base ten blocks or Unifix cubes to illustrate this.
- Introduce family facts of 40, 50 and 60 – family facts are pairs of numbers that make up the given number.
  Remember that there are plenty of family facts for 40, 50 and 60.
  - E.g. 41 + 9 = 50 (41 and 9 make 50, 41 and 9 are a pair of family facts of 50.)
- Family facts can also involve subtraction. For example:
  - 50 – 2 = 48 or 50 – 48 = 2 (The numbers 48 and 2 make 50 and so when we subtract either of them from 50 we get the other one.)

## Activity 3: Whole class activity

Draw this number line on the board before the lesson.
- Draw a 0–70 number line on the board, only labelling the tens starting from 0: 0, 10, 20, 30 …70.
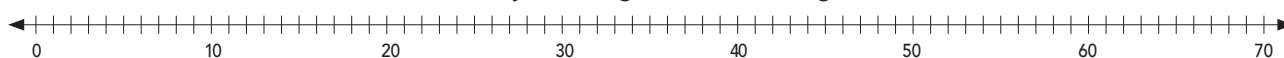


- *If you put the ten small markers between the tens, what do they stand for?* (Units/ones.)
- Count with learners while pointing at each interval: 1, 2, 3, 4, 5 … 59, 60.
- Give an example of a family fact for 49 using the number line.
- Show it on the number line and using base ten blocks.
- For example:
  - 41 + 8 = 49 or 8 + 41 = 49 and
  - 49 – 8 = 41 or 49 – 41 = 8.
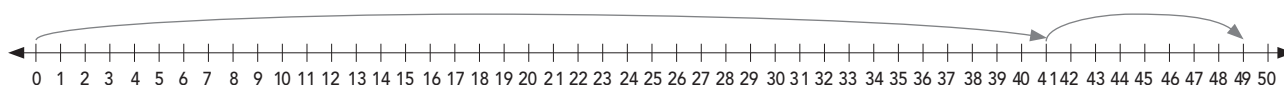


- Encourage learners to give you any other family facts for 49.
- For example:
  - 40 + 9 = 49, 9 + 40 = 49, 49 – 9 = 40, 49 – 40 = 9 or
  - 25 + 24 = 49, 24 + 25 = 49, 49 – 25 = 24, 49 – 24 = 25

**4.    Classwork activity (25 minutes) (See next page)**

**5.    Homework activity (5 minutes) (See next page)**

**6.    Reflection on lesson**

## Term 3 Lesson 9: Addition – family facts

### Classwork

1. Draw base ten blocks to show two family facts of 56. (E.g. 49 + 7 = 56 and 7 + 49 = 56)

2. Draw 2 sets of 6 towers of 10 blocks each. Colour the blocks to show the following family facts of 56:
   a) 56 – 49 = 7
   b) 56 – 7 = 49

3. Draw a 0 to 70 number line and show any family fact for 70. (Answers will vary)

4. Draw a 0 to 60 number line and show another family fact for 60. (Answers will vary)

---

### Homework

(Answers will vary)

1. Draw 8 towers of 10 blocks each. Colour the blocks to show any family fact for 73.

2. Show any family fact for 75.

3. Draw a 0 to 70 number line and show any family fact for 70.

4. Draw a 0 to 60 number line and show any family fact for 60.

---

# LESSON 10: BUILDING UP AND BREAKING DOWN NUMBERS 1–75

| Teacher's notes |
| --- |

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.7, 1.13 Addition and subtraction, 1.12 Techniques (methods or strategies), 1.16 Mental mathematics.

**Lesson vocabulary:** More, less, building up, breaking down, addition, subtraction, number bonds, calculation strategies.

**Prior knowledge:** Learners should have been taught how to:
• Use concrete apparatus, pictures, number lines, breaking down and building up of numbers when solving and explaining problems and performing calculations.
• Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 50, using the appropriate symbols: +, -, □, = .

**Concepts:**
• Calculation strategies up to 75.
• Use techniques to perform calculations, like building up and breaking down numbers and number lines.

**Resources:** Base ten blocks, flard cards (see Term 1 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 73 (pp. 18 and 19).
• DBE Worksheet 74 (pp. 20 and 21).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Building up/breaking down using multiples of 10. Use base ten blocks. Give learners 5 units and 5 tens. Ask them to show 55. Discuss how this forms the number 55. *Write a number sentence.* (50 + 5 = 55) *Remove the units. Write a number sentence.* (55 – 5 = 50) Do the same using base ten blocks: 51: 50 + 1 = 51 or 51 – 1 = 50. Also discuss 52: 50 + 2 = 52 or 52 – 2 = 50; 53: 50 + 3 = 53 or 53 – 3 = 50; 54: 50 + 4 = 54 or 54 – 4 = 50.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 2s from any number between 0 and 110, e.g. 53, 55, 57, …

### 1.2 Recall and strategies (10 minutes)

| | Double these numbers: | Answer | | | Halve these numbers: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 15 | 30 | | 6. | 24 | 12 |
| 2. | 18 | 36 | | 7. | 22 | 11 |
| 3. | 30 | 60 | | 8. | 28 | 14 |
| 4. | 33 | 66 | | 9. | 30 | 15 |
| 5. | 19 | 38 | | 10. | 40 | 20 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

It is important to demonstrate the use of the number line on the board in this lesson. This will help learners to consolidate number concepts and to think about the relative sizes and positions of numbers in relation to each other.
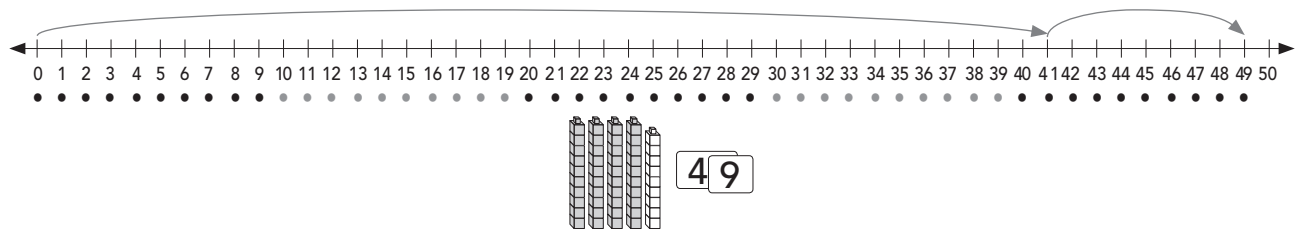
## Activity 1: Whole class activity

- Draw a 0–50 number line on the board before the lesson (labelled in 1s).
- Ask the learners to show the following on a number line:
- 10 + 10 + 10 + 10 + 9 = 49 (This can be called building up to 49 using addition OR breaking down 49 into tens and units.) / 40 + 9 = 49 / 4 tens + 9 units; 4 tens and 9 units.
- 49 demonstrated using flard cards:    4 9
  **OR**
- 49 demonstrated showing beads counted on a number line:



- Repeat with numbers 41, 42, 43, 44, 47, 48. Talk about how you can break down a number into tens and units, or build up a number using tens and units.

## Activity 2: Whole class activity

- Write the following on the board:
  a) 3 tens + 6 units =       b)   44: ___ tens + ___ units = ___
  c) 62: ___ tens + ___ units = ___
- Ask the learners what each sum represents – write the answer in words:
  a) 3 tens + 6 units = thirty-six     b)   44: ___ tens + ___ units = 4 tens + 4 units
  c) 62: ___ tens + ___ units = 6 tens+ 2 units
- Ask the learners to write each one as a number sentence
  a) 3 tens + 6 units = 30 + 6 = 36    b)   44: 40 + 4 = 44
  c) 62: 60 + 2 = 62

## Activity 3: Whole class activity

- Complete the following operations using breaking down and/or building up. Encourage learners to use working that they understand.
- Insist on correct working and steps.
- Here are two worked examples. Do more if necessary.
  - 28 + 14 = 20 + 10 + 8 + 4
    = 30 + 12
    = 42
  - 38 – 23 = 30 – 20 + 8 – 3
    = 10 + 5
    = 25

## 4.  Classwork activity (25 minutes) (See next page)

## 5.  Homework activity (5 minutes) (See next page)

## 6.  Reflection on lesson

## Term 3 Lesson 10: Building up and breaking down numbers 1–75

### Classwork

1. Draw flard cards to show the following:
   a) 30 + 9 = __ (39)
   b) 5 tens + 3 units (50 + 3 = 53)
   c) 6 tens + 5 units (60 + 5 = 65)

2. Write the following in words and then as a number sentence:
   a) 5 tens + 6 units = fifty-six (50+ 6 = 56)
   b) 47: ___ tens + ___ units = ___ (4 tens + 7units = 47/40 + 7 = 47)
   c) 72: ___ tens + ___ units = ___ (7 tens + 2units = 72/70 + 2 = 72)

3. Write the words and then the answer for the following:
   a) 5 tens + 1 unit = __ (51)
   b) 4 tens + 2 units = __ (42)
   c) 6 tens + 8 units = __ (68

4. Write down five family facts of 74.

5. Calculate:
   a) 27 + 11 = __ (38)
   b) 45 + 15 = __ (60)
   c) 37 – 15 = __ (22)
   d) 63 – 16 = __ (47)

---

### Homework

1. 6 tens + 3 units = ___. Write the answer in words. (Sixty-three)

2. 5 tens + 7 units = ___. (57)

3. Write down any three family facts for 55. (Answers will vary)

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# LESSON 11: ADDITION – DOUBLES AND NEAR DOUBLES TO 75

| Teacher's notes |
| --- |

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.7, 1.13 Addition and subtraction, 1.12 Techniques (methods or strategies), 1.16 Mental mathematics.

**Lesson vocabulary:** Just after, doubles, near doubles, doubling, halving, addition, calculation.

**Prior knowledge:** Learners should have been taught how to:
- Use concrete apparatus, pictures, number lines, breaking down and building up of numbers when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 50, using the appropriate symbols: +, -, □, = .

**Concepts:**
- Solve problems in context and explain own solution to problems involving addition with answers up to 75, using the appropriate symbols: +, -, □, = .
- Use techniques when performing calculations, like drawing, concrete apparatus and doubling.

**Resources:** Unifix blocks.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 86 (pp. 48 and 49).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Each learner has 50 Unifix blocks on their desk. Ask each learner to put 16 blocks in a group and put 17 blocks in a second group. Ask the learners to make the groups the same and to put any extra blocks aside. Ask them to write a number sentence. (16 + 16 + 1) We can also say: double 16 + 1. Do this for other doubles and near doubles – adding pairs of numbers that give totals less than 50.

Problem solving: *I bought two pairs of slip slops. One pair costs R22 and the other pair R23. How much did I pay?* Show it using Unifix blocks.

**Enrichment:** See enrichment activity cards.

## 1.    Mental maths

### 1.1   Counting (5 minutes)
- Count forwards and backwards in 5s from any given number between 0 and 180, e.g. 164, 159, 154, …

### 1.2   Recall and strategies (10 minutes)

| | What is 4 more than: | Answer | | | What is 4 less than: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 28 | 32 | | 6. | 53 | 49 |
| 2. | 70 | 74 | | 7. | 39 | 35 |
| 3. | 61 | 65 | | 8. | 61 | 57 |
| 4. | 67 | 71 | | 9. | 73 | 69 |
| 5. | 56 | 60 | | 10. | 54 | 50 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

This is the first of two lessons in which learners are taught about doubles and near doubles. The aim of this is to teach them a useful calculation strategy – doubling. In this lesson allow learners to work with Unifix cubes to see how the doubles are added. (Double the tens digit and double the units digit.)

## Activity 1: Learners work in groups

- In this activity learners calculate doubles.
- Give each group of learners 75 Unifix blocks.
- Ask various learners to make towers of ten blocks each in front of the class.
- They are going to take turns to show doubles, using the blocks.
- Put down 24 and 24 blocks in groups of 10 and ones. Ask the class: *What is the sum?* (24 + 24 = 48) *Is there another way to say it?* (Yes, double 24 is 48.)
- Repeat allowing different learners to participate in the demonstration.
- Show 37 and 37 blocks in groups of 10 and ones on the desk. Ask: *What is the sum?* (37 + 37 = 74) *Is there another way to say it?* (Yes. Double 37 is 74.)
- Etc. Work through more examples of doubles.

## Activity 2: Learners work in groups

- In this activity learners calculate sums using near doubles to create doubles.
- Using Unifix blocks the groups solve:
- 28 + 29 = 57 (Double 28 + 1 = 56 + 1 = 57.)
- 32 + 33 = 65 (Double 32 + 1 = 64 + 1 = 65.)
- Set similar questions for groups that finish early.

**4.    Classwork activity (25 minutes) (See next page)**

**5.    Homework activity (5 minutes) (See next page)**

**6.    Reflection on lesson**

# Term 3 Lesson 11: Addition – doubles and near doubles to 75

## Classwork

1. Draw circles and counters to show the following doubles:
    a) E.g. Double 15 (Show 15 + 15 = 30)
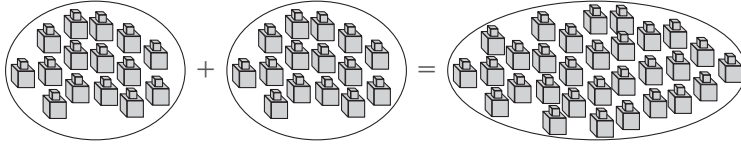
    

    b) Double 21 (21 + 21 = 42)
    c) Double 33 (33 + 33 = 66)

2. Draw circles and counters to show the following near doubles:
    a) E.g. Double 12 + 1 (show 12 + 12 + 1 = 24 + 1 = 25)
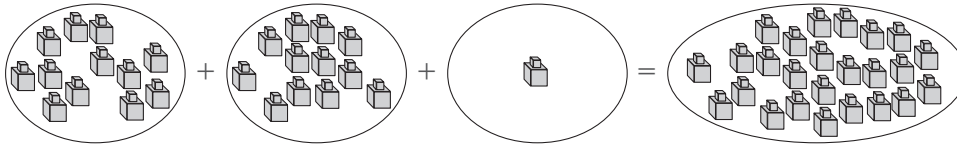
    

    b) Double 24 + 1 (24 + 24 + 1 = 49)
    c) Double 36 + 1 (36 + 36 + 1 = 73)

---

## Homework

1. Complete the following:
    a) Double 12: 12 + __ = 24 (12)
    b) Double 12 + 1: __ + __ + 1 = 25 (12, 12)
    c) Double 28: __ + 28 = __ (28, 56)
    d) Double 28 + 1: 28 + __ + 1 = __ (28, 57)

# LESSON 12: ADDITION – DOUBLES AND NEAR DOUBLES TO 75

## 1. Mental maths

### 1.1 Counting (5 minutes)

- Count forwards and backwards in 10s from any number between 0 and 170, e.g. 142, 152, 162, …

### 1.2 Recall and strategies (10 minutes)

| | What is 4 more than: | Answer |
|---|---|---|
| 1. | 24 | 28 |
| 2. | 71 | 75 |
| 3. | 62 | 66 |
| 4. | 68 | 72 |
| 5. | 36 | 40 |

| | What is 4 less than: | Answer |
|---|---|---|
| 6. | 49 | 45 |
| 7. | 36 | 32 |
| 8. | 51 | 47 |
| 9. | 75 | 71 |
| 10. | 62 | 58 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

Using doubles to add is one of the strategies that learners can use when doing addition. This strategy is useful when you add two numbers which are the same. For example, 21 + 21 = 42 – if you recognise that the pair of numbers you have to add are the same, you can double the first number.

In this lesson you revise the doubling strategy. This will enable learners to look out for doubles and near doubles when they add. Activity 1 and 2 revise how to double and Activity 3 presents more complex addition examples which can be simplified using doubles to add.
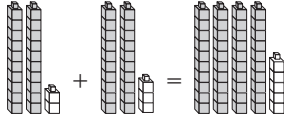
## Activity 1: Whole class activity

Show learners near doubles by giving them Unifix blocks to use, or draw the blocks on the board.
- Ask learners what 32 + 32 is and show it using Unifix blocks.
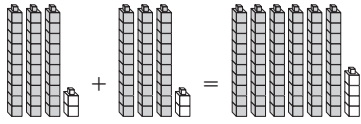


- Ask them what 22 + 23 is and show it using Unifix blocks.



- Use the Unifix demonstration to show that when you double a number, you double the first digit and double the last digit. This is the mental strategy of doubling that simplifies the calculation.

## Activity 2: Whole class activity

- Ask learners to double 22. (22 + 22 = 44)
- Show learners the solution with Unifix blocks.
- Now ask learners to show 22 + 21 = 43.
- Ask: *How did you work this out?* (I took 1 away from double 22.)
- Calculate 23 + 23 = 46 and 23 + 24 = 47. (First calculate double 23 then add 1.)
- Calculate 24 + 24 = 48 and 24 + 25 = 49. (First calculate double 24 and then add 1.)

## Activity 3: Learners work in pairs

Calculating addition using doubles and near doubles:
- Do the following sums using doubling as a strategy. (Each time think about using a double to help you do the calculation mentally – ideas for this will vary – discuss all possibilities suggested by learners.)
    - 33 + 42 = 75 (e.g. 33 + 33 + 9 = 66 + 9 = 75)
    - 27 + 24 = 51 (e.g. 24 + 3 + 24 = 24 + 24 + 3 = 48 + 3 = 51)
    - 34 + 34 = 68 (straightforward double of 34)
    - 44 + 14 = 58 (e.g. 30 + 14 + 14 = 30 + 28 = 58)

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

# Term 3 Lesson 12: Addition – doubles and near doubles to 75

## Classwork

1. Complete:
   a) Double 28        (28 + 28 = 56)
   b) Double 33 + 1    (33 + 33 + 1 = 67)
   c) Double 37        (37 + 37 = 74)
   d) Double 36 + 1    (36 + 36 + 1 = 73)
   e) Double 34        (34 + 34 = 68)
   f) Double 21 + 1    (21 + 21 + 1 = 43)
   g) Double 32        (32 + 32 = 64)
   h) Double 30 + 1    (30 + 30 + 1 = 61)

2. Complete number sentences:
   a) 34 blocks + 34 blocks = ___ (68 blocks)
   b) 34 blocks + 33 blocks = ___ (67 blocks)

3. Calculate:
   a) 25 + 27 = (25 + 27 = 25 + 25 + 2 = 52)
   b) (5) 41 + 31 = (10 + 31 + 31 = 10 + 62 = 72)

---

## Homework

1. Double 25        (25 + 25 = 50)

2. Double 25 + 1    (25 + 25 + 1 = 51)

3. Double 37        (37 + 37 = 74)

4. Double 37 + 1    (37 + 37 + 1 = 75)

5. Calculate: 28 + 25 = __ (53)

# WEEK 4

## LESSON 13: ADDITION AND SUBTRACTION

| Teacher's notes |
| --- |
| **CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 1.13 Addition and subtraction, 1.12 Techniques (methods or strategies).<br><br>**Lesson vocabulary:** Addition, subtraction, add, subtract, place value, tens, units, breaking down, building up, calculation, number bonds.<br><br>**Prior knowledge:** Learners should have been taught how to:<br>• Use concrete apparatus, pictures, number lines, breaking down and building up of numbers when solving and explaining problems and performing calculations.<br>• Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 50, using the appropriate symbols: +, -, $\square$, = .<br>• Use number bonds up to 10.<br><br>**Concepts:**<br>• Solve problems in context and explain own solution to problems involving addition and subtraction with answers up to 75, using the appropriate symbols: +, -, $\square$, = .<br>• Use techniques when performing calculations, like building up and breaking down.<br><br>**Resources:** Base ten blocks (See Term 1 *Printable Resources*).<br><br>**DBE workbook activities relevant to this lesson:**<br>• N/A<br><br>**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Support learners with regard to knowledge and understanding of place value so that they can use this number knowledge in operations. Use base ten blocks to lay out numbers. Talk about the values and how to add starting with the units, and moving to the tens. For example: What is 27 + 18? Show how to add this using base ten blocks. 27 is 2 tens and 7 units. 18 is 1 ten and 8 units. 7 units plus 8 units give me 15 units which is 1 ten and 5 units. 2 tens and 1 ten is 3 tens, plus the extra 1 ten (from the addition of the units) makes 4 tens. So the answer is 45. Work though lots of examples, always talking about the tens and units and regrouping when necessary.<br><br>**Enrichment:** See enrichment activity cards. |

### 1. Mental maths

### 1.1 Counting (5 minutes)

• Start at 150 and count on in twos up to 178, e.g. 150, 152, 154 … 178; then start at another number bigger than 150, and count up in 2s.

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | __ – 4 = 2 | 6 | | 6. | __ – 6 = 7 | 13 |
| 2. | __ – 12 = 4 | 16 | | 7. | __ – 10 =7 | 17 |
| 3. | __ – 4 = 5 | 9 | | 8. | __ – 7 = 9 | 16 |
| 4. | __ – 6 = 6 | 12 | | 9. | __ – 9 = 11 | 20 |
| 5. | __ – 13 = 10 | 23 | | 10. | __ – 7 = 18 | 25 |

### 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

### 3. Lesson content – concept development (30 minutes)

In this lesson (and the next) you work through mixed examples of addition and subtraction of 2-digit numbers. There are examples given of using breaking down (illustrated using base ten blocks). Learners can do this working horizontally or vertically. You should encourage them to work though many examples so that they become comfortable using the strategies independently. While they do calculations check that they understand how to work with numbers correctly.

## Activity 1: Learners work in groups

Give each group of learners a set of base ten blocks. (If you don't have base ten blocks allow learners to work with flard cards.)
- Learners should use base ten blocks to show how to add the following:
    - Addition: 23 + 41 = ___ ; and 45 + 27 = ___ .
    - Subtraction: 55 – 31 = ___ ; and 61 – 48 = ___ .
- After learners have had a chance to work on the examples in their groups, work through the solutions together as a class. Call on learners to come up to the board to show their working and to explain how they found their solutions.
- The first example (both for addition and subtraction) **does not** require re-grouping and exchange. Learners can group the tens and units and they will calculate the correct answer if they add the digits correctly.
- The second example (again in both addition and subtraction) **does** require re-grouping and exchange. This is a more difficult question for learners. When you go over this question make sure that learners follow the explanation you are giving about how to re-group and exchange in the units place.

## Activity 2: Whole class activity

- Work through a few more examples with the class. Talk about the place values of the digits in the calculations you are doing to show learners how to work correctly with the numbers in the questions you give them.
- Give them examples such as:
    - 17 + 11 =
    - 45 + 23 =
    - 17 + 17 =
    - 39 + 13 =
    - 49 + 25 =
    - 45 – 23 =
    - 37 – 16 =
    - 53 – 25 =
    - 26 – 18 =
    - Etc.
- Allow learner to come to the board to show their working and also to make up extra questions for you to do together if there is time.

**4.    Classwork activity (25 minutes) (See next page)**

**5.    Homework activity (5 minutes) (See next page)**

**6.    Reflection on lesson**

# Term 3 Lesson 13: Addition and subtraction

## Classwork

Calculate using any strategy. Do not draw pictures; show numerical working.

1. 11 + 42 = (52)

2. 36 – 33 = (13)

3. 25 + 40 = (65)

4. 59 – 37 = (22)

5. 31 + 17 = (48)

6. 54 – 16 = (38)

7. 29 + 37 = (66)

8. 48 – 19 = (29)

## Homework

Calculate using any strategy. Do not draw pictures; show numerical working.

1. 22 + 34 = (56)

2. 35 + 19 = (54)

3. 47 – 34 = (13)

4. 61 – 55 = (6)

# LESSON 14: ADDITION AND SUBTRACTION

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 1.13 Addition and subtraction, 1.12 Techniques (methods or strategies).

**Lesson vocabulary:** Addition, subtraction, add, subtract, place value, tens, units, breaking down, building up, calculation, number bonds.

**Prior knowledge:** Learners should have been taught how to:
- Use concrete apparatus, pictures, number lines, breaking down and building up of numbers when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solution to problems involving addition and subtraction with answers up to 50, using the appropriate symbols: +, -, □, = .
- Use number bonds up to 10.

**Concepts:**
- Solve problems in context and explain own solution to problems involving addition and subtraction with answers up to 75, using the appropriate symbols: +, -, □, = .
- Use techniques when performing calculations, like building up and breaking down.

**Resources:** Base ten blocks (See Term 1 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
- N/A

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners further support using more examples to add and subtract. Use base ten blocks to lay out the numbers. Talk about the values and how to subtract starting with the units, and moving to the tens. Give examples where there is an *impasse* – where breaking down from the tens place is needed in order to find the solution. For example: what is 34 – 9 ? To subtract in the units place I need to break down one of the tens from 34 – I then have 2 tens and 14 units to subtract from and I can proceed. Start with 2-digit minus 1-digit numbers and then move on to 2-digit minus 2-digit numbers. Work though lots of examples, always talking about the tens and units and breaking down when necessary.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Start at 150 and count on in twos up to 178, e.g. 150, 152, 154, … then start at another number bigger than 150, and count up in 2s.

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | __ + 4 = 10 | 6 | | 6. | __ + 6 = 17 | 11 |
| 2. | __ + 2 =12 | 10 | | 7. | __ + 10 =15 | 5 |
| 3. | __ + 4 = 13 | 9 | | 8. | __ + 7 = 20 | 13 |
| 4. | _ + 6 = | 12 | | 9. | __ + 9 = 13 | 4 |
| 5. | 13 + _ = 14 | 1 | | 10. | __ + 7 = 14 | 7 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

Work through these word problems with the class. Help them to read and interpret the questions and then to correctly calculate the answers to the questions.
- There are 33 learners in class 2B and 35 learners in class 2D. How many learners in class 2B and class 2D altogether?
  - To solve this problem you need to add the numbers of learners in the two classes together:
  - 33 + 35 = 68 (show correct numerical working).
- What is the difference between 75 and 50?
  - To solve this problem you need to subtract 50 from 75.
  - 75 – 50 = 25
- What is the sum of 39 and 15?
  - To solve this problem you need to add 39 and 15. (54).
- My bus fare is R3,50. If I pay with an R10 note how much change will I get?
  - To solve this problem you need to subtract R3,50 from R10,00 (R6,50)
- Thembi arrived at the mall ten minutes after the shops opened and Thulani arrived 30 minutes later. How long had the shops been open when Thulani arrived?
  - To solve this problem you need to add the two times together.
  - 10 + 30 = 40. The shops had been open 40 minutes when Thulani arrived.
- A TV program was 30 minutes long. It started at 4.30 pm. what time did it end?
  - To solve this problem you need to add 30 minutes to the starting time of the TV program.
  - The program will end at 5 o'clock.

## Activity 2: Learners work in groups

Learners work together to solve these word problems. The teacher walks around the class checking the learners' understanding. Help them to read and interpret the questions and then to correctly calculate the answers to the questions.
- Bekhi has 80c. He spends 50c. How much does he have left? (30c)
- One book costs R45 and another book costs R24. What do the two books cost together? (R69)
- What is the difference between 30 and 20? (10)
- What is the sum of 36 and 39? (75)
- I took half an hour to walk to school and half an hour to walk home. How much time did I spend walking to and from school? (1 hour)
- I took half an hour to walk to school and I left home at 6.45 am. What time did I get to school? (7.15 am)

### 4.   Classwork activity (25 minutes) (See next page)

### 5.   Homework activity (5 minutes) (See next page)

### 6.   Reflection on lesson

## Term 3 Lesson 14: Addition and subtraction

### Classwork

Solve these problems using any strategy. Do not draw pictures to show numerical working.

1. There are thirty chocolate in a box. If 18 of them are wrapped, how many of them are unwrapped? (12)

2. You use R1,00 to pay 70c. How much change will you get? (30c)

3. Class 2A has 35 learners. 16 are girls. How many boys are there in class 2A? (19)

4. My grandfather is 74 years old. How old was he 7 years ago? (67)

5. Today is Friday the 7th of August. How many

6. What is the sum of 34 and 26? (60)

7. What is the difference between 60 and 48? (12)

---

### Homework

Solve these problems using any strategy. Do not draw pictures to show numerical working.

1. What is the difference between 31 and 23? (8)

2. How much less than 100 is 93? (7)

3. What is the sum of 45 and 22? (67)

4. Thompho bought two sweets, one for 25c and one for 20c. what did she spend? (45c)

# LESSON 15: 3-D OBJECTS – BALLS, BOXES AND CYLINDERS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 3.2 3-D objects, 1.16 Mental mathematics.

**Lesson vocabulary:** 3-D objects, balls, boxes, cylinders, geometric objects, prism, sphere, roll, slide, flat surface, curved surface, ball-like, box-like, cylinder-like.

**Prior knowledge:** Learners should have been taught how to:
• Recognise and name 3-D objects in the classroom and in pictures, like ball and box shapes.

**Concepts:**
• Recognise, name and work with 3-D objects in the classroom and in pictures, e.g. ball shapes (spheres), box shapes (prisms) and cylinders.
• Identify and describe geometric and everyday objects by saying whether they are shaped like a ball, a box or a cylinder and discuss shapes in terms of whether they can roll or slide.

**Resources:** Ball-shaped objects, box-shaped objects, cylinder-shaped objects.

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 75 (pp. 22 and 23).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners a collection of ball and box shapes and allow them to experiment with them rolling and sliding. Discuss. If you have play dough, give some to the learners and ask them to make the following: a ball, a box and a cylinder and then experiment with roll/slide. Discuss why shapes roll/slide.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 10s from any given number between 0 and 160, e.g. 122, 132, 142, …

### 1.2 Recall and strategies (10 minutes)

| | Which number is more: | Answer | | | Which number is less: | Answer |
|---|---|---|---|---|---|---|
| 1. | 51 or 60 | 60 | | 6. | 48 or 38 | 38 |
| 2. | 62 or 65 | 65 | | 7. | 70 or 69 | 69 |
| 3. | 54 or 45 | 54 | | 8. | 28 or 34 | 28 |
| 4. | 68 or 58 | 68 | | 9. | 36 or 63 | 36 |
| 5. | 24 or 42 | 42 | | 10. | 58 or 64 | 58 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

There are three lessons on 3-D shapes in the third term. In this lesson it is important that you do the activities with the real objects that you have collected. You should allow learners to hold and examine the objects. Speak to learners about the differences between ball and box shapes – show them how ball shapes can roll and box shapes can slide because of the nature of their sides. Let them look at cylindrical shapes and think about how those are similar to/different from ball and box shapes. This is an important first step in classifying spheres (ball shapes), prisms (box shapes) and cylinders. The cylinder is introduced to learners for the first time this term.

## Activity 1: Whole class activity

- Give learners different kinds of 3-D objects randomly at their desks, e.g.



- Give learners the opportunity to discuss and touch these objects.
- Ask them to sort these objects into three different groups: ball and ball-like objects; boxes and box-like objects; cylinders and cylinder-like objects. You will need to explain each 3-D shape.
- The ball-like objects are round – they are called spheres.
- The box-like shapes have flat surfaces – they are called prisms.
- The cylinder shapes have two flat circular surfaces and one curved surface.
- Point to each object and ask the learners to name it. (This is a box/ball/cylinder.)

| Balls and ball-like objects | Box and box-like objects | Cylinder and cylinder-like objects |
|---|---|---|
|  |  |  |
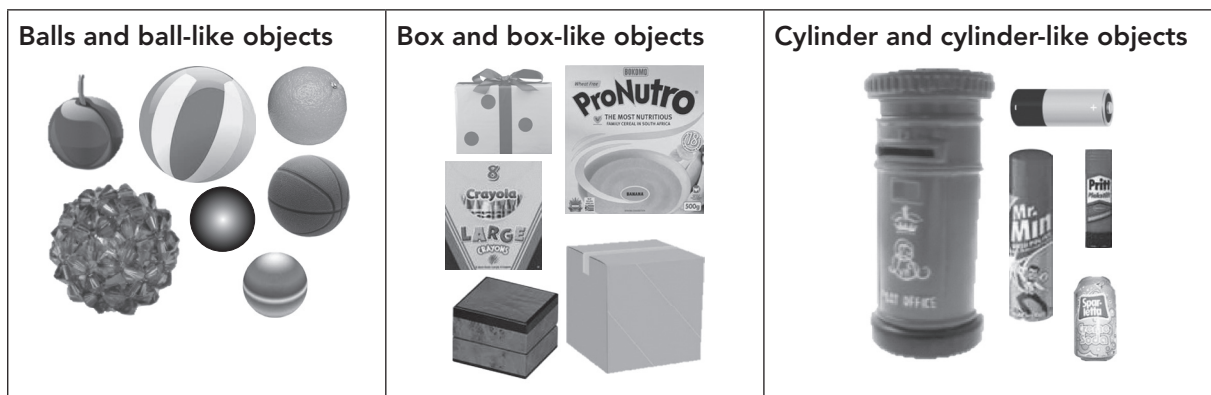
## Activity 2: Whole class activity

- Ask the learners if they can remember what **roll** and **slide** mean?
- Ask them:
  - *Will a ball roll or slide?* (Roll.)
  - *Will a box roll or slide?* (Slide.)
  - *What do you think will happen with a cylinder?* (When on its side it will roll, when standing upright it will slide.)
- Show the learners how a cylinder can roll and how it can slide:

 It will roll on the curved side.  It will roll on the curved side. It will slide on the flat side.

- Discuss what shapes will roll/slide and why.
  - Discuss how the type of surface determines whether the shape can roll or slide:
  - curved surface – rolls;

**4. Classwork activity (25 minutes) (See next page)**

**5. Homework activity (5 minutes) (See next page)**

**6. Reflection on lesson**

# Term 3 Lesson 15: 3-D objects – balls, boxes and cylinders

## Classwork

1. Name these objects:



        (cylinder)                 (box)                 (ball)

2. Do these shapes roll or slide?



      (roll)            (slide)        (roll and slide)       (roll and slide)

---

### Homework

(Answers will vary)

1. Find and cut out or draw pictures of balls and ball-like objects, boxes and box-like objects, and cylinders and cylinder-like objects.

2. Draw a table in your book. Sort and stick the objects you found or drew. Use these headings:
   a) Balls and ball-like objects
   b) Boxes and box-like objects
   c) Cylinders and cylinder-like objects.

---

# LESSON 16: 3-D OBJECTS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 3.2 3-D objects, 1.16 Mental mathematics.

**Lesson vocabulary:** 3-D objects, balls, boxes, cylinder, geometric object, describe, compare, size, sort, slide, roll, box-shaped, ball-shaped.

**Prior knowledge:** Learners should have been taught how to:
Describe, sort and compare 3-D objects in terms of: size, colour, objects that roll and objects that slide.

**Concepts:**
- Recognise, name and work with 3-D objects in the classroom and in pictures, e.g. ball shapes (spheres), box shapes (prisms) and cylinders.
- Describe, sort, compare and work with 3-D objects in terms of: size, objects that roll and objects that slide.

**Resources:** 3-D objects, magazines/newspapers/advertisements, toilet roll inners.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 76 (p. 24).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners a toilet roll inner. Discuss that the toilet roll is shaped like a cylinder. Give the learners different sizes of paper and glue. Ask them to make cylinder-shaped objects.
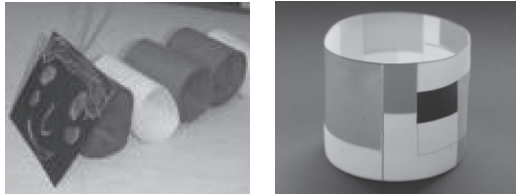


**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 5s from any given number between 0 and 170, e.g. 96, 101, 106, …

### 1.2 Recall and strategies (10 minutes)

| | Give the numbers between: | Answer | | | Give the numbers between: | Answer |
|---|---|---|---|---|---|---|
| 1. | 67 and 69 | 68 | | 6. | 55 and 58 | 56, 57 |
| 2. | 62 and 65 | 63, 64 | | 7. | 70 and 73 | 71, 72 |
| 3. | 50 and 54 | 51, 52, 53 | | 8. | 18 and 20 | 19 |
| 4. | 68 and 71 | 69, 70 | | 9. | 36 and 40 | 37, 38, 39 |
| 5. | 59 and 63 | 60, 61, 62 | | 10. | 70 and 74 | 71, 72, 73 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In this lesson learners will be given the opportunity to describe, sort and compare 3-D objects. The learners consolidate their knowledge of 3-D objects. They will discuss properties of the objects such as their size and whether they are able to roll or slide. In the first activity learners play with real 3-D objects, in the second activity they cut out pictures of objects that look like the objects they have learned about.

## Activity 1: Whole class activity

Play this game with the learners, using objects in your class shaped like cylinders, balls and boxes. (If you have enough time (and objects), the learners can play the game in groups of four.)
- Call two learners to the front of the class.
- Blindfold them.
- Give each one of them same object, either ball- or box-shaped.
- They now feel what the object feels like.
- They explain to the other learners what they feel. (They should talk about the type of surfaces they can feel – are they flat or curved? Is the object big/small?)
- See which one of the two learners can identify first if it is a cylinder, a ball- or a box-shaped object.
- Tell learners the mathematical names of the objects – cylinders, spheres and prisms.
- Repeat the game, allowing as many as possible of the learners to participate and identify 3-D objects.

## Activity 2: Whole class activity

- Move on to this activity when the class has played the identification game for enough time.
- Ask learners to identify objects shaped like cylinders in the classroom, e.g. a drinking glass, dustbin, chalk, etc.
- Talk about the sizes of the different objects that they identify – which are bigger/smaller/the same size?
- Give learners magazines, newspapers and advertisements to find and cut out objects shaped like a ball (sphere), shaped like a box (prisms) and shaped like a cylinder.
- Learners should cut out at least 4 of each kind of object (cylinder, sphere, prism) and sort them into piles which have the same object in each pile.
- Keep these pictures to use in the next lesson (Lesson 17).

## 4.  Classwork activity (25 minutes) (See next page)

## 5.  Homework activity (5 minutes) (See next page)

## 6.  Reflection on lesson

# Term 3 Lesson 16: 3-D objects

*Note that in Question 3 of the classwork learners should draw their own pictures of a house using 3-D shapes.*

## Classwork

1. Name these shapes – either box, ball or cylinder:

a) (box)                    b) (ball)                    c) (cylinder)

2. Draw the following table in your book and stick or draw the pictures of these objects in the correct column:
   (Answers will vary)

| Balls | Boxes | Cylinders |
|-------|-------|-----------|
|       |       |           |

3. Draw a house using box, ball and cylinder shapes. (Answers will vary)

---

## Homework

1. Look in your kitchen cupboard and draw a picture of a box-shaped object that you can find.
   (Answers will vary)

2. If you want to drink water, what shape would the object you use be? (Cylinder)

3. Which one of these two vegetables is ball-shaped: carrots or peas? (Peas)

4. Which one of these objects can you roll to your friend: book bag, apple, homework book? (Apple)

# WEEK 5

## LESSON 17: 3-D OBJECTS

| Teacher's notes |
| --- |
| **CAPS topics:** 1.2 Count forwards and backwards, 3.2 3-D objects, 1.16 Mental mathematics. |
| **Lesson vocabulary:** 3-D objects, balls, boxes, cylinder, geometric object, describe, compare, size, sort, slide, roll. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Describe, sort and compare 3-D objects in terms of: size, colour, objects that roll and objects that slide. |
| **Concepts:**<br>• Recognise, name and work with 3-D objects in the classroom and in pictures, e.g. ball shapes (spheres), box shapes (prisms) and cylinders.<br>• Describe, sort, compare and work with 3-D objects in terms of: size, colour, objects that roll and objects that slide. |
| **Resources:** 3-D objects. |
| **DBE workbook activities relevant to this lesson:**<br>• DBE Worksheet 76 (p. 25). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Give the learners a variety of 3-D shapes. Discuss the names and characteristics of their shapes. |
| **Enrichment:** See enrichment activity cards. |

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 3s from any given number between 0 and 170, e.g. 30, 33, 36, …

### 1.2 Recall and strategies (10 minutes)

| | What is 10 more: | Answer | | | What is 10 less: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 5 | 15 | | 6. | 50 | 40 |
| 2. | 13 | 23 | | 7. | 33 | 23 |
| 3. | 27 | 37 | | 8. | 10 | 0 |
| 4. | 0 | 10 | | 9. | 19 | 9 |
| 5. | 30 | 40 | | 10. | 75 | 65 |

## 2. Correction/reflection on homework (15 minutes)
Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

This is the last of the three lessons on 3-D objects. In the first activity of this lesson the learners play another game to give them more time to hold, name and talk about the properties of the objects. They should talk about the size of the object, the surfaces of the object (flat or curved) and whether the object can roll or slide. In the second activity learners work with pictures of 3-D objects again – applying their knowledge of the real objects.

## Activity 1: Whole class activity

- Put a collection of different sized 3-D objects which you have into a plastic or material bag.
- This bag is your *Mystery Bag*.
- Choose a learner to come to the front of the class.
- The learner picks an object out of the bag without looking.
- The learner then looks at the object and describes the object to the class in terms of size, colour, types of surfaces and whether it rolls or slides.
- Allow as many learners as possible to participate in the game. Replace shapes into the bag once they have all been taken out of the bag if you want to play the game for longer.

## Activity 2: Learners work in groups

- Use the pictures that learners cut out in Activity 2 of Lesson 16.
- Learners should design a person/object using their pictures. They will paste the cut-out shapes together in their mathematics books to make their design.
- Once all learners have finished making their designs using the cut out shapes they can discuss them in their groups or in the class as a whole.
- Each group describes their person/object to the teacher in terms of the 3-D objects they have used to make the picture (e.g. I used a ball to make the person's head). They should also talk about the properties of the objects (e.g. the ball is round, its surface is curved, it will roll).

## 4.     Classwork activity (25 minutes) (See next page)

## 5.     Homework activity (5 minutes) (See next page)

## 6.     Reflection on lesson

## Term 3 Lesson 17: 3-D objects

### Classwork

(Answers will vary)

1. Draw the 3-D shapes that came out of the *Mystery Bag* of 3-D shapes. (Learners should draw at least one cylinder, one sphere and one prism.)

2. Under each shape write whether it is ball-shaped, box-shaped or cylinder-shaped. (Learners should label their shapes correctly.)

3. Do any of the shapes in the *Mystery Bag* roll? (Learners should answer this in terms of the shapes that they drew – they should say that the balls and the cylinders will be able to roll.)

---

### Homework

(Answers will vary)

1. Design an unusual 3-D person using 2 ball shapes (spheres), 5 box shapes (prisms) and 4 cylinder shapes. Give your person a name.

---

# LESSON 18: DATA

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Ask the learners to start at 180, count backwards in 3s to 150.

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | 5 + ___ = 17 | 12 | | 6. | 10 + __ = 17 | 7 |
| 2. | 16 + __ = 20 | 4 | | 7. | 12 + __ = 20 | 8 |
| 3. | 2 + __ = 10 | 8 | | 8. | 14 + __ = 19 | 5 |
| 4. | 6 + __ = 15 | 9 | | 9. | 10 + __ = 20 | 10 |
| 5. | 13 + __ = 19 | 6 | | 10. | 1 + __ = 12 | 11 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

Draw these on the board:
Different kinds of shapes                          10 red, 5 blue, 8 green and 11 yellow circles
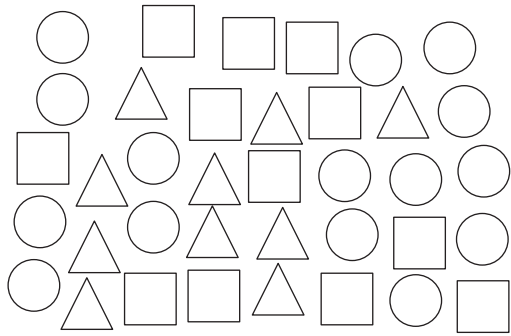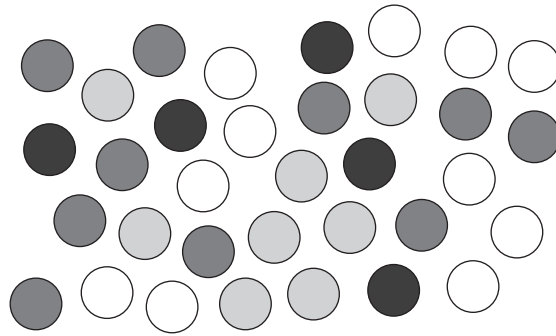


- Ask the learners to sort the shapes according to shape: circles, squares and triangles.
- Ask the learners to sort the circles according to colour: red, blue, green and yellow.
- Ask the learners to make drawings of their sorting on their scrap paper/white boards.
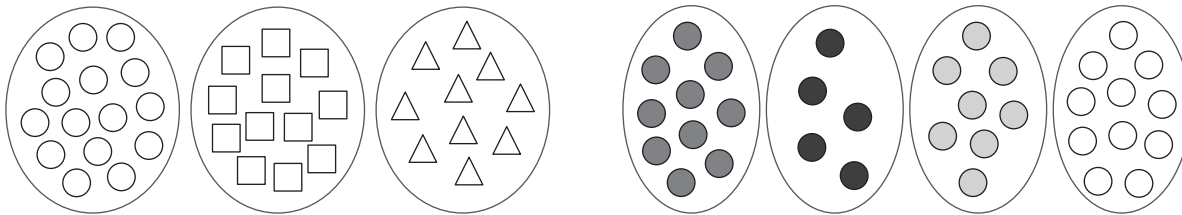


## Activity 2: Whole class activity

Use the information from Activity 1 to draw a pictograph on the board.
*Example (using the circles)*

**Key:** ◯ = one circle

(The blue column has been done for you.)

|  |  |  |  |
|---|---|---|---|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  | ● |  |  |
|  | ● |  |  |
|  | ● |  |  |
|  | ● |  |  |
|  | ● |  |  |
| red ● | blue ● | green ◯ | yellow ◯ |

4. **Classwork activity (25 minutes) (See next page)**

5. **Homework activity (5 minutes) (See next page)**

6. **Reflection on lesson**

## Term 3 Lesson 18: Data

### Classwork

How many cards are there of each number? Sort and record below.

| 6 | 7 | 8 | 14 | 8 | 12 | 14 |
| 4 | 15 | 13 | 9 | 5 | 14 | 10 |
| 11 | 7 | 8 | 7 | 8 | 6 | 9 |
| 9 | 10 | 11 | 16 | 17 | 20 | 19 |
| 13 | 12 | 18 | 19 | 6 | 18 | 5 |
| 12 | 10 | 10 | 3 | 11 | 4 | 13 |
| 7 | 11 | 15 | 13 | 16 | 12 | 10 |
|  |  | 14 | 9 | 8 | 17 |  |
|  |  |  |  |  | 9 |  |
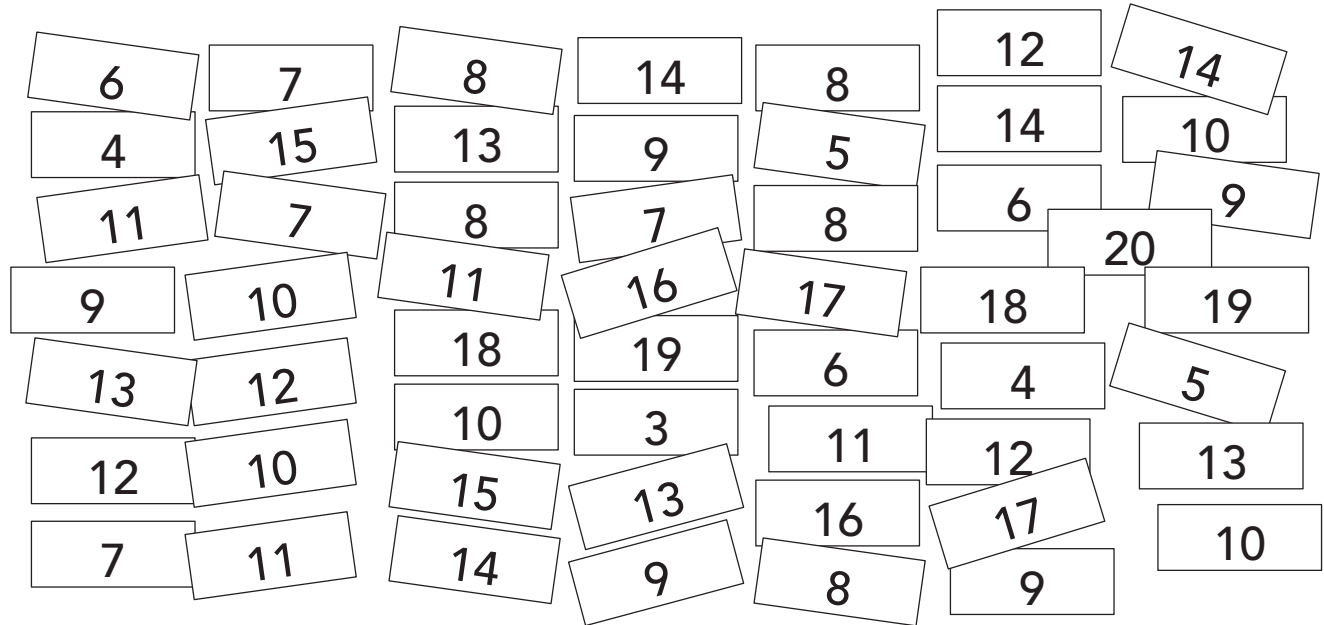
6 __ (3)     4 __ (2)     11 __ (4)     9 __ (5)     13 __ (4)     12 __ (4)     7 __ (4)
15 __ (2)    10 __ (5)    12 __ (3)     8 __ (5)     13 __ (3)     18 __ (2)     14 __ (4)
16 __ (2)    19 __ (2)    3 __ (1)      5 __ (2)     17 __ (2)     20 __ (1)

---

### Homework

1. Three children like Coke. Four children like Fanta. Five children like Sprite.
   Draw a pictograph to show this. Remember the graph title and key.

   Solution:

   | Favourite drinks | | |
   |:---:|:---:|:---:|
   |  |  | ☺ |
   |  | ☺ | ☺ |
   | ☺ | ☺ | ☺ |
   | ☺ | ☺ | ☺ |
   | ☺ | ☺ | ☺ |
   | **Coke** | **Fanta** | **Sprite** |

   Key: ☺ = one child

# LESSON 19: DATA

## 1.    Mental maths

### 1.1   Counting (5 minutes)
• Ask the learners to start at 100, count on in 4s to 200.

### 1.2   Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | 18 – __ = 13 | 5 | | 6. | 19 – __ = 8 | 11 |
| 2. | 20 – __ = 5 | 15 | | 7. | 17 – __ = 14 | 3 |
| 3. | 12 – __ = 6 | 6 | | 8. | 16 – __ = 10 | 6 |
| 4. | 15 – __ = 10 | 5 | | 9. | 20 – __ = 2 | 18 |
| 5. | 20 – __ = 3 | 17 | | 10. | 3 – __ = 0 | 3 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

Draw a template for a pictograph on the board (10 rows by 6 columns). Give each learner a printed copy of the template for the pictograph.

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

- Ask the learners to copy the template for the pictograph on their scrap paper/white boards/scrap paper.
- Ask them to add the key.

> **Key:**      **=**

- Tell the learners that they are going to make a pictograph for the stationery that they have in their pencil bags.
- Discuss what picture to use for the key. (Pencil.)
- Discuss which objects they are going to count. (Pencils, glue, eraser, sharpener, scissors and rulers.)
- Guide the learners where to draw the pictures.
- Give them enough time to count all their stationery.
- Discuss the different pictographs drawn by the learners afterwards, to compare differences between what is in the pencil boxes. Ask questions such as:
  - *Who has the most/least pens?*
  - *Who has the most/least pencils?*
  - *Who has the same number of pens and pencils?*
  - Etc.

## 4.   Classwork activity (25 minutes) (See next page)

## 5.   Homework activity (5 minutes) (See next page)

## 6.   Reflection on lesson

## Classwork

(Pictographs not drawn here)

1.  In the fruit shop near your school there are 15 apples, 10 paw paws, 6 oranges and 4 bananas.
    Draw a pictograph showing how much fruit there is of each kind.

2.  Give your pictograph the title **Fruit**.

3.  Remember to include a key. (e.g. ◯ = 1 fruit)

4.  Of which fruit is there most? (Apples)

5.  Of which fruit is there least? (Bananas)

---

### Homework

1.  While walking home from school I see 6 red cars, 14 white cars, 8 black cars and 9 blue cars.
    Draw a pictograph to record this information.

---

# LESSON 20: DATA

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental mathematics, 5.6 Analyse and interpret data.

**Lesson vocabulary:** Data, pictograph, key, most, least, one-to-one correspondence, represent data.

**Prior knowledge:** Learners should have been taught how to:
- Analyse data from representations provided.
- Represent data in pictographs.

**Concepts:**
- Analyse data from representations provided.
- Represent data in a pictograph with one-to-one correspondence.
- Organise data using tallies.

**Resources:** Scrap paper/white boards.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 96 (pp. 70 and 71).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Discuss with the learners the completed tally chart and pictograph done during the lesson. Focus on one stick or one block representing one choice. Discuss the different number of choices focusing particularly on the least and most choices.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Ask the learners to start at 80, count on in 4s to 160.

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | 12 + 8 = | 20 | | 6. | 20 – 5 = | 15 |
| 2. | 19 + 4 = | 23 | | 7. | 19 – 8 = | 11 |
| 3. | 18 + 3 = | 21 | | 8. | 25 – 4 = | 21 |
| 4. | 22 + 2 = | 24 | | 9. | 18 – 8 = | 10 |
| 5. | 25 + 0 = | 25 | | 10. | 25 – 25 = | 0 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

- Ask the learners what their favourite animal is between a lion, a springbok, a rhino or an elephant. They can only choose one favourite.
- Record this information on the board in tallies.
  Example: (Your class tallies might differ. Do the actual tallies while taking responses from the learners.)

| Lion | ‖‖‖ | 5 learners |
|---|---|---|
| Springbok | ‖‖‖ ‖‖‖ ‖‖ | 12 learners |
| Rhino | ‖‖‖ ‖ | 6 learners |
| Elephant | ‖‖‖ ‖‖‖ ‖‖‖ | 13 learners |

## Activity 2: Whole class activity

- Using the information from Activity 1 draw a pictograph on the board with the learners.
- Use the actual tallies from your class tally table.
- Example (from above):

**Favourite animals**

**Key:** ◯ = one animal

| Lion | Springbok | Rhino | Elephant |
|---|---|---|---|

- When this is completed discuss the differences and similarities between the two ways of recording data.
- Difference**:**
  - Tallies show a count of how many – in bundles of 5s and 1s. You can see how many of each by counting up the tallies.
  - Pictographs show columns with the counted items (using a key) and you can see which has a higher count by looking at the height of the columns.
- Similarity**:**
  - Both show us the numbers of items counted.
- Ask the learners questions about the data such as:
  - *Which animal is the most popular?* (In this example it is the elephant.)
  - *Which animal is the least popular?* (In this example lion and rhino are equal in least popular position.)

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

## Term 3 Lesson 20: Data

### Classwork

A sponsor has offered to give each learner in the class a coloured t-shirt. Learners can choose either a green, red, blue or black t-shirt.

There are 40 learners in the class. The teacher does a survey and finds that learners would like the following t-shirts:
• 12 green t-shirts
• 15 red t-shirts
• 7 blue t-shirts
• the rest of the learners would like a black t-shirt.

1. How many learners would like a black t-shirt? (6)

2. Draw a pictograph showing the choices the learners made. (Learners must draw this.)

3. Remember to add a key and to give your pictograph a title.

---

### Homework

1. In a Grade 2 class, the teacher asked the learners which was their favourite chocolate:
    • 8 learners chose Tex Bars
    • 6 learners chose Bar One
    • 3 learners chose Aero
    • 5 learners chose Kitkat.

    Draw a pictograph which shows the learners' favourite chocolates. (Learners must draw the pictograph. They must remember to give it a key and a title.)

---

# WEEK 6

## LESSON 21: GEOMETRIC PATTERNS

| Teacher's notes |
|---|
| **CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental mathematics, 2.1 Geometric patterns. |
| **Lesson vocabulary:** Patterns, geometric patterns, shapes, circle, square, triangle, physical objects, doubling, halving, extend, copy, describe, create, regular, compare, backwards, forwards, double, halve, decrease, increase. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Identify, describe in words and copy geometric patterns in nature, from modern everyday life and our cultural heritage.<br>• Create and describe own geometric patterns with physical objects and by drawing lines, shapes or objects. |
| **Concepts:**<br>• Copy, extend and describe in words simple patterns made with physical objects, drawings of lines, shapes or objects.<br>• Create and describe own geometric patterns with physical objects, by drawing lines, shapes or objects |
| **Resources:** Unifix cubes, pages from a magazine, shapes – circles (coins, bottle tops). |
| **DBE workbook activities relevant to this lesson:**<br>• DBE Worksheet 95 (pp. 68 and 69). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Give learners Unifix cubes and shapes to make patterns. Build patterns and ask them to extend them. Let them form patterns with circles of differing colours and different numbers of Unifix cubes, e.g. 2 red blocks, 2 blue blocks, 2 green blocks – repeat the pattern. |
| **Enrichment:** See enrichment activity cards. |

## 1.   Mental maths

### 1.1   Counting (5 minutes)

• Count forwards and backwards in 5s from any given number between 0 and 100, e.g. 65, 70, 75, 80, …

### 1.2   Recall and strategies (10 minutes)

| | Double these numbers: | Answer | | | Halve these numbers: | Answer |
|---|---|---|---|---|---|---|
| 1. | 21 | 42 | | 6. | 50 | 25 |
| 2. | 25 | 50 | | 7. | 70 | 35 |
| 3. | 22 | 44 | | 8. | 18 | 9 |
| 4. | 34 | 68 | | 9. | 36 | 18 |
| 5. | 12 | 24 | | 10. | 24 | 12 |

## 2.   Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.   Lesson content – concept development (30 minutes)

This lesson calls on you to use Unifix cubes of different colours. If you do not have enough Unifix cubes for this activity you should use other counters which you have that vary according to colour or shape, so that you can use them to create geometric patterns. Bottle tops of different colours can be used for this activity.

## Activity 1: Learners work in groups

- Give each group some red, green and blue Unifix cubes (or other counters).
- Ask each group to make the following pattern, using their blocks.
- They may use the colours in any order.
- The number of shapes must increase in a regular way. E.g. 1 red, 1 green, 1 blue; then 2 red, 2 green and 2 blue; then 3 red, 3 green, 3 blue.
- The groups can now compare their patterns.
- Discuss the way in which the patterns grow – to make sure that the learners understand the meaning of a pattern growing in a **regular** way.
- Discuss the colours used and patterns shown.
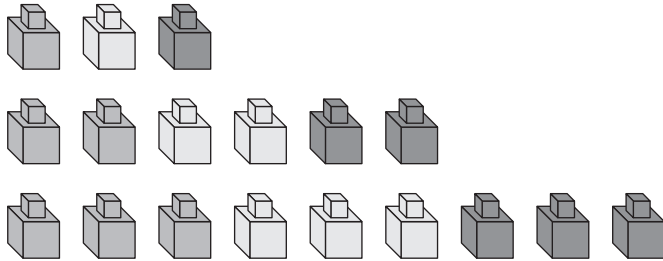
## Activity 2: Learners work in groups

- Give each group different size circles, coins, bottle tops, and a page from a magazine/piece of paper.
- Use the shapes to trace and then cut circles from the magazine page/ piece of paper.
- Make the following pattern: The size of the shape decreases in a regular way.
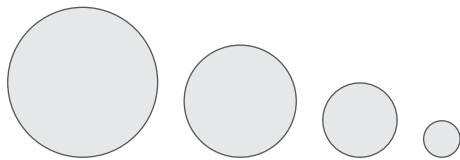
- The groups can now compare their patterns.

4. **Classwork activity (25 minutes) (See next page)**

5. **Homework activity (5 minutes) (See next page)**

6. **Reflection on lesson**

# Term 3 Lesson 21: Geometric patterns

## Classwork

1. Copy and extend the following pattern:
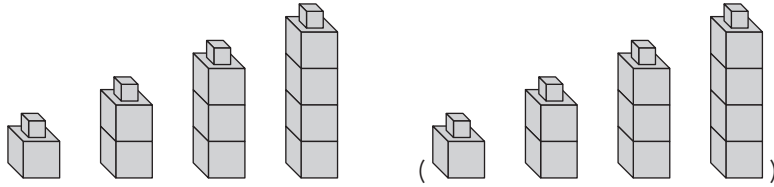


2. Use a square, a circle and a triangle to make this pattern.
   Draw the next group of shapes in the pattern.



(four squares, four circles and four triangles)

3. Draw a pattern of your own using different shapes. (Answers will vary – must be a pattern that follows a rule that the learner can explain.)

4. Describe the way your pattern grows. (Answers will vary – must relate correctly to the pattern drawn by the learner.)

---

### Homework

(Answers will vary)

1. Draw a pattern using red and blue triangles.

---

# LESSON 22: NUMBER PATTERNS – 3s TO 180

## Teacher's notes

**CAPS topics:** 1.1 Counting objects, 1.2 Count forwards and backwards, 1.16 Mental mathematics, 2.2 Number patterns.

**Lesson vocabulary:** Number patterns, number sequences, multiples, forwards, backwards, copy, extend, describe, number line, calculate.

**Prior knowledge:** Learners should have been taught how to:
* Copy, extend and describe simple number sequences to at least 100 which should show counting forwards and backwards in 1s.
* Count forwards and backwards in 10s, 5s and 2s between and up to 100.

**Concepts:**
* Copy, extend and describe simple number sequences to at least 180 which should show counting forwards and backwards in 3s from any multiple of 3 between 0 and 180.

**Resources:** 1–200 number board (see *Printable Resources*), counters.

**DBE workbook activities relevant to this lesson:**
* DBE Worksheet 89 (pp. 54 and 55).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Learners draw a number line between 0 and 21 and mark it in 1s. Demonstrate how to move in 3s. Learners can then extend the number line to 30 and show how to move in 3s.

**Enrichment:** See enrichment activity cards.

## 1.    Mental maths

### 1.1   Counting (5 minutes)
* Count forwards and backwards in 3s from any given number between 0 and 99, e.g. 55, 58, 61, 64, …

### 1.2   Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | 13 – 6 = | 7 | | 6. | 15 + 9 = | 24 |
| 2. | 15 – 2 = | 13 | | 7. | 12 – 6 = | 6 |
| 3. | 11 + 3 = | 14 | | 8. | 17 + 6 = | 23 |
| 4. | 10 – 9 = | 1 | | 9. | 15 – 12 = | 3 |
| 5. | 8 + 1 = | 9 | | 10. | 0 + 14 = | 14 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

The number range for counting number patterns is extended to 180 in Term 3. Learners should count in this range – starting at different points in the range. Examples of doing this kind of counting are given in the activities for this lesson. Remind learners when you do these activities of the difference between counting in **multiples of 3** (e.g. 3, 6, 9, 12, etc.) and **counting on in 3s** (e.g. start at 5 and count on in threes: 5, 8, 11, 14, 17, etc.).

## Activity 1: Whole class activity

Before the lesson starts, draw a 3s number line on the board. You could also use your permanent class number line if you have a long number line in front of your class under the board.
- Use the number line to show counting in 3s.
- This is an example. The number range of each one will differ. (Rub out labels to change the range if you wish for different examples.)
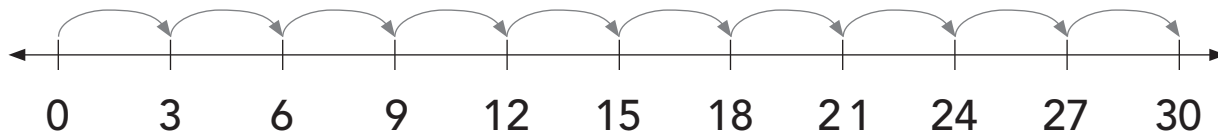


- Count in 3s from 0–30. Draw arrows to show hops while you count. (0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30)
- Count in 3s from 63–90. Draw arrows to show hops while you count. (63, 66, 69, 72, 75, 78, 81, 84, 87, 90)
- Count in 3s from 153–180. Draw arrows to show hops while you count. (153, 156, 159, 462, 165, 168, 171, 174, 177, 180)

## Activity 2: Learners work in groups

This is an activity of counting on in 3s.
- Let learners now count on in 3s, counting from any given number that is not a multiple of three (by doing repeated addition), you choose the starting point, and they should count on in 3s.
- For example: Count on in 3s starting at 34 – the sequence goes 34, 37, 40, 43, 46, 49, 52, 55, etc.

## Activity 3: Learners work in groups

This is an activity of counting the multiples of 3.
- Give each group of learners a 1–200 number board.
- Ask them to count in 3s, starting at zero. They should place a counter on each number they count.
- They can put their fingers underneath each multiple as they count using the counters to guide them.
- Recap that they have all counted the multiples of 3, starting at 0. The sequence goes: 0, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, etc.
- Learners can count backwards in multiples of 3s from 180–90, using the number board and pointing to the numbers as they count.
- Ask learners to show you which multiples of 3 will be found in given intervals, for example:
  – between 0 and 30 (3, 6, 9, 12, 15, 18, 21, 24, 27);
  – 75 and 99 (78, 81, 84, 87, 90, 93, 96);
  – 103 and 121 (106, 109, 112, 115, 118).

### 4. Classwork activity (25 minutes) (See next page)

### 5. Homework activity (5 minutes) (See next page)

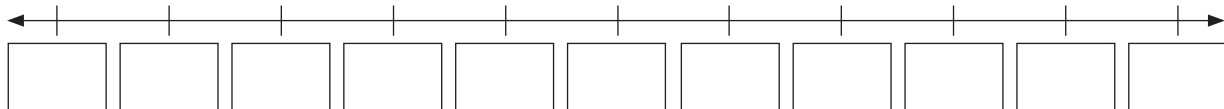### 6. Reflection on lesson

## Term 3 Lesson 22: Number patterns – 3s to 180

### Classwork

1. Draw and complete the number line counting in 3s from 66 to 93.
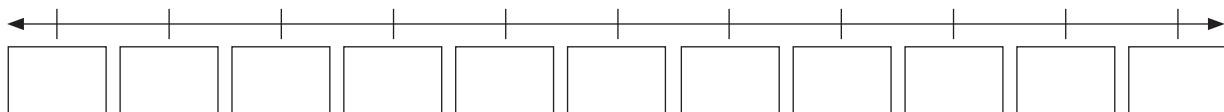   (66, 69, 72, 75, 78, 81, 84, 87, 90, 93)
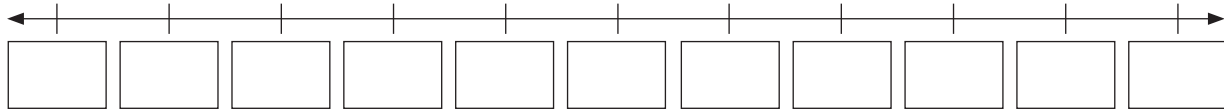
2. Draw and complete the number line counting in 3s from 118 to 145.
   (118, 121, 124, 127, 130, 133, 136, 139, 142, 145)
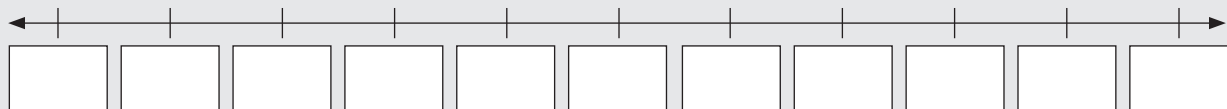
3. Complete the following:
   a) 52 + ___ (3) = 55
   b) 55 + 3 =___ (58)
   c) 58 + 3 = ___ (61)

4. Draw and complete the number line counting in 3s backwards from 150 to 123.

   (150, 147, 144, 141, 138, 135, 132, 129, 126, 123)

### Homework

1. Draw and complete the number line counting in 3s from 102 to 129.
   (102, 105, 108, 111, 114, 117, 120, 123, 126, 129)

2. Draw and complete the number line counting in 3s from 42 to 99.
   (42, 45, 48, 51, 54, 57, 60, 63, 66, 69, … 99)
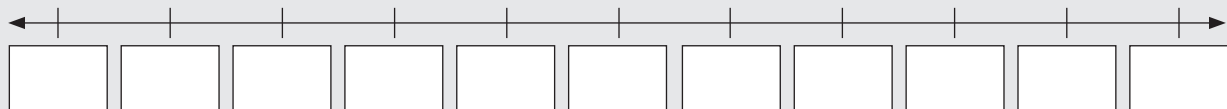
3. Complete the following:
   a. 148 – ___ (3) = 145
   b. 145 – ___ (3) = 142
   c. 142 – ___ (3) = 139.

# LESSON 23: NUMBER PATTERNS – 2s AND 4s

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental mathematics, 2.2 Number patterns.

**Lesson vocabulary:** Number patterns, number sequences, multiples, forwards, backwards, addition, subtraction, even numbers, odd numbers, copy, extend.

**Prior knowledge:** Learners should have been taught how to:
- Copy, extend and describe simple number sequences to at least 100 which should show counting forwards and backwards in 1s.
- Count forwards and backwards in 10s, 5s and 2s between and up to 100.

**Concepts:**
- Copy, extend and describe simple number sequences to at least 180 which should show counting forwards and backwards in 2s from any multiple of 2 between 0 and 180.
- Copy, extend and describe simple number sequences to at least 180 which should show counting forwards and backwards in 4s from any multiple of 4 between 0 and 180.

**Resources:** 1–200 Number boards (see *Printable Resources*), counters.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 88 (pp. 52 and 53).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Lay out 22 counters in groups of 2. Ask learners to count to various multiples of 2 while pointing at the counters. Change to groups of 4 and repeat the activity with the numbers 48, 64 and 100 counters. Ask the learners to start counting at 28.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 2s from any given number between 0 and 180, e.g. 131, 133, 135, …

### 1.2 Recall and strategies (10 minutes)

|  | Calculate: | Answer |  | Calculate: | Answer |
|---|---|---|---|---|---|
| 1. | 10 + 10 = __ | 20 | 6. | 20 + 10 = __ | 30 |
| 2. | 30 + 10 = __ | 40 | 7. | 10 + 10 + 10 = __ | 30 |
| 3. | 20 + 10 + 10 = __ | 40 | 8. | 40 + 10 = __ | 50 |
| 4. | 10 + 20 = __ | 30 | 9. | 30 + 10 + 10 = __ | 50 |
| 5. | 20 + 10 + 10 = __ | 40 | 10. | 20 + 0 = __ | 20 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In Activity 2 of this lesson, you could use two different colour counters on the 200 number board. One for multiples of 2 and the other for multiples of 4 to see the relationship between the two.

## Activity 1: Learners work in pairs

- Learners use a 0–200 number board.
- Ask them to count in 2s and place a counter on each number they count.
- They can put their fingers underneath each multiple as they count using the counters to guide them.
- Count backwards in multiples of 2 from 180 to 0, using the number line and pointing to the numbers as they count.
- Let learners now count in 2s, counting from any given number, such as 37. (The sequence they will count is: 37, 39, 41, 43, 45, …)
- Remind learners that when counting in multiples of 2, we are counting even numbers – they all end on a multiple of 2. (Numbers that are not even are called odd numbers. Odd numbers are not multiples of 2.)
- Ask learners to show you which numbers will be between these pairs of numbers, while counting in twos:
    - 0 and 22 (2, 4, 6, 8, 10, 12, 14, 16, 18, 20)
    - 70 and 98 (72, 74, 76, 78, 80, 82, 84, 86, 88, 89, 90, 92, 94, 96)
    - 137 and 157 (139, 141, 143, 145, 147, 149, 151, 153, 155)
    - Etc.

## Activity 2: Learners work in pairs

Repeat this activity, but now count in fours.
- Count forwards in multiples of 4 pointing to the numbers on the number board as they do so.
- Count backwards in multiples of 4 pointing to the numbers on the number board as they do so.
- Let learners now count in 4s, counting from any number, such as 37. (The sequence they will count is: 37, 41, 45, 49, 53, 57, …)
- Ask learners to show you which numbers will be between these pairs of numbers, while counting in fours:
    - 4 and 48 (4, 8, 12, 16, 20, 24, 28, 32, 36, 40, 44)
    - 72 and 112 (76, 80, 84, 88, 92, 96, 100, 104, 108)
    - 117 and 161 (117, 121, 125, 129, 133, 137, 141, 145, 149, 153, 157, 161)
    - Etc.

**4.    Classwork activity (25 minutes) (See next page)**
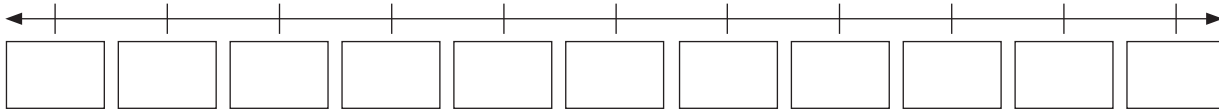
**5.    Homework activity (5 minutes) (See next page)**

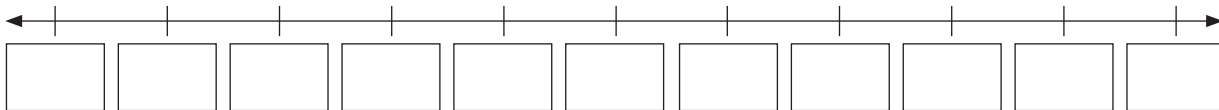**6.    Reflection on lesson**

## Term 3 Lesson 23: Number patterns – 2s and 4s

### Classwork

1. Draw and complete the number line counting in 2s from 62 to 80.
   (62, 64, 66, 68, 70, 72, 74, 76, 78, 80)

2. Draw and complete the number line counting in 4s from 44 to 8.
   (44, 40, 36, 32, 28, 24, 20, 16, 12, 8)

3. Complete the following:
   102 (+ 2) = 104; 104 (+ 2) =__ up to 114. (106, 108, 110, 112)

4. Complete the following:
   131 (– 2) = 129; 129 (– 2) = __ down to 119. (127, 125, 123, 121)

5. Complete the following:
   92 (– 4) = 88; 88 (– 4) = __ down to 68. (84, 80, 76, 72, 68)

---

### Homework

1. Complete the following:
   152 (– 2) = 150; 150 (– 2) = __ down to 140. (148, 146, 144, 142, 140)

2. Draw and complete the number line counting in 4s from 44 to 80.
   (44, 48, 52, 56, 60, 64, 68, 72, 76, 80)
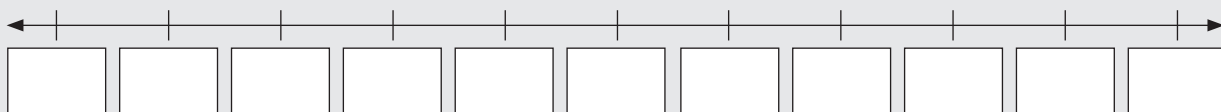
# LESSON 24: FIVES UP TO 40 – MULTIPLICATION AND DIVISION

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.8 Repeated addition leading to multiplication, 1.9 Grouping and sharing leading up to division, 1.16 Mental mathematics.

**Lesson vocabulary:** Equal, sharing, grouping, remainders, solve, explain practical problems, repeated addition, multiplication, doubling, halving, number sequences.

**Prior knowledge:** Learners should have been taught how to:
- Copy, extend and describe simple number sequences to at least 100.
- Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 10 and with answers that may include remainders.

**Concepts:**
- Solve and explain own solutions to problems involving repeated addition and multiplication with answers up to 40.
- Solve and explain solutions to practical problems that involve equal sharing and grouping up to 40 with answers that may include remainders.

**Resources:** Counters, scrap paper.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 83 (pp. 40 and 41).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give each learner 40 counters. Ask them to make groups of five. *How many groups did you make?* (8) *How do we say this? 8 groups of 5 is 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40.* (Count this – 5, 10, 15, 20, 25, 30.) Give each learner 38 counters. Ask them to make five groups that are the same height. *How many blocks are there in each tower?* (7) *How many towers are there?* (5) *Are there any blocks left?* (3) *We can say 38 blocks will give us 5 towers with 7 blocks each and 3 blocks left.*

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 5s from any given multiple between 0 and 180, e.g. 96, 101, 106, …

### 1.2 Recall and strategies (10 minutes)

| | Double: | Answer |
|---|---|---|
| 1. | 7 | 14 |
| 2. | 3 | 6 |
| 3. | 5 | 10 |
| 4. | 6 | 12 |
| 5. | 4 | 8 |

| | Halve: | Answer |
|---|---|---|
| 6. | 8 | 4 |
| 7. | 10 | 5 |
| 8. | 14 | 7 |
| 9. | 12 | 6 |
| 10. | 4 | 2 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

Multiplication and division are inverse operations and so the next four lessons deal with them together. Both of these operations are linked to a basic understanding of grouping. The next four lessons give time for these concepts to be consolidated in the number range for the term.

Multiplication is conceptualised in three ways: equivalent groups (e.g. three tables, each with four children) which are represented as repeated sets; multiplicative comparison (e.g. three times as many boys as girls) which is represented as many to one correspondence; and rectangular arrays (e.g. three rows of four children) which are represented as rows and columns. Division is conceptualised in two ways: grouping and sharing.

## Activity 1: Whole class activity

Ask four learners to come to the front of the classroom.
- Ask the first learner to raise their left hand. *How many fingers can you count?* (5) *Now raise your right hand. How many fingers can you count altogether?* (10)
- Repeat with the other three learners, putting up their hands. *Let us count again*: 5, 10, 15, 20, 25, 30, 35, 40.
- Write it on the board: 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40 or 8 x 5 = 40
  (Be sure to show the learners the relationship/link between multiplication and repeated addition of equivalent groups.)

## Activity 2: Whole class activity

Draw a grid of 8 rows and 5 columns on the board before the lesson. You have drawn a rectangular array.
Show learners that the rows go across the grid (or array) and the columns go up and down.
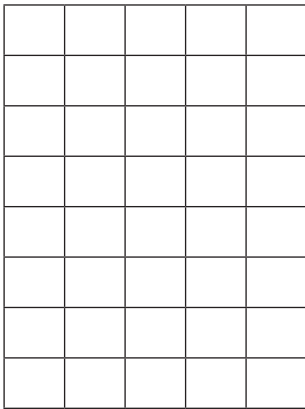
- Ask the learners to count the rows. (8)
- Ask the learners to count how many blocks there are in each row. (5)
- Write number sentences to express the repeated addition of 5 illustrated in the grid.
  (5; 5 + 5 = 10; 5 + 5 + 5 = 15; 5 + 5 + 5 + 5 = 20; 5 + 5 + 5 + 5 + 5 = 25; 5 + 5 + 5 + 5 + 5 + 5 = 30;
  5 + 5 + 5 + 5 + 5 + 5 + 5 = 35; 5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40; or 5 x 8 = 40)

## Activity 3: Work in groups of four

- Ask each group to draw 5 circles on a piece of scrap paper. Give each group 35 counters.
- Do the following practical sharing activities:
  - Ask the learners to share 20 of the counters equally amongst the circles. How many counters in each circle? (5 and none left over.)
  - Ask the learners to share 35 of the counters equally amongst the circles. How many counters in each circle? (7 and none left over.)
  - Discuss 35 as a multiple of 5. Discuss other examples of multiples of 5 and what happens when you divide a multiple of 5 by 5. (The answer leaves no remainder.)
  - What happens if you have to share out 26 counters equally amongst the circles? How many counters in each circle? (5) How many counters are left? (1) Repeat with 31, 32, 33, 34 and 35.
  - Discuss why, when you divide 26 by 5, you get a remainder. (Because 26 is not a multiple of 5.)

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

## Term 3 Lesson 24: Fives up to 40 – multiplication and division

### Classwork

1. Seven children have five sweets each. How many sweets do they have altogether? (Count on in fives: 5, 10, 15, 20, 25, 30, 35 or add repeatedly: 5 + 5 + 5 + 5 + 5 + 5 + 5 = 35)

2. There are 5 sweets in a bag. How many sweet are there in 4 bags? (5 + 5 + 5 + 5 = 20 or 4 x 5 = 20)

3. Write a multiplication number sentence for 6 rows with 5 blocks in each. (6 x 5 = 30)

4. Share 32 beads equally amongst five groups. (Each group will get 6 beads.) Do you have any left? (2)

5. 39 suckers shared amongst 5 is _____ (7). _____ (4) suckers are left.

6. Complete the table:

| X | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|----|
| 5 |   |   |   |   |    |

(30, 35, 40, 45, 50)

### Homework

1. Eight children have five balls each. How many balls are there altogether?
   (5 + 5 + 5 + 5 + 5 + 5 + 5 + 5 = 40 or 8 x 5 = 40)

2. Share 38 beads equally amongst 5 friends. (Each friend will get 7 beads.) Do you have any left? (3)

3. 29 suckers shared amongst 5 is ____ . (5) ____ (4) suckers are left.

4. Complete the table:

| X | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 5 |   |   |   |   |   |

(5, 10, 15, 20, 25)

# WEEK 7

## LESSON 25: TWOS UP TO 40 – MULTIPLICATION AND DIVISION

| Teacher's notes |
| --- |

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.8 Repeated addition leading to multiplication, 1.9 Grouping and sharing leading up to division, 1.16 Mental mathematics.

**Lesson vocabulary:** Equal, sharing, grouping, remainders, solve, explain, practical problems, repeated addition, subtraction, multiplication, equally, extend.

**Prior knowledge:** Learners should have been taught how to:
- Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 10 and with answers that may include remainders.

**Concepts:**
- Solve and explain own solutions to problems involving repeated addition and multiplication with answers up to 40.
- Solve and explain solutions to practical problems that involve equal sharing and grouping up to 40 with answers that can include remainders.

**Resources:** Counters, scrap paper.

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 84 (pp. 42 and 43).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give each learner 30 blocks. Take 18 blocks and make groups of two. *How many groups did you make?* (9) *How can we say this?* 9 groups of 2 is 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 18 (Count it 2, 4, 6, 8, 10, 12, 14, 16, 18). Now take 29 blocks. Ask them to build ten towers that are the same height. *How many blocks are there in each tower?* (2) *How many towers are there?* (14) *Are there any blocks left?* (1) Discuss.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 2s from any given multiple between 0 and 170, e.g. 65, 67, 69, …

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 14 + __ = 23 | 9 | | 6. | 13 + __ = 18 | 5 |
| 2. | 17 + __ = 25 | 8 | | 7. | 15 + __ = 22 | 7 |
| 3. | 15 + __ = 15 | 0 | | 8. | 19 + __ = 24 | 5 |
| 4. | 0 + __ = 11 | 11 | | 9. | 14 + __ = 20 | 6 |
| 5. | 11 + __ = 23 | 12 | | 10. | 19 + __ = 25 | 6 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

This lesson deals with multiplication and sharing division.

## Activity 1: Whole class activity

Do the following orally with you learners (repeated addition of equivalent sets).
- Ask nine children to come and stand in front of the class.
- Say: *Nine children have two eyes each. How many eyes are there altogether? Let us count: 2, 4, 6, 8, 10, 12, 14, 16, 18. There are 18 eyes altogether.*
- Place seven bags on your desk.
- Say: *There are 2 apples in each bag. How many apples are there in seven bags? Let us count: 2, 4, 6, 8, 10, 12, 14.*
- Write this as a multiplication sentence: 2 x 7 = 14. (Write this on the board.)

## Activity 2: Whole class activity

Draw a grid (array) of 8 rows and 2 columns (blocks) in each row on the board.
Show learners that the rows go across the grid (or array) and the columns go up and down.
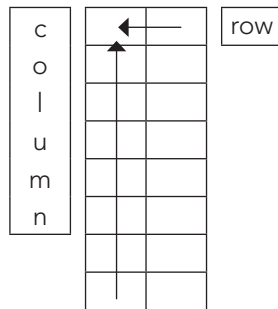


- Ask the learners to count the rows. (8). Then count how many blocks there are in each row. (2)
- Write number sentences to express the repeated addition of 2 illustrated in the grid.
  (2; 2 + 2 = 4 or 2 x 2 = 4; 2 + 2 + 2 = 6 or 3 x 2 = 6; 2 + 2 + 2 + 2 = 8 or 4 x 2 =8; 2 + 2 + 2 + 2 + 2 = 10 or 5 x 2 = 10. Repeat this until you get to 16.

## Activity 3: Learners work in pairs

- Ask learners to draw two big circles on a piece of scrap paper. Give each pair of learners 40 counters.
- Share the 40 counters equally between the two circles.
- Ask: *How many counters are there in each circle?* (20)
- Repeat this with 36 and 32 counters.
- Now share 35 counters equally between two circles.
- Ask: *How many counters are there in each circle?* (17) *How many counters are left?* (1)
- Repeat this with 33, 37 and 39 counters.
- Discuss with learners when they share: *When are there remainders and when are there not remainders? Why does this happen?* (When the number that is shared is a multiple of 2 and you share into 2 groups – there is not a remainder. If the number is not a multiple of 2 – there will be a remainder.)

### 4.  Classwork activity (25 minutes) (See next page)

### 5.  Homework activity (5 minutes) (See next page)

### 6.  Reflection on lesson

# Term 3 Lesson 25: Twos up to 40 – multiplication and division

## Classwork

1. Nine children have two sweets each. How many sweets do they have altogether?
   (2, 4, 6, 8, 10, 12, 14, 16, 18 or 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 + 2 = 18 or 9 x 2 = 18)

2. There are 2 apples in a bag. How many apples are there in 5 bags?
   (2 + 2 + 2 + 2 + 2 = 10 or 5 x 2 = 10)

3. Write a multiplication number sentence for 7 rows with 2 blocks in each.
   (7 x 2 = 14)

4. Share 33 beads equally amongst two groups. (Each group will get 16 beads.) Do you have any left? (1)

5. 37 suckers shared amongst 2 is _____ .
   (18) _____ (1) sucker is left.

---

### Homework

1. Draw and complete the table:

| X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|----|
| 2 |   |   |   |   |   |   |   |   |   |    |

(2, 4, 6, 8, 10, 12, 14, 16, 18, 20)

2. Calculate the following:
   a) 2 x 2 = (4)
   b) 6 x 2 = (12)
   c) 9 x 2 = (18)

---

# LESSON 26: THREES UP TO 40 – MULTIPLICATION AND DIVISION

## Teacher's notes

**CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.8, 1.14 Repeated addition leading to multiplication, 1.16 Mental mathematics.

**Lesson vocabulary:** Multiplication, symbols, multiply, multiples, repeated addition, grid, equally, sharing, grouping, remainders, solutions.

**Prior knowledge:** Learners should have been taught how to:
* Solve word problems in context and explains own solutions to problems involving repeated addition with answers up to 20, using the appropriate symbols: +, -, □, = .
* Perform repeated addition to 20.

**Concepts:**
* Solve and explain own solutions to problems involving repeated addition and multiplication with answers up to 40.
* Solve and explain solutions to practical problems that involve equal sharing and grouping up to 40 with answers that can include remainders.

**Resources:** Counters, paper.

**DBE workbook activities relevant to this lesson:**
* DBE Worksheet 82 (pp. 38 and 39).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Do the following problem with your learners. Stella sells apples. She has 36. She puts them in bags of 3 apples each. *How many bags with 3 apples per bag can she make?* (12) Let learners show it with counters and draw the bags on a piece of paper. Learners start with the first bag. Fill it with 3 counters. Learners draw and fill another bag. Learners then count 3, 6… They carry on filling bags until they reach 12 bags. They count: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
* Count forwards and backwards in 3s from any given number between 0 and 99, e.g. 52, 55, 58, …

### 1.2 Recall and strategies (10 minutes)

| | Subtract the following: | Answer | | | Subtract the following: | Answer |
|---|---|---|---|---|---|---|
| 1. | 20 – 10 = | 10 | | 6. | 40 – 10 = | 30 |
| 2. | 30 – 10 = | 20 | | 7. | 20 – 10 – 10 = | 0 |
| 3. | 10 – 10 = | 0 | | 8. | 50 – 10 = | 40 |
| 4. | 50 – 10 – 10 = | 30 | | 9. | 40 – 10 – 10 = | 20 |
| 5. | 40 – 10 – 10 – 10 = | 10 | | 10. | 50 – 10 – 10 – 10 = | 20 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

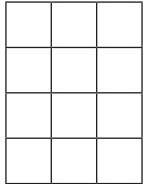This lesson deals with multiplication and grouping division.

## Activity 1: Whole class activity

- Draw a grid of 1 line with 3 blocks in the line on the chalkboard.

- Keep on adding another line of 3 blocks until you get up to 39, while explaining and asking the following questions:

  First row of 3 squares

  Next row of 3 squares – count 3, 6 or 3 + 3 = 6

  Next row of 3 squares – count 3, 6, 9 or 3 + 3 + 3 = 9

  Next row of 3 squares – count 3, 6, 9, 12 or 3 + 3 + 3 + 3 = 12

- Point to the first line of 3 on the board. *We have a row with three squares. We can say 3 x 1 = 3.*
- Point to the second line. *We have two rows with three squares in each, which will give us 6 squares. We can say 2 x 3 = 6.*
- Repeat until you get to 13 x 3 = 39.
- Discuss these as multiples of 3.

## Activity 2: Learners work in groups

Give each group of learners 40 counters.
- Ask: *I have 30 oranges. I want to pack them into bags with 3 oranges in each bag. How many bags can I make?*
- Learners take 30 counters and put them into groups of 3. They count the number of groups that they made. *How many groups did you make?* (10)
- Ask: *I have 31 sweets. I want to pack them into bags with 3 sweets in each bag. How many bags can I make?*
- Learners take 31 counters and put them into groups of 3. They count the number of groups that they made. *How many groups did you make?* (10 and one sweet left over.)
- Repeat grouping with other numbers of counters.
- E.g.  13 counters divided into 3s gives me 4 groups of 3 and a remainder of 1.
       39 counters divided into 3s gives me 14 groups of 3 and no remainder.
- Each time learners have to put the counters into groups of three and find out how many groups they made and if there were any left over, which is called a remainder.

## 4.    Classwork activity (25 minutes) (See next page)

## 5.    Homework activity (5 minutes) (See next page)

## 6.    Reflection on lesson

## Term 3 Lesson 26: Threes up to 40 – multiplication and division

### Classwork

1. Draw 4 rows of 3 blocks each and write a multiplication number sentence. (4 x 3 = 12)

2. Draw 6 rows of 3 blocks each and write a multiplication number sentence. (6 x 3 = 18)

3. Draw 8 rows of 3 blocks each and write a multiplication number sentence. (8 x 3 = 24)

4. Draw 5 rows of 3 blocks each and write a number sentence. (5 x 3 = 15)

5. Divide 19 beads into groups of 3. How many groups do you make? (3, 6, 9, 12, 15, 18. I can make 5 groups.) Do you have any left? (Yes, 1 is left.)

6. Divide 33 beads into groups of 3. How many groups do you make? (3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33. I make 11 groups.) Do you have any left? (No, none are left.)

### Homework

1. Divide 15 beads into groups of 3. How many groups do you make? (3, 6, 9, 12, 15. I make 5 groups.). Do you have any left? (No)

2. Divide 23 beads into groups of 3. How many groups do you make? (3, 6, 9, 12, 15, 18, 21. I make 7 groups). Do you have any left? (Yes, 2)

# LESSON 27: FOURS TO 40 – MULTIPLICATION AND DIVISION

<table>
<tr><td colspan="2"><strong>Teacher's notes</strong></td></tr>
<tr><td colspan="2"><strong>CAPS topics:</strong> 1.1 Count objects, 1.2 Count forwards and backwards, 1.8 Repeated addition leading to multiplication, 1.9 Grouping and sharing leading up to division, 1.16 Mental mathematics.</td></tr>
<tr><td colspan="2"><strong>Lesson vocabulary:</strong> Equal, sharing, grouping, remainders, solve, explain, practical problems, repeated addition, multiplication, and doubling, halving, number sequences.</td></tr>
<tr><td colspan="2"><strong>Prior knowledge:</strong> Learners should have been taught how to:<br>• Copy, extend and describe simple number sequences to at least 100.<br>• Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 10 and with answers that may include remainders.</td></tr>
<tr><td colspan="2"><strong>Concepts:</strong><br>• Solve and explain own solutions to problems involving repeated addition and multiplication with answers up to 40.<br>• Solve and explain solutions to practical problems that involve equal sharing and grouping up to 40 with answers that may include remainders.</td></tr>
<tr><td colspan="2"><strong>Resources:</strong> Unifix blocks.</td></tr>
<tr><td colspan="2"><strong>DBE workbook activities relevant to this lesson:</strong><br>• N/A</td></tr>
<tr><td colspan="2"><strong>Assessment:</strong> Refer to the tracker for today's formal/informal oral, practical or written assessment activity.</td></tr>
<tr><td colspan="2"><strong>Remediation:</strong> Do the following problem with your learners. Stella sells apples. She has 36. She puts them in bags of 4 apples each. <em>How many bags with 4 apples per bag can she make?</em> (9) Let learners show it with counters and draw the bags on a piece of paper. Learners start with the first bag. Fill it with 4 counters. Learners draw and fill another bag. Learners then count 4, 8, … They carry on filling bags until they reach 9 bags. They count in fours: 4, 8, 12, 16, 20, 24, 28, 32, 36.</td></tr>
<tr><td colspan="2"><strong>Enrichment:</strong> See enrichment activity cards.</td></tr>
</table>

## 1. Mental maths

### 1.1 Counting (5 minutes)

• Count forwards and backwards in 5s from any given multiple between 0 and 180, e.g. 96, 101, 106, …

### 1.2 Recall and strategies (10 minutes)

| | Double: | Answer | | Halve: | Answer |
|---|---|---|---|---|---|
| 1. | 3 | 6 | 6. | 8 | 4 |
| 2. | 5 | 10 | 7. | 2 | 1 |
| 3. | 10 | 20 | 8. | 10 | 5 |
| 4. | 8 | 16 | 9. | 20 | 10 |
| 5. | 11 | 22 | 10. | 22 | 11 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

This lesson consolidates the concepts sharing and grouping. Activity 3 focuses on multiplication by repeated addition and multiplicative comparison.

## Activity 1: Learners work in groups

Give each group of learners 40 counters.
• Ask: *I have 40 oranges. I want to pack them into bags with 4 oranges in each bag. How many bags can I make?*
• Learners take 40 counters and put them into groups of 4. They count the number of groups that they made. *How many groups did you make?* (10)
• Ask: *I have 31 sweets. I want to pack them into bags with 4 sweets in each bag. How many bags can I make?*
• Learners take 31 counters and put them into groups of 4. They count the number of groups that they made. *How many groups did you make?* (7 and 3 sweet left over.)
• Repeat grouping with other numbers of counters. Let the learners suggest how many counters to put into groups of 4 – and then do the grouping to find the answer.
• Each time learners have to put the counters into groups of four and find out how many groups they made and if there were any left over, which is called a remainder.
• Discuss that when the number being divided is a multiple of 4 there is no remainder. When the number being divided is NOT a multiple of 4 there is a remainder.

## Activity 2: Learners work in groups

Learners continue to work with the 40 counters.
• Ask: *A farmer has 28 cows. He wants to put them into 4 different fields. How many cows will go into each field?*
• Discuss the solution of the problem with the class. This is a sharing division question – learners can use 28 counters and share them into four groups to work out the solution.
• If I share 28 counters into 4 groups I get 7 in each group. This shows me that there will be 7 cows in each field.
• Ask the learners to make up more word problems that will be solved by sharing division. Help them to work their problems correctly if necessary.
• E.g. I have 30 sweets to share among 4 friends. How many sweets do they each get? Is there a remainder? (They each get 7 and there are 2 sweets left over.)

## Activity 3: Whole class activity

• Write this word problem on the board: *There are 5 boys in the choir. There are four times as many girls in the choir. How many girls are there in the choir?*
• Discuss this multiplication problem. The situation in the problem tells us that for every one boy in the choir there are 4 girls. So to find out how many girls there are we need to multiply the number of boys by 4. 5 x 4 = 20. There are 20 girls in the choir.
• *There are 10 male cattle in the herd. There are four times as many female cattle (cows) in the herd. How many cows are there in the herd?*
• For every one male there are 4 female cattle in the herd. To find the answer we must multiply the number of male cattle by 4. 10 x 4 = 40.
• After working through these two problems make up more similar work problems if the class needs more practice.

## 4.    Classwork activity (25 minutes) (See next page)

## 5.    Homework activity (5 minutes) (See next page)

## 6.    Reflection on lesson

# Term 3 Lesson 27: Fours up to 40 – multiplication and division

## Classwork

1. For every red sweet in the bag there are 4 pink sweets. If there are 5 red sweets how many pink sweets are there? (5 x 4 = 20. There are 20 pink sweets.)

2. Divide 19 beads into groups of 4. How many groups do you make? (4, 8, 12, 16. I can make 4 groups.). Do you have any left? (Yes, 3 are left.)

3. Divide 34 beads into groups of 4. How many groups do you make? (4, 8, 12, 16, 20, 24, 28, 32. I can make 8 groups.). Do you have any left? (Yes, 2 are left.)

4. Share 28 sweets equally amongst 4 friends. (4, 8, 12, 16, 20, 24, 28: each friend will get 7 sweets.)

---

### Homework

1. There are four times as many white cars in the parking lot as red cars. If there are 3 red cars in the parking lot how many white cars are there? (3 x 5 = 15. There are 15 white cars.)

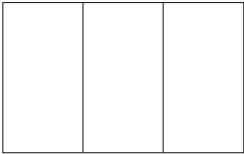2. Divide 37 beads into groups of 4. How many groups do you make? (4, 8, 12, 16, 20, 24, 28, 32, 36. I can make 9 groups.) Do you have any left? (Yes, 1 is left.)

3. Share 24 sweets equally amongst 4 friends. (4, 8, 12, 16, 20, 24: each friend will get 6 sweets.)

# LESSON 28: FRACTIONS – NAME THE FRACTION PARTS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 1.17 Fractions.

**Lesson vocabulary:** Fractions, halves, quarters, thirds, fifths, whole, fraction circles, fraction strips, share, divide, equal parts, diagrammatic form, forwards, backwards.

**Prior knowledge:** Learners should have been taught how to:
• Recognise fractions in diagrammatic form.

**Concepts:**
• Recognise fractions in diagrammatic form.

**Resources:** Fraction circles, fraction wall (see *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 90 (pp. 56 and 57).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Use fraction strips and fraction circles. Point to each fraction and ask the learners what fraction it is, e.g. this is one whole, this is one half, this is one third, this is one quarter and this is one fifth. Discuss how fractions make a whole, e.g. two halves make a whole.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 5s and 10s between 0 and 180, e.g. 125, 135, 145, …

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | __ + 9 = 12 | 3 | | 6. | __ + 7 = 11 | 4 |
| 2. | __ + 3 = 15 | 12 | | 7. | __ + 2 = 14 | 12 |
| 3. | __ + 4 = 14 | 10 | | 8. | __ + 10 = 15 | 5 |
| 4. | __ + 1 = 11 | 10 | | 9. | __ + 6 = 14 | 8 |
| 5. | __ + 11 = 11 | 0 | | 10. | __ + 5 = 13 | 8 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In this lesson you need to give each learner a copy of the fraction wall and the fraction circles.

## Activity 1: Whole class activity

Draw this fraction wall onto the board before the lesson.

| (1 whole) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| (1 halve) | | | | (1 halve) | | | | |
| (1 third) | | (1 third) | | | (1 third) | | | |
| (1 quarter) | (1 quarter) | | (1 quarter) | | | (1 quarter) | | |
| (1 fifth) | (1 fifth) | (1 fifth) | (1 fifth) | | (1 fifth) | | | |

Give each learner a fraction wall. Do the following shading with you whole class, discussing each time why you shade each row, according to the fraction parts.
* *Colour the strip that shows 1 whole in green.*
* *Colour the strip that is divided into halves in yellow.*
* *Colour the strip that is divided into thirds in red.*
* *Colour the strip that is divided into quarters in pink.*
* *Colour the strip that is divided into fifths in blue.*

## Activity 2: Whole class activity

Draw these fraction circles onto the board before the lesson.
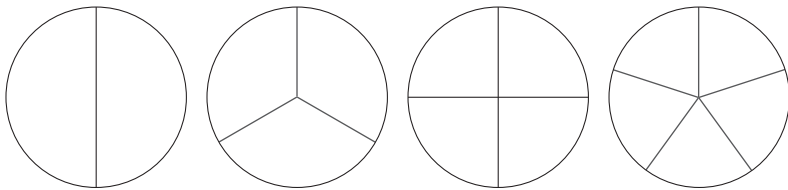


* Repeat activity one, using the fraction circles.
* Shade as follows:
  Halves – yellow
  Thirds – red
  Quarters – pink
  Fifths – blue.

4. **Classwork activity (25 minutes) (See next page)**
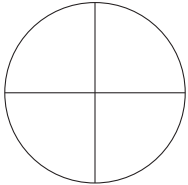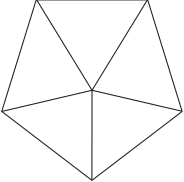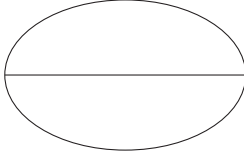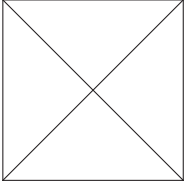
5. **Homework activity (5 minutes) (See next page)**

6. **Reflection on lesson**

# Term 3 Lesson 28: Fractions – name the fraction parts
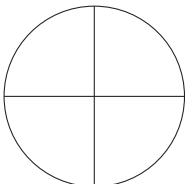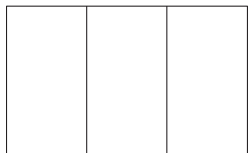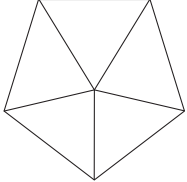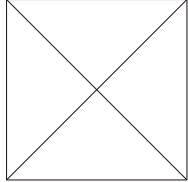
## Classwork

1. Colour the following:

| a) One half | b) One quarter | c) Two thirds |
|---|---|---|
| | | |
| d) Four fifths | e) One half | f) One quarter |
| | | |

## Homework

1. Colour the following:

| Two quarters | One third |
|---|---|
| | |
| Three fifths | Three quarters |
| | |

# WEEK 8

## LESSON 29: FRACTIONS – GROUP THINGS EQUALLY

| Teacher's notes |
|---|
| **CAPS topics:** 1.2 Count forwards and backwards, 1.10 Sharing leading to fractions, 1.16 Mental mathematics 1.17 Fractions. |
| **Lesson vocabulary:** Fractions, halves, quarters, thirds, fifths, calculate, share, group equally, add, subtract, multiples, unitary fractions. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Recognise fractions in diagrammatic form. |
| **Concepts:**<br>• Solve word problems in context and explain own solutions to problems that involve equal sharing leading to solutions that include unitary fractions halves, quarters, thirds and fifths.<br>• Recognise fractions in diagrammatic form. |
| **Resources:** Scrap paper, counters. |
| **DBE workbook activities relevant to this lesson:**<br>• DBE Worksheet 91 (pp. 58 and 59). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Give the learners diagrams or ask them to draw it. Ask them to name the shaded part. (One half, one third, one quarter and one fifth)<br><br>Problem solving: *If I have 18 sweets and I want to divide it amongst three friends, how many sweets will each get?* (6) *What fraction will they each get?* (One third.)<br><br>**Enrichment:** See enrichment activity cards. |

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Ask the learners to start at 132, count on in ones to 180, e.g. 132, 133, 134, … 180.

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | __ – 10 = 40 | 50 | | 6. | __ + 40 = 50 | 10 |
| 2. | __ – 50 = 0 | 50 | | 7. | __ + 20 = 40 | 20 |
| 3. | __ – 30 = 10 | 40 | | 8. | __ + 10 = 10 | 0 |
| 4. | __ – 10 = 20 | 30 | | 9. | __ + 10 = 30 | 20 |
| 5. | __ – 40 = 10 | 50 | | 10. | __ + 30 = 50 | 20 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

## Activity 1: Learners work individually

- Give each learner a sheet of scrap paper and 12 counters.
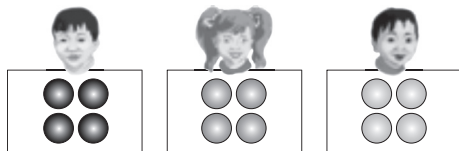- Draw the following on the paper.
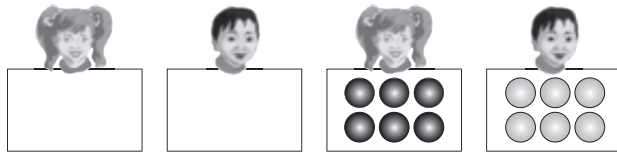


- Share the 12 counters equally between the two children.
- *How many counters do you each have?* (6)
  *What is one half of 12?* (6)

## Activity 2: Whole class discussion

- Do the same with one third and one quarter.
- Learners can draw what they find on scrap paper and you should discuss these drawings with the whole class.
- Thirds:



- Share the 12 counters equally between the three children.
  *How many counters did each child get?* (4)
  *What is one third of 12?* (4)
- Quarters:
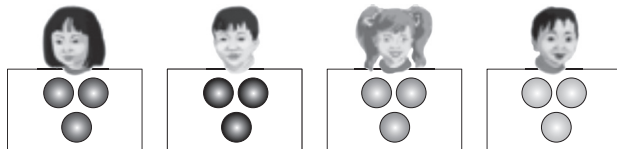


- Share the 12 counters equally between the four children.
  *How many counters did each child get?* (3)
  *What is one quarter of 12?* (3)

## Activity 3: Whole class discussion

- Ask the learners to show you the following:
  We are five friends. We have 20 counters. *If we divide them equally, how many counters will each of us get?* (4) *What fraction will each friend get?* (One fifth)

**4.  Classwork activity (25 minutes) (See next page)**

**5.  Homework activity (5 minutes) (See next page)**

**6.  Reflection on lesson**

# Term 3 Lesson 29: Fractions – group things equally

## Classwork

1. Look at the picture and answer the questions:
   a) How many marbles will each child get? (5)
   b) What fraction of the marbles does each child get? (One half)
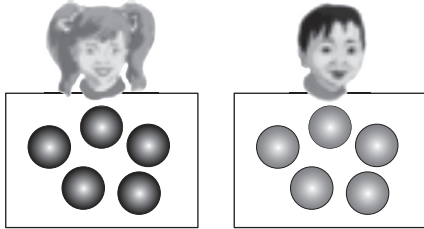


2. Nine balls divided equally between three friends.
   a) How many balls will each get? (3)
   b) What fraction will each friend get? (One third)

3. Twelve balls divided equally between four friends.
   a) How many balls will each get? (3)
   b) What fraction will each friend get? (One quarter)

4. Sixteen balls divided equally between two friends.
   a) How many balls will each get? (8)
   b) What fraction will each friend get? (One half)

## Homework

1. Look at the picture and answer the questions:
   a) How many balls will each child get? (4)
   b) What fraction of the balls does each child get? (One quarter)
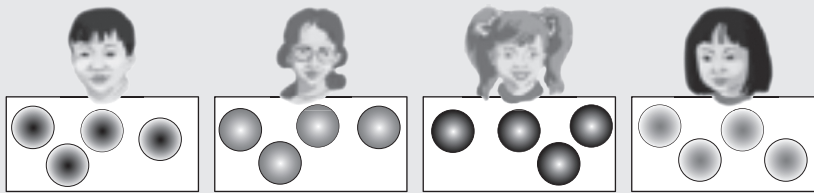


2. Twenty five balls divided equally between five friends.
   a) How many balls will each get? (5)
   b) What fraction will each friend get? (One fifth)

# LESSON 30: FRACTIONS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.6 Problem solving techniques, 1.10 Sharing leading to fractions, 1.16 Mental mathematics, 1.17 Fractions.

**Lesson vocabulary:** Fractions, halves, quarters, thirds, fifths, apparatus, share equally, amongst, between, problem/word problem, addition, subtraction.

**Prior knowledge:** Learners should have been taught how to:
• Recognise fractions in diagrammatic form.
• Use techniques when performing calculations, e.g. concrete apparatus and drawing pictures.

**Concepts:**
• Solve word problems in context and explain own solutions to problems that involve equal sharing leading to solutions that include unitary fractions halves, quarters, thirds and fifths.
• Recognise fractions in diagrammatic form.
• Write fractions as 1 half, 2 thirds.
• Use techniques like drawings when solving problems and explain solutions to problems.

**Resources:** Remediation – strips of paper.

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 94a (pp. 64 and 65).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Ask learners to make three objects of the same length with clay/play dough. Take the first shape and divide it into two equally sized pieces. Point to the first piece and say: *This is one half.* Tell learners you have three shapes. Divide it equally between two. *How many pieces will each one get?* (1 and one half each.)

**Enrichment:** See enrichment activity cards.

## 1.    Mental maths

### 1.1   Counting (5 minutes)
•   Ask the learners to start at 180, count back in ones to 112, e.g. 180, 179, 178, 177, 176, … 112.

### 1.2   Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
|---|---|---|---|---|---|---|
| 1. | __ + 3 = 11 | 8 | | 6. | __ – 7 = 7 | 14 |
| 2. | __ – 9 = 4 | 13 | | 7. | __ + 5 = 15 | 10 |
| 3. | __ + 4 = 11 | 7 | | 8. | __ – 2 = 10 | 12 |
| 4. | __ – 2 = 13 | 15 | | 9. | __ + 6 = 12 | 6 |
| 5. | __ + 1 = 11 | 10 | | 10. | __ – 11 = 2 | 13 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

- Tell the following "story" to the learners, while drawing the pictures on the board.
- Two friends share three cupcakes equally.
- *How many cupcakes will each friend get?* (1 and one half cupcakes each.)

## Activity 2: Whole class activity

Draw the following pictures on the board. Learners need to make up the story and give the answer.

-  

  (Four children share six cupcakes equally. Each child will get 1 and one half cupcakes.)
- Also do the following: six children and nine cupcakes. (Each child will get 1 and one half cupcakes.)

**Remember:**
- *What is the question?* How many cupcakes will each child get?
- *What are the key words?* Share equally.
- *How should it be shared?* It must be shared equally amongst the children?
- *What are the numbers?* 2 children and 3 cupcakes *or* 4 children and 6 cupcakes *or* six children and nine cupcakes.
- *Use a drawing if necessary:* Learners make a drawing to show the answers.

## 4.    Classwork activity (25 minutes) (See next page)

## 5.    Homework activity (5 minutes) (See next page)

## 6.    Reflection on lesson

# Term 3 Lesson 30: Fractions

## Classwork

1. Solve the following problems:
   Each time say: Each child will get _____ cupcakes.

| a) <br><br>(3 cupcakes) | b) <br><br>(1 and a half cupcakes) |
|---|---|
| c) <br><br>(1 and a half cupcakes) | d) <br><br>(1 and a half cupcakes) |

2. Draw and divide this stick amongst four friends.
   What fraction will each friend get? (One quarter)

---

**Homework**

1. Draw 12 bananas and share them equally amongst 4 friends.
   How many bananas will each friend get?
   What fraction will each friend get? (One quarter)

# LESSON 31: FRACTION PROBLEMS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.10 Sharing leading to fractions, 1.6 Problem solving, 1.16 Mental mathematics 1.17 Fractions.

**Lesson vocabulary:** Fractions, halves, quarters, thirds, quarters, fifths, apparatus, calculate, share equally, amongst/between, doubling, halving, solutions, problem.

**Prior knowledge:** Learners should have been taught how to:
• Recognise fractions in diagrammatic form.
• Use techniques when performing calculations, e.g. concrete apparatus and drawing pictures

**Concepts:**
• Solve word problems in context and explain own solutions to problems that involve equal sharing leading to solutions that include unitary fractions halves, quarters, thirds and fifths.
• Recognise fractions in diagrammatic form; write fractions as 1 half, 2 thirds.
• Use techniques like drawings or concrete apparatus, e.g. counters when solving problems and explain solutions to problems.

**Resources:** Fraction strips (see *Printable Resources*), scrap paper strips, play dough – optional.

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 94b (pp. 66 and 67).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners fraction strips and circles. Take one whole fraction strip. *How will you divide it between two friends?* Guide the learners to swop the one whole for two halves. Do the same with thirds, quarters and fifths. Give the learners one fraction circle. Take one circle. *How will you divide it between two friends?* Guide the learners to swop the circle for two halves. Do the same with thirds, quarters and fifths.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Ask the learners to start at 36 and count on in ones to 132, e.g. 36, 37, 38, 39, … 132.

### 1.2 Recall and strategies (10 minutes)

| | Double these numbers: | Answer | | | Halve these numbers: | Answer |
|---|---|---|---|---|---|---|
| 1. | 7 | 14 | | 6. | 12 | 6 |
| 2. | 5 | 10 | | 7. | 14 | 7 |
| 3. | 11 | 22 | | 8. | 10 | 5 |
| 4. | 15 | 30 | | 9. | 20 | 10 |
| 5. | 6 | 12 | | 10. | 24 | 12 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In this lesson you use fraction strips to model solutions to problems involving fraction parts. If you have play dough, you could give each learner enough play dough to make 3 sticks of dough to use instead of the fraction strips.
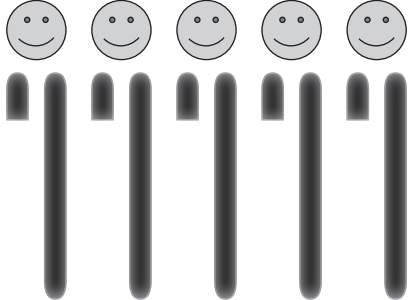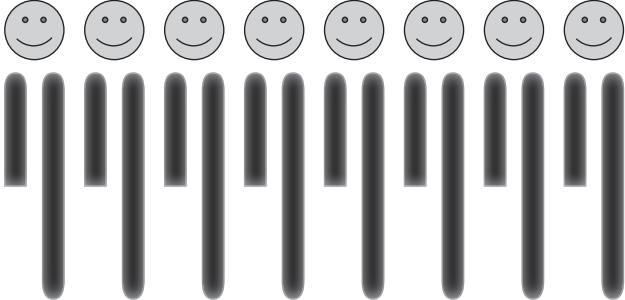
## Activity 1: Learners work in groups

Give each group of learners a set of fraction strips.
- Learners cut up the strips into halves, quarters, thirds and fifths (see illustration that follows).

halves          quarters          thirds          fifths
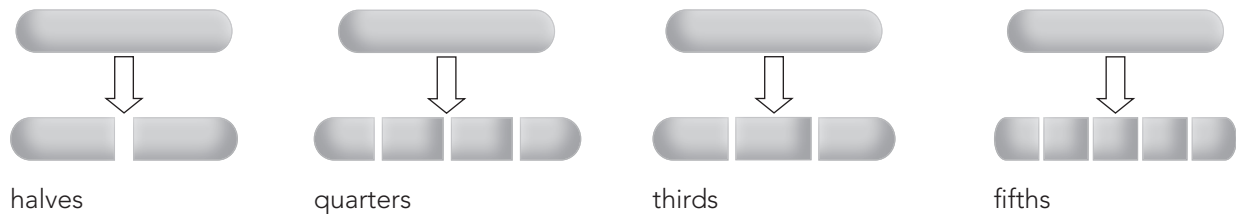
## Activity 2: Whole class activity

Use the fraction strips that you made in Activity 1 to help you find the solutions to the following problems.

| Five friends share 6 sausages equally between them. How much will each one get? | Eight friends share 12 sausages equally between them. How much will each one get? |
|---|---|
| Do these step-by-step with your learners. ||
| **What is the question?**<br>How much will each one get?<br><br>**What are the numbers?**<br>• 5 friends<br>• 6 sausages<br><br>**Draw a picture**<br>Example:<br><br><br><br><br><br>**(1 and 1 fifth)** | **What is the question?**<br>How much will each one get?<br><br>**What are the numbers?**<br>• 8 friends<br>• 12 sausages<br><br>**Draw a picture**<br>Example:<br><br><br><br><br><br>**(1 and one half)** |

4.    **Classwork activity (25 minutes) (See next page)**
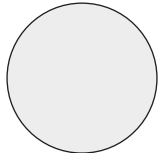
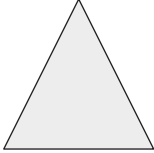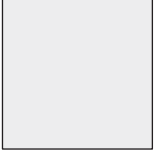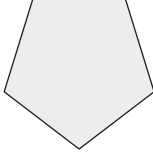5.    **Homework activity (5 minutes) (See next page)**

6.    **Reflection on lesson**

# Term 3 Lesson 31: Fraction problems

## Classwork

1. Divide these shapes by drawing the given number of lines:

| a) two | b) three | c) four | d) five |
|---|---|---|---|
|  |  |  |  |

2. Share these shapes equally amongst the children, by drawing lines and colouring.
   a) Three circles between two children. (1 and one half)
   b) Four squares between three children. (1 and one third)
   c) Four triangles between four children. (1 whole)

3. 2 friends share 3 sausages equally. How much will each friend get? (1 and a half)

4. 3 friends share 4 sausages equally. How much will each friend get? (1 and a third)

5. Six friends share 8 sausages equally. How much will each friend get? (1 and one third)

---

## Homework

1. Eight friends share 12 sausages equally.
   a) How much will each friend get? (One and a half)
   b) Now draw a picture that shows your answer.

# LESSON 32: TIME – QUARTER PAST

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 10s from any given number between 0 and 180, e.g. 55, 65, 75, …

### 1.2 Recall and strategies (10 minutes)

| | What is 10 more than: | Answer | | | What is 10 less than: | Answer |
|---|---|---|---|---|---|---|
| 1. | 54 | 64 | | 6. | 35 | 25 |
| 2. | 38 | 48 | | 7. | 46 | 36 |
| 3. | 61 | 71 | | 8. | 59 | 49 |
| 4. | 49 | 59 | | 9. | 66 | 56 |
| 5. | 58 | 68 | | 10. | 74 | 64 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

- This is a whole-class activity to revise minutes and hours with your learners.
- Use an old analogue clock for this activity or a paper one, or draw it on the board.
- Use a clock to show time in hours, e.g. 3 o'clock.
- Ask: *Where is the long arm?* (On the 3.)
- Ask: *Where is the short arm?* (On the 12.)
- Show the class more examples of time on the hour to revise the position of the long arm and the short arm of an analogue clock on the hour.

## Activity 2: Whole class activity

- Use a clock to show learners time in half hours, e.g. half past two.
- Ask: *Where is the long arm?* (On the 6, which shows 30 minutes.)
- Ask: *Where is the short arm?* (Half way between the 2 and the 3.)
- Show the class more examples of half past time to revise the position of the long arm and the short arm of an analogue clock on the half hour.

## Activity 3: Whole class activity

- Draw or show learners clocks, showing times in **quarter past.**
- The short hand has just passed one.
- The long hand is on the 3, which shows fifteen minutes.
- We say it is quarter past one.
- This means it is a quarter of an hour (15 minutes) after one.
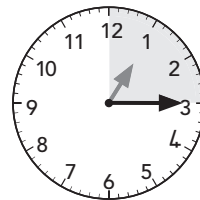
  Show the class more examples of quarter past time – use these times (or others – add as you wish – all **quarter past** times).
- The short hand has just passed (ten).
  The long hand is on the 3, which shows fifteen minutes.
  We say it is quarter past (ten).
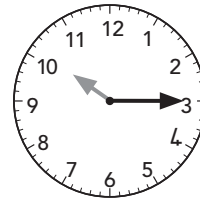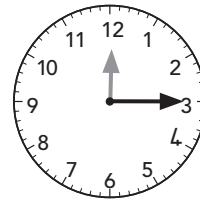
- The short hand has just passed (two).
  The long hand stands on (fifteen) minutes.
  We say it is quarter past (two).
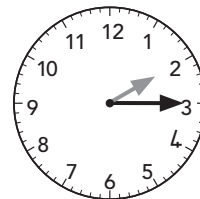
- The short hand has just passed (twelve).
  The long hand stands on (fifteen) minutes.
  We say it is quarter past (twelve).

## 4.   Classwork activity (25 minutes) (See next page)

## 5.   Homework activity (5 minutes) (See next page)

## 6.   Reflection on lesson

# Term 3 Lesson 32: Time – quarter past

## Classwork
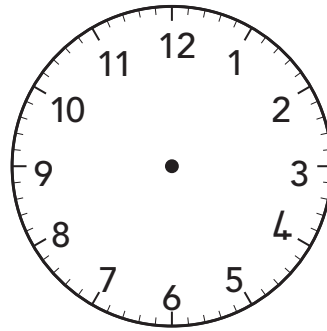


1. Draw a clock showing quarter past 10.

2. Draw a clock showing quarter past 3.

3. Draw a clock showing quarter past 2.

4. Draw a picture of what you did at quarter past 8 on Sunday morning? (Answers will vary)

### Homework

1. At quarter past three, on an analogue clock:
   a) The short hand has just passed _____ (3)
   b) The long hand stands on _____ (15) minutes
   c) We say it is _____ (quarter) past _____ (3).

2. Draw three clocks in your book and show the following times:
   a) quarter past 9
   b) quarter past 11
   c) quarter past 1.

# WEEK 9

## LESSON 33: TIME – QUARTER TO

| Teacher's notes |
| --- |
| **CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 4.1 Time. |
| **Lesson vocabulary:** Time, quarter hour, analogue clock, long hand, short hands, clock face, calculate, am (morning), pm (afternoon), past/to. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Deal with time continuously during whole-class teaching time. |
| **Concepts:**<br>• Tell 12-hour time in quarter hours on analogue clocks. |
| **Resources:** Analogue clock (see Term 2 *Printable Resources*), analogue clock faces. |
| **DBE workbook activities relevant to this lesson:**<br>• DBE Worksheet 81a (pp. 34 and 35). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Give learners a clock. Help them divide it into quarters. Ask them to colour the three quarters. Ask them to draw a long hand pointing to nine. Tell the learners that we say **quarter to**. |
| **Enrichment:** See enrichment activity cards. |

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 10s from any given number between 0 and 180, e.g. 61, 71, 81, …

### 1.2 Recall and strategies (10 minutes)

| | Add the following: | Answer | | | Add the following: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 5 + 7 = __ | 12 | | 6. | 7 + 4 = __ | 11 |
| 2. | 9 + 2 = | 11 | | 7. | 4 + 6 = __ | 10 |
| 3. | 7 + 7 = __ | 14 | | 8. | 7 + 8 = __ | 15 |
| 4. | 6 + 7 = __ | 13 | | 9. | 4 + 11 = __ | 15 |
| 5. | 3 + 9 = __ | 12 | | 10. | 5 + 10 = __ | 15 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)
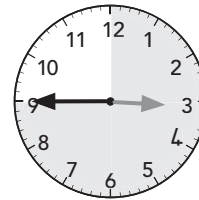
## Activity 1: Whole class activity

- Draw a large clock face on the board.
- Revise what **quarter past** means, e.g. quarter past one.
- Draw the hands into the clock face on the board to show this.
- The short hand has just passed one. The long hand stands on fifteen minutes (on the 3). We say it is quarter past one. This means it is a quarter of an hour (15 minutes) after 1.
- Ask learners to tell you some other **quarter past** times.
- Draw them into the clock face each time after rubbing out the hands for the previous time drawn in on the clock face.

## Activity 2: Whole class activity

- Introduce **quarter to** to your learners.
- Quarter to three. Draw it onto the board.
- Let the learners count forwards in 5s until they get to 45
  (they must count from 12 on the clock face). They land on the 9.
- Let the learners count backwards in 5s until they get to 15.
  *What do you notice?* (You are on the 9 again).
- 45 minutes after OR 15 minutes before is in the same place – we call it **quarter to**.
- The short hand is just before three.
- The long hand stands on the 9.
- We say it is quarter to three.
- We mean it is a quarter of an hour (15 minutes) before three o'clock.

## Activity 3: Whole class activity

**Consolidation**

Do the following activities step-by-step with your learners. Use an analogue clock (draw one if you don't have one). You are going to work the clock (turn the hands) manually. Show these times and discuss.

- The short hand has just passed (ten).
  The long hand stands on the 9.
  We say it is quarter to (eleven).
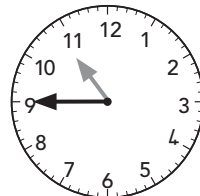
- The short hand has just passed (five).
  The long hand stands on the 9.
  We say it is quarter to (six).
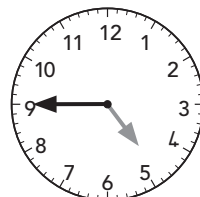
- The short hand has just passed (eleven).
  The long hand stands on the 9.
  We say it is quarter to (twelve).
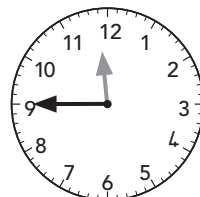
## Activity 4: Optional – Whole class activity

**Optional**
- Ask the learners what they think they can do in 45 minutes.
- You can improve this skill by pointing to the clock when starting with an activity, and pointing to the clock again after 45 minutes.
- Ask learners why 45 minutes sometimes feel as if it is shorter, and sometimes it feels longer.

**4.    Classwork activity (25 minutes) (See next page)**

**5.    Homework activity (5 minutes) (See next page)**

**6.    Reflection on lesson**

# Term 3 Lesson 33: Time – quarter to

## Classwork

In this activity learners must draw analogue clock faces to show given times. You must check that each time they do a drawing the long and the short arms are in the correct places.
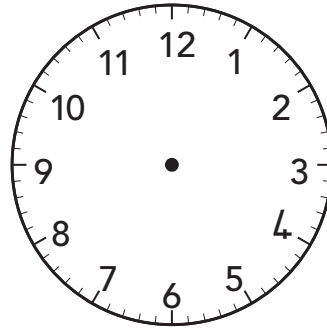


1. Draw a clock showing quarter to 10.

2. Draw a clock showing quarter to 3.

3. Draw clock showing quarter to 7.

4. Which comes first, quarter to 10 or 10 o'clock? (Quarter to 10)

5. Which comes first, quarter to 11 or quarter past 11? (Quarter to 11)

6. What can you do on Saturday evening at quarter to 8? (Answers will vary)

---

### Homework

1. Draw a clock showing quarter to 8.

2. Draw a clock showing quarter to 6.

3. Which comes first, quarter to 1 or quarter past 6? (Quarter to 1)

# LESSON 34: TIME – CALCULATING TIME PASSED

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 4.1 Time.

**Lesson vocabulary:** Time, time passed, hour (quarter hour), analogue clock, long hand, short hand, clock face, calculate, am (morning), pm (afternoon), past/to, backwards, minutes, hours, seconds, left hand side, right hand side.

**Prior knowledge:** Learners should have been taught how to:
• Deal with time continuously during whole class teaching time.

**Concepts:**
• Tell 12-hour time in hours and half hours on analogue clocks.
• Use clocks to calculate length of time in hours or half hours.
• Use calendars to calculate and describe lengths of time in days or weeks.

**Resources:** Analogue clock (see Term 2 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 85b (pp. 46 and 47).
• DBE Worksheet 80 (pp. 32 and 33).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners a paper clock. Help them divide it into halves. Ask them to colour the halves past and to a different colour, guiding them if necessary. If necessary revise the format of the calendar and ask questions about the months of the year and days on the week.

**Enrichment:** See enrichment activity cards.

## 1.    Mental maths

### 1.1   Counting (5 minutes)
• Start counting at 99 and count backwards in fives up to 54, e.g. 99, 94, 89, 84, … 54.

### 1.2   Recall and strategies (10 minutes)

| | What is 10 more than: | Answer |
|---|---|---|
| 1. | 84 | 94 |
| 2. | 65 | 75 |
| 3. | 33 | 43 |
| 4. | 44 | 54 |
| 5. | 1 | 11 |

| | What is 10 less than: | Answer |
|---|---|---|
| 6. | 53 | 43 |
| 7. | 10 | 0 |
| 8. | 56 | 46 |
| 9. | 71 | 61 |
| 10. | 16 | 6 |

## 2.    Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.    Lesson content – concept development (30 minutes)

In this activity you should make use of an analogue clock to physically show the learners the passing of time if possible.

## Activity 1: Whole class activity

- Revise the calendar by referring to the calendar for the current month. Ask: *How many weeks are there this month?* (4 and a bit)
- Discuss some questions linking them to the calendar – to find out the lengths of time in days.
- Ask: *How long is the school week? How many days are there from Monday to Friday?* (5)
- Ask: *How long is the weekend? How many days are there from Saturday to Sunday?* (2)
- Ask other questions using the calendar and dates that have meaning for the learners in the class.
- E.g. Find out who has birthdays this month. Calculate how long it is between two birthday dates you found. Etc.
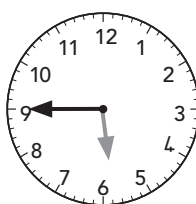
## Activity 2: Whole class activity

Revise **past** and **to**.
- Ask: *What does the short hand on the clock show us?* (The hours.)
- Ask: *What does the long hand on the clock show us?* (The minutes.)
- Draw a clock on the board, which is divided into halves.
- Draw a clock on the board, which is divided into quarters.
- Show the learners that the left-hand-side is **to** and the right-hand-side is **past**.
- Give them some examples to show **past** and **to**.
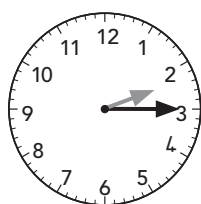


quarter past 2                    quarter to 6

- Draw other examples of times which are **past** and **to**.
- Use the time **half past**. (e.g. half past 5.)
- Use the times **quarter past** and **quarter to**. (e.g. quarter past 7 or quarter to 12.)
- Revise time on the hour. (e.g. 5 o'clock or 7 o'clock.)

## Activity 3: Whole class activity

Revise the length and passing of time.
- Ask: *How many hours are there from 3 o'clock to 5 o'clock?* (2 hours.)
- Ask: *How many hours are there from 8 o'clock in the morning to 2 o'clock in the afternoon?* (6 hours.)
- Ask: *How many hours are there from quarter to 5 to quarter past 5? (*15 minutes + 15 minutes = 30 minutes = Half an hour.)
- Ask learners to tell you about two things they do in the morning – write down the times that they do these things (to the nearest hour/half hour/quarter hour).
- Then work out the time passed between doing these two things, e.g. I wake up (6 o'clock). I eat breakfast (7 o'clock). Time passed = 1 hour.
- Allow a few different times to be discussed and then move on to the classwork activity.

**4.    Classwork activity (25 minutes) (See next page)**

**5.    Homework activity (5 minutes) (See next page)**

**6.    Reflection on lesson**

## Term 3 Lesson 34: Time – calculating time passed

### Classwork

1. How many hours are there between 8 o'clock and 10 o'clock? (2)

2. How many hours are there between 10 o'clock and 12 o'clock? (2)

3. It is the 1st of September. School breaks up on the 13th of September. How many days until break up day? (12 days)

4. It is the 26th of December. How many days are there until the 1st of January? (6 days)

---

### Homework

1. How many hours are there between 4 o'clock and 8 o'clock? (4)

2. How many hours are there between 8 o'clock and 11 o'clock? (3)

3. It is the 1st of June. Your birthday is on the 12th of June. How many days are there until your birthday? (11)

---

# LESSON 35: LENGTH

| Teacher's notes |
| --- |
| **CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 4.2 Length. |
| **Lesson vocabulary:** Long, short, longer, shorter, longest, shortest, tall, taller, wide, wider, estimate, measure, compare, order, record, length, non-standard units, standard units, hand span, pace, metre. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Estimate, measure, compare, order and record length using non-standard measures, e.g. hand spans, paces, pencil lengths, counters, etc. |
| **Concepts:**<br>• Estimate, measure, compare, order and record length using non-standard measures e.g. hand spans, paces, pencil lengths, counters, etc.<br>• Describe the length of objects by counting and stating how many informal units long they are.<br>• Use language to talk about the comparison, e.g. longer, shorter, taller, wider. |
| **Resources:** Pencils, objects to be measured, e.g. books, suitcases, desks, mats, classroom, etc. |
| **DBE workbook activities relevant to this lesson:**<br>• N/A |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Give each learner a some Unifix cubes. Give/take them to an object whose length can be measured, e.g. a book or a pencil case. Assist them to measure the length/width of the item using the Unifix – show them how to mark off (or line up) the Unifix cubes one at a time to measure the length/width of the item. |
| **Enrichment:** See enrichment activity cards. |

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Start at 135 and count backwards in threes to 45, e.g. 135, 132, 129, … 45.

### 1.2 Recall and strategies (10 minutes)

| | Calculate: | Answer | | | Calculate: | Answer |
| --- | --- | --- | --- | --- | --- | --- |
| 1. | 4 + __ = 12 | 8 | | 6. | 4 + __ = 9 | 5 |
| 2. | 3 + __ = 10 | 7 | | 7. | 7 + __ = 13 | 6 |
| 3. | 14 + __ = 15 | 1 | | 8. | 2 + __ = 14 | 12 |
| 4. | 1 + __ = 12 | 11 | | 9. | 1 + __ = 15 | 14 |
| 5. | 10 + __ = 10 | 0 | | 10. | 5 + __ = 13 | 8 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

In this lesson you consolidate the learners' knowledge and understanding of the concept length. The activities in this lesson call on learners to measure (using non-standard units of measurement) and to compare length using the measurements that they have found. It is important that you *and the learners* speak about the activities using all of the mathematical vocabulary relevant to this lesson.

Use the *Dictionary of Mathematical Terms* to check how to use non-standard units of measurement if necessary.

## Activity 1: Learners work in groups

Instruct each learner to get three pencils.
- First, learners will measure the width of their desks using a pencil as a non-standard unit.
- *Choose one of your pencils and use it to measure the width (←→) of your table.*
- *How many pencils wide is your desk?* (My desk is _____ pencils wide.)
- Next, learners use the measurement of the width of the desk to help them estimate the measurement of the height of the desk.
- *If your desk is _____ pencils wide, then how many pencils high do you think your desk is?*
- Assist learners in estimating the height of their desks in pencil lengths.
- Help them to consider how many pencils wide their desk is (use the measurements they found for their desks) so that they give realistic estimates. (Their reasoning could be: My desk is higher than it is wide, so I think I will get more pencil lengths – the measurement of the height will be greater that the measurement of the width of the desk. I think my desk will be _____ pencils high.)
- Now learners check their estimates by measuring.
- Ask the learners: *Use your pencils to measure the height of your desks.* (My desk is _____ pencils high.)
- After the measuring and estimation activities, discuss the comparison between the lengths they have found.
- *Which measurement was greater? The width or the height of the desk?* (The height – it was ___ pencils high.)
- *Which measurement was smaller? The width or the height of the desk?* (The width – it was ___ pencils wide.)
- Recap the problems that arise when you use non-standard units:
- *Did you all get the same answers?* (No.)
- *Why not?* (We all used pencils of different lengths and so the measurements we found were not all exactly the same.)
- *What should we have done differently when we measured in order to all get the same measurement?* (We should all have used pencils of the same length.)

## Activity 2: Learners work in groups

Follow the same procedure but measure other objects, e.g. suitcase, chair, mat, door, etc.
- Remind learners to estimate and then measure.
- Remind learners to compare the measurements that they find.
- Talk to the class about the non-standard measurements – this discussion leads into the use of standard measurements which will follow.
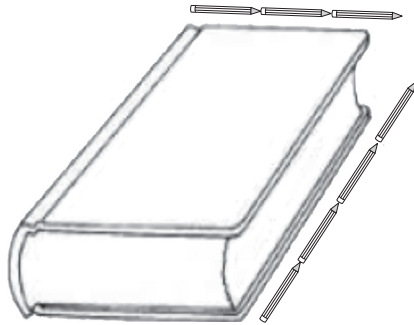
## 4.    Classwork activity (25 minutes) (See next page)

## 5.    Homework activity (5 minutes) (See next page)

## 6.    Reflection on lesson

## Term 3 Lesson 35: Length

### Classwork

1. Answer the questions.
   a) What is the length of the book? (3 pencils or 3 and a half pencils)
   b) What is the width of the book? (2 pencils or 2 and a half pencils)



2. How many pencils long is each side?
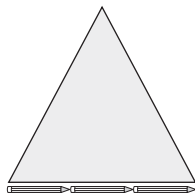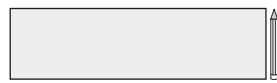


   a) (3 pencils)                    b) (1 pencil)                    c. (2 pencils)
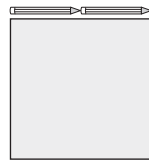
3. Draw the following pictures to show the given lengths: (answers will vary)
   a) A box that is two pencils long.
   b) A flower that is one pencil tall.
   c) A shelf that is three pencils high.

---

### Homework

(Answers will vary)
1. Write the name of the person who is the tallest in your family.

2. Write the name of the person who is the shortest in your family.

3. Draw a picture of yourself and a friend.

4. Write down who is taller and who is shorter.

---

# LESSON 36: LENGTH

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 4.2 Length.

**Lesson vocabulary:** Estimate, measure, compare, order, record, length, metres, standard units, long, short, longer, shorter, longest, shortest, tall, taller, wide, wider.

**Prior knowledge:** Learners should have been taught how to:
• Estimate, measure, compare, order and record length using non-standard measures, e.g. hand spans, paces, pencil lengths, counters, etc.

**Concepts:**
• Estimate, measure, compare, order and record length using metres as the standard unit of length, using either metre sticks or metre-long lengths of string.

**Resources:** Enough for each child in the class: 1 m lengths of string (not wool since it will stretch), balls, pieces of paper.

**DBE workbook activities relevant to this lesson:**
• N/A

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give each learner a piece of string. Give/take them to an object whose length can be measured, e.g. the teacher's desk, and assist them. Show them how to measure the length of the desk using the string – where to start and how to move the string if the desk is more than 1 m. Do this measuring activity with more objects (go outside if necessary since you want to measure lengths that are longer than 1 m if possible).

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Start at 152 and count back in ones to 124, e.g. 152, 151, 150 … 124; then start at any other number above 150, and count back in ones for a given interval.

### 1.2 Recall and strategies (10 minutes)

| | Put the smallest number first: | Answer | | | Put the smallest number first: | Answer |
|---|---|---|---|---|---|---|
| 1. | 63, 65, 61 | 61, 63, 65 | | 6. | 70, 68, 66 | 66, 68, 70 |
| 2. | 30, 27, 33 | 27, 30, 33 | | 7. | 30, 50, 40 | 30, 40, 50 |
| 3. | 20, 15, 10 | 10, 15, 20 | | 8. | 4, 8, 12 | 4, 8, 12 |
| 4. | 12, 20, 16 | 12, 16, 20 | | 9. | 42, 41, 40 | 40, 41, 42 |
| 5. | 70, 72, 71 | 70, 71, 72 | | 10. | 16, 20, 18 | 16, 18, 20 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

This is the second lesson on length for this term. In this lesson learners work with the metre which is a standard unit for the measurement of length.

## Activity 1: Whole class activity

- Take learners outside for this activity.
- Divide your class into pairs.
- Give each pair a 1m piece of string and a ball.
- The pairs are now going to stand on the field/playground facing one another, 1 m apart.
- They have to measure the space between them with their string.
- Throw the ball to one another.
- After ten throws they have to increase the space between them to 2 m.
- Throw the ball to each other, ten times.
- Repeat this activity, until there is a 5 m gap between each pair.
- Discuss the activity. When did you find it easy/difficult to throw and catch the ball?

## Activity 2: Learners work in groups

- Give each group a piece of paper and a 1 m piece of string.
- They are now going to estimate and then measure objects/spaces/lengths outside their classroom.
- Tell the learners what they have to measure, e.g. the length from one tree to another, the width of the netball field, the length of the corridor, the space between 2 things, etc.
- They write the names of what they have to measure on their paper, first estimate the length and then go and measure everything.
- Each group should start at a different place.
- As soon as all the groups are finished, they can compare their measurements.

4. **Classwork activity (25 minutes) (See next page)**

5. **Homework activity (5 minutes) (See next page)**

6. **Reflection on lesson**

## Term 3 Lesson 36: Length

### Classwork

1. The shortest distance to throw and catch a ball is 1 m, 2 m, 3 m, 4 m or 5 m? (1 m)

2. The longest distance to throw and catch a ball is 1 m, 2 m, 3 m, 4 m or 5 m? (5 m)

3. Draw a table in your book.
   a) List all the things you had to measure in class.
   b) Write in your estimation, your measurement and then the difference between your estimation and measurement.

| Item | Estimation | Measurement | Difference (more or less) |
|---|---|---|---|
| (Answers will vary) | | | |
| | | | |
| | | | |
| | | | |

### Homework

(Answers will vary)

1. Draw a table in your book, like the one we did in class.

| Item | Estimation | Measurement | Difference (more or less) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

2. Choose three things, spaces or distances at home that you are going to measure with your string.

3. List them in your table.

4. Write down your estimations in your table.

5. Write down your measurements and then the difference between your estimation and measurements.

# WEEK 10

## LESSON 37: SYMMETRY

| Teacher's notes |
|---|
| **CAPS topics:** 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental mathematics, 3.4 Symmetry. |
| **Lesson vocabulary:** Line of symmetry, 2-D geometrical shapes, non-geometrical shapes, horizontal, vertical, more than. |
| **Prior knowledge:** Learners should have been taught how to:<br>• Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes. |
| **Concepts:**<br>• Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes. |
| **Resources:** Old magazines, scrap paper/white boards. |
| **DBE workbook activities relevant to this lesson:**<br>• DBE Worksheet 124 (pp. 128 and 129). |
| **Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity. |
| **Remediation:** Ask the learners to draw a picture of a cupcake on their scrap paper/white boards. Now let them draw a line of symmetry. Let them draw a picture of a house and do the same. After each picture discuss the characteristics of symmetry.<br><br>**Enrichment:** See enrichment activity cards. |

## 1. Mental maths

### 1.1 Counting (5 minutes)
• Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 145, 140, 135, …

### 1.2 Recall and strategies (10 minutes)

| | What is 2 more than: | Answer |
|---|---|---|
| 1. | 89 | 91 |
| 2. | 50 | 52 |
| 3. | 12 | 14 |
| 4. | 20 | 22 |
| 5. | 32 | 34 |

| | What is 2 more than: | Answer |
|---|---|---|
| 6. | 10 | 12 |
| 7. | 50 | 52 |
| 8. | 45 | 47 |
| 9. | 56 | 58 |
| 10. | 23 | 25 |

## 2. Correction/reflection on homework (15 minutes)

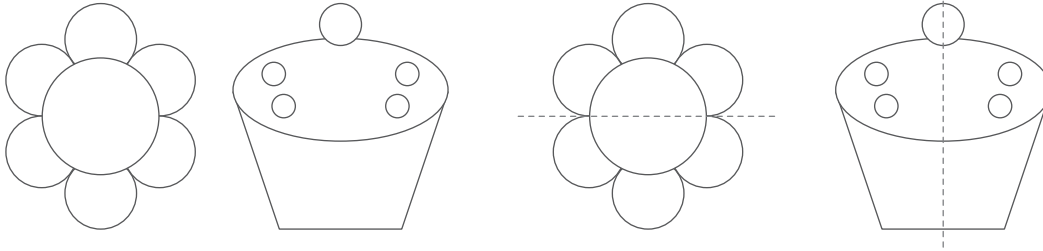Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

Refer to the *Dictionary of Mathematical Terms* if necessary for explanations and examples of the lesson vocabulary (symmetry and line of symmetry).

## Activity 1: Whole class activity

- Draw these pictures or similar ones, on the board:



- Draw a line of symmetry through the picture of the flower and the cupcake.
- Explain to the learners that when you draw a line of symmetry, the two sides of the picture or object must look exactly the same.
- Also explain to them that the line of symmetry is not necessarily a vertical line. It can be a horizontal (or sloping) line as well. See the flower example.
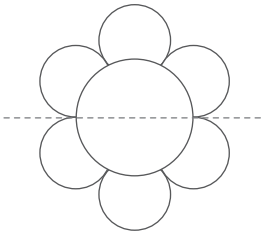


## Activity 2: Learners work in groups

- Give each learner an old magazine.
- Ask the learners to find a symmetrical picture of a person's face (or draw a face).
- Learners cut out the face and fold it vertically in half.
- Now open the picture and cut on the fold.
- The face will now be in two halves that look exactly the same.
- Discuss this as an example of symmetry.

4. **Classwork activity (25 minutes) (See next page)**

5. **Homework activity (5 minutes) (See next page)**

6. **Reflection on lesson**

# Term 3 Lesson 37: Symmetry

## Classwork

1. Draw a line of symmetry through each of the following pictures:
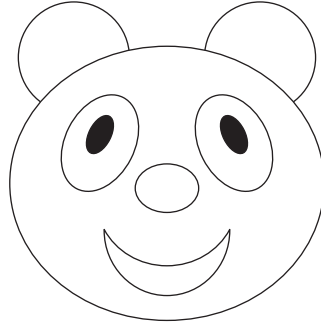


2. Colour each side of the picture a different colour.

3. Complete these pictures by:
   a) drawing the exact other half
   b) drawing in the line of symmetry.



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### Homework

(Answers will vary)
1. Draw a circle, a triangle and a rectangle. Draw the line of symmetry in each.

# LESSON 38: POSITION – VIEWS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.16 Mental mathematics, 3.1 Position, orientation and views.

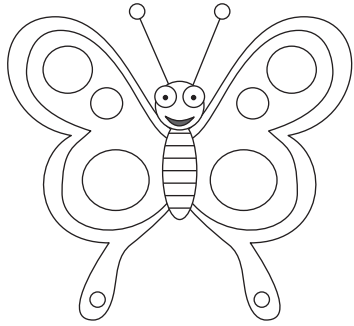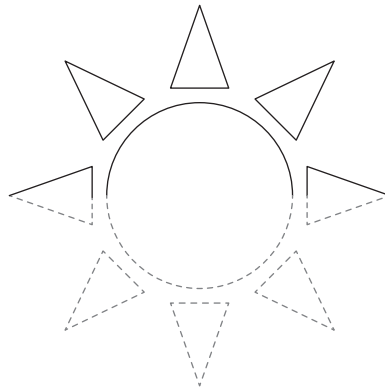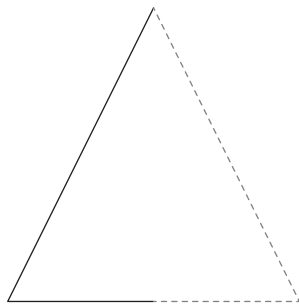**Lesson vocabulary:** Position, views (top, side, front), count on, match, smallest, largest.

**Prior knowledge:** Learners should have been taught how to:
• Match different views of the same everyday object.
• Follow directions to move around the classroom and to place one object in relation to another.

**Concepts:**
• Match different views of the same everyday object.

**Resources:** Cool drink can, other objects to use for views, e.g. pencil case, cup, lunch box, etc. (Remediation – Unifix cubes), view cards (see *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
• DBE Worksheet 92 (pp. 60 and 61).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners a variety of classroom objects and ask them to show you the top, front and side view. E.g. *Show me the: top view, side view and front view of the table.* Learners can build a tower using the Unifix blocks and show the front, top and side view.

Problem solving: *Can you see the top, side and front view of tower at the same time?*

**Enrichment:** See enrichment activity cards.

## 1.  Mental maths

### 1.1  Counting (5 minutes)
• Start at 90 and count in twos up to 180, e.g. 90, 92, 94 … then start at another number between 0 and 100 and count up in 2s.

### 1.2  Recall and strategies (10 minutes)

| | Put the largest number first. | Answer | | Put the smallest number first. | Answer |
|---|---|---|---|---|---|
| 1. | 54, 55, 56 | 56, 55, 54 | 6. | 65, 63, 64 | 63, 64, 65 |
| 2. | 71, 70, 69 | 71, 70, 69 | 7. | 32, 30, 31 | 30, 31, 32 |
| 3. | 53, 55, 54 | 55, 54, 53 | 8. | 12, 16, 14 | 12, 14, 16 |
| 4. | 61, 62, 63 | 63, 62, 61 | 9. | 38, 40, 36 | 36, 38, 40 |
| 5. | 23, 21, 22 | 23, 22, 21 | 10. | 50, 51, 49 | 49, 50, 51 |

## 2.  Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3.  Lesson content – concept development (30 minutes)

The topic of views helps learners to develop their ability to visualise (see in their mind's eye) geometric (and other) shapes and objects. It is very important to give time in this lesson to learners to sit and visualise. You should encourage them to close their eyes and 'look into the images they can see inside their heads' of the objects you are discussing.

## Activity 1: Whole class activity

- Prepare the drawing on the board before the class.
- Draw these views of a cup on the chalkboard. Discuss the different views presented. Discuss the idea of views and seeing views 'in your mind's eye'.

|  |  |  |
|---|---|---|
| (Front view) | (Top view) | (Side view) |
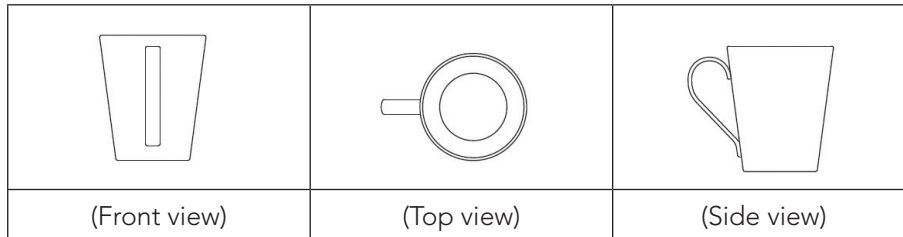
- Select an object that is familiar to learners, e.g. a coke can, and show the learners the front, top and side views.
- Discuss front, top and side views of several everyday objects with the class, showing the class the views as you do so.
- Give each group of learners some objects and allow them to look at the different views.
- Then they show each other different views, talking about each one as they do.
- They choose one object and draw a top, side and front view of that object.

## Activity 2: Whole class activity

- Give each learner a copy of the following view cards and ask them to cut out each card.
- Ask them to arrange each sets of cards in the following order: *Front view*, *Side view* and *Top view*.
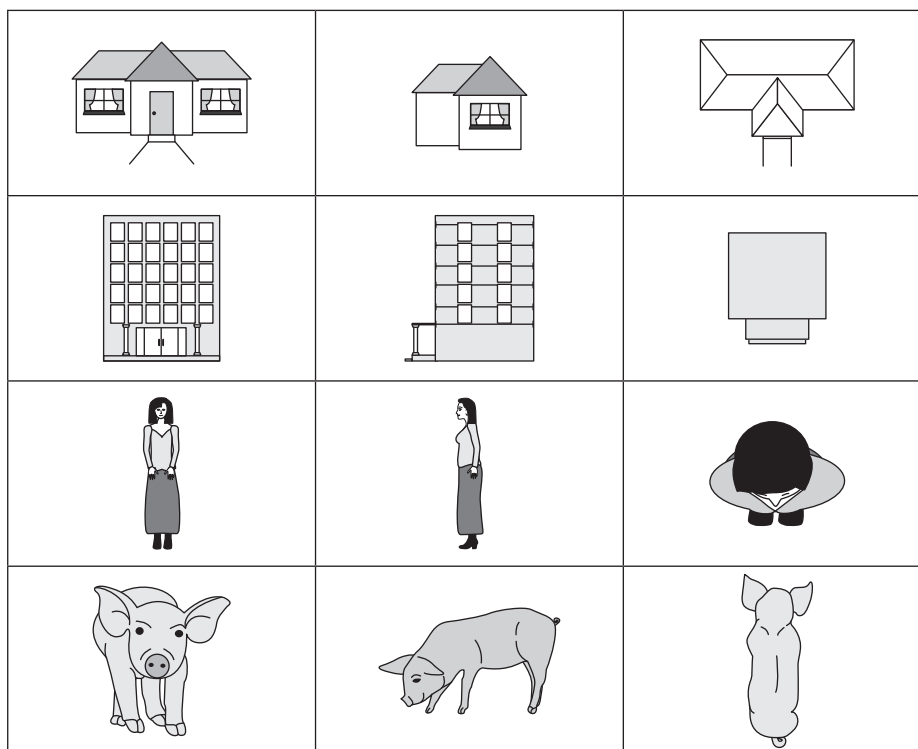


**4. Classwork activity (25 minutes) (See next page)**

**5. Homework activity (5 minutes) (See next page)**

**6. Reflection on lesson**

# Term 3 Lesson 38: Position – views

## Classwork

1. Write the labels for the views of the pig in order: top view, front view, side view.

| | | |
|---|---|---|
| (Front view) | (Top view) | (Side view) |
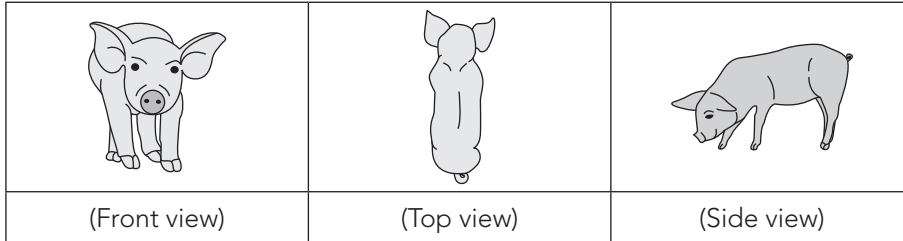
2. Using the pictures below:
   a) Colour the car's front view
   b) Colour the house's top view
   c) Colour the lady's side view.
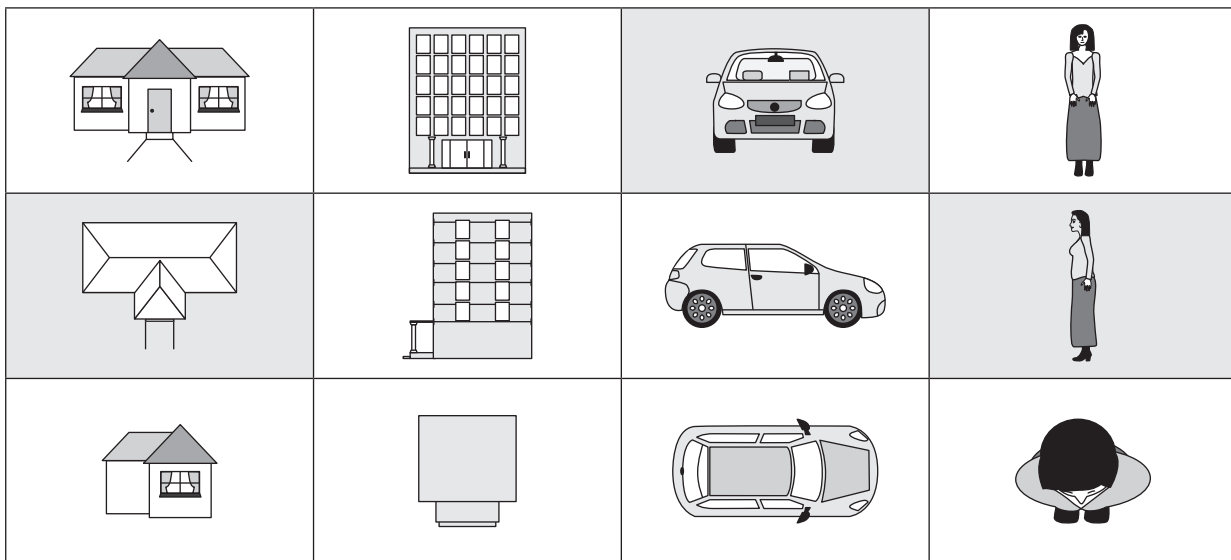
# LESSON 39: MONEY PROBLEMS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.11 Money, 1.16 Mental mathematics.

**Lesson vocabulary:** Rands, cents, coins, bank notes, total, change, more, less.

**Prior knowledge:** Learners should have been taught how to:
- Recognise and identify the South African coins (10c, 20c, 50c, R1, R2, R5) and bank notes (R10, R20).
- Solve money problems involving totals and change to R20 and in cents up to 20c.

**Concepts:**
- Recognise and identify the South African coins (10c, 20c, 50c, R1, R2, R5) and bank notes (R10, R20, R50).
- Solve money problems involving totals and change in cents up to 50c or rands up to R50.

**Resources:** Paper money cut-outs (see Term 1 *Printable Resources*) .

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 78 (pp. 28 and 29).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners coins and notes to do the following activities. *I have the following in my purse.* (R5,50) *I want to pay a certain amount.* (R3,50) *What will be left?* (R2,00) Learners use coins to show their answers. Guide learners where they need to break down the coins.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 10s from any given number between 0 and 180, e.g. 114, 124, 134, …

### 1.2 Recall and strategies (10 minutes)

| | Double: | Answer | | | Halve: | Answer |
|---|---|---|---|---|---|---|
| 1. | 23 | 46 | | 6. | 20 | 10 |
| 2. | 25 | 50 | | 7. | 24 | 12 |
| 3. | 16 | 32 | | 8. | 18 | 9 |
| 4. | 18 | 36 | | 9. | 30 | 15 |
| 5. | 21 | 42 | | 10. | 40 | 20 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

Money problems give a context in which to do problems that involve operations of all kinds. When doing these problems with learners, part of your aim is to familiarise them with the SA money and the other part is to give them an opportunity to do calculations in context. You should focus on the way in which they interpret the problems as well as the way in which they find the solutions. Money problems provide an opportunity for learners to see Maths in action/relevant to their own lives.

If you work through the given problems in a short time – ask learners to help you make up more money problems that you can solve together as a class. Guide them as they make up the problems to select amounts that are appropriate for them to work with.

## Activity 1: Whole class activity

- Write the following money problem on the board or read it to the class.
- Suzanne spent R1,20 on sweets that cost 20c each. How many sweets did she buy?
- *What is the key word? What is the question? What are the numbers?*
- Draw a picture on the board to show how the money is divided up to buy the sweets.Do these step-by-step with your learners, like in the table below:

| Suzanne spent R1,20 on sweets that cost 20c each. How many sweets did she buy? |
| --- |
| **What is the question?**<br>How many sweets did she buy? |
| **What are the numbers?**<br>R1,20 spent<br>20c per sweet<br><br>**Draw a picture:**<br>**Solution:**<br>Suzanne bought 6 sweets. |

## Activity 2: Whole class activity

- Work through another money problem with the class. Use guiding questions to help them interpret the problem and think of a way to solve it.
- Tanya pays R80 to get to school each month. She pays with R90. How much change does she receive? How much money will she have left at the end of the month?
- *What is the key word? What is the question? What are the numbers?*
- Number sentence: R90 – R80 = R10
- She will have R10 left at the end of the month.

## Activity 3: Whole class activity

- Heila sells hotdogs at R4 each. Make a table to help her find the amount for large orders.

| Number of hotdogs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Cost in rands | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |

- Show how to read the table to find out the costs of large orders. For example,
  - *If she sells 4 hotdogs, she gets R__ ?* (R16)
  - *If she sells 7 hotdogs, she gets R__ ?* (R28)
  - *If she sells 9 hotdogs, she gets R__ ?* (R36)

## 4. Classwork activity (25 minutes) (See next page)

## 5. Homework activity (5 minutes) (See next page)

## 6. Reflection on lesson

## Term 3 Lesson 39: Money problems

### Classwork

1. Suzanne spent R1,80 on sweets that cost 20c each. How many sweets did she buy? (She bought 9 sweets.)

2. Peter babysits. He charges R5 per hour for babysitting. Complete this table for him.

| Number of hours | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Cost in rands | (5) | (10) | (15) | (20) | (25) | (30) | (35) | (40) | (45) | (50) |

### Homework

1. Tanya pays R10 to get to school in the morning. She pays with a R20 note.
   a) How much change does she receive?
      (R10 change in the morning)
   b) How much money will she have left when she returns home?
      (R0 when she gets home)

# LESSON 40: MONEY PROBLEMS

## Teacher's notes

**CAPS topics:** 1.2 Count forwards and backwards, 1.11 Money, 1.16 Mental mathematics.

**Lesson vocabulary:** Rands, cents, change, coins, bank notes, total, change, more, less.

**Prior knowledge:** Learners should have been taught how to:
- Recognise and identify the South African coins (10c, 20c, 50c, R1, R2, R5) and bank notes (R10, R20).
- Solve money problems involving totals and change to R20 and in cents up to 20c.

**Concepts:**
- Recognise and identify the South African coins (10c, 20c, 50c, R1, R2, R5) and bank notes (R10, R20, R50).
- Solve money problems involving totals and change in cents up to 50c or rands up to R50.

**Resources:** Paper money cut-outs (see Term 1 *Printable Resources*).

**DBE workbook activities relevant to this lesson:**
- DBE Worksheet 79 (pp. 30 and 31).

**Assessment:** Refer to the tracker for today's formal/informal oral, practical or written assessment activity.

**Remediation:** Give learners coins and notes to do the following activities. *I have the following in my purse.* (R2,20) *I want to pay a certain amount.* (R1,80) *What will be left?* (40c) Learners use coins to show their answers. Guide learners where they need to break down the coins.

**Enrichment:** See enrichment activity cards.

## 1. Mental maths

### 1.1 Counting (5 minutes)
- Count forwards and backwards in 5s from any given number between 0 and 180, e.g. 74, 69, 64, 59, …

### 1.2 Recall and strategies (10 minutes)

| | What is 5 more than: | Answer | | | What is 5 less than: | Answer |
|---|---|---|---|---|---|---|
| 1. | 45 | 50 | | 6. | 65 | 60 |
| 2. | 60 + 6 | 71 | | 7. | 30 + 9 | 34 |
| 3. | 50 + 9 | 64 | | 8. | 60 + 1 | 56 |
| 4. | 30 + 6 | 41 | | 9. | 30 + 8 | 33 |
| 5. | 70 + 0 | 75 | | 10. | 50 + 3 | 48 |

## 2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework.

## 3. Lesson content – concept development (30 minutes)

## Activity 1: Whole class activity

- Discuss this activity step-by-step with the class and draw the table on the board.
- 27 learners and 1 teacher go on a school trip to a nature reserve. The school pays R1,20 per person to enter the nature reserve. How much money is paid in total?
- *What is the key word? What is the question? What are the numbers?*
- Draw a picture to show the answer.
- 27 learners + 1 teacher = 28 people (each pay R1,20).
- Draw a table with 7 columns and 4 rows because it will have 28 blocks.
- To find the total amount paid you have to add all the R1, 20 amounts together.
  (There are different ways this could be done – discuss alternative methods if necessary.)

| R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 |
|-------|-------|-------|-------|-------|-------|-------|
| R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 |
| R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 |
| R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 | R1,20 |

Total: R33,60 (28 x R1,20 = R33,60)

## Activity 2: Whole class activity

- Ma Hewu buys 2 loaves of bread for her family each day. A loaf costs R5. How much money does she spend in 5 days?
- *What is the key word? What is the question? What are the numbers?*
- Write a number sentence. (R10 + R10 + R10 + R10 + R10 = R50)
- Ask the learners to make up other stories that involve spending repeated amounts. Write down the number sentence for each story and find the total amount spent.

## Activity 3: Whole class activity

- When Merry babysits, she charges R5 per hour for babysitting.
- Complete the table for her.
- Discuss the table with the class.

| Number of hours | 1 | 2 | 3 | 4 | 5 | 10 |
|-----------------|-----|------|------|------|------|------|
| Cost in rands | (5) | (10) | (15) | (20) | (25) | (50) |

**4.    Classwork activity (25 minutes) (See next page)**

**5.    Homework activity (5 minutes) (See next page)**

**6.    Reflection on lesson**

# Term 3 Lesson 40: Money problems

## Classwork

1. You have R10 for tuck. You buy a banana for R1,50 and sweets for R3.
   a) How much do you spend in total? (R4,50)
   b) How much change do you get? (R5,50)

2. Your friend asks to borrow R2,50.
   How much do you have left after you have given him the money? (R3)

3. There are 19 learners in your class. You go on a trip to Gold Reef City.
   The teacher gives each learner R2,50 to buy a badge.
   How much money does the teacher need? (R47,50)

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### Homework

1. You and your friend are planning to visit Pretoria Zoo. The entrance fee is R13,50 each.
   You also need R10 each for transport. How much do you need altogether? (R47,00)

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