

GRADE 2

Mathematics

Teacher Toolkit:
CAPS Aligned Lesson Plans

TERM 1

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). The FSS helped the DBE trial the NECT Maths, Science and language learning programmes so that they could be improved and used by many more teachers. NECT has already begun this scale-up process in its Provincialisation Programme. The FSS teachers remain part of the programme, and we encourage them to mentor and share their experience with other teachers.

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!

www.nect.org.za

CONTENTS

About the Lesson Plans and Resources	3
Lesson Plan Outline	6
Week 1 Revision Lesson Activities	9
Week 2	18
Lesson 1: Numbers up to 20	18
Lesson 2: Numbers 11 to 20	21
Lesson 3: Numbers 1 to 20 (place value)	24
Lesson 4: Numbers 1 to 25 (place value)	27
Week 3	30
Lesson 5: Numbers 20 to 25 (place value)	30
Lesson 6: Length	33
Lesson 7: Length	36
Lesson 8: Counting on and back: addition and subtraction	39
Week 4	42
Lesson 9: Number bonds and family facts to 20	42
Lesson 10: Building up and breaking down numbers	45
Lesson 11: Addition doubles: 1 to 20	48
Lesson 12: Near doubles	51
Week 5	54
Lesson 13: Mass – starting to understand kilograms	54
Lesson 14: Building through 10 and working in tens	57
Lesson 15: Tens and counting in tens	60
Lesson 16: Tens arrays	63
Week 6	66
Lesson 17: Tens sharing and grouping	66
Lesson 18: Number patterns: 10	69
Lesson 19: Patterns of 10	72
Lesson 20: Geometric patterns	75
Week 7	78
Lesson 21: Geometric patterns	78
Lesson 22: Data	81
Lesson 23: Data	84
Lesson 24: Data	87

Week 8	90
Lesson 25: 3-D objects	90
Lesson 26: Building with 3-D objects	93
Lesson 27: Fives and counting in fives	96
Lesson 28: Fives arrays	99
Week 9	102
Lesson 29: Fives sharing and grouping	102
Lesson 30: Number patters: 5	105
Lesson 31: Patterns of five	108
Lesson 32: Money	111
Week 10	114
Lesson 33: Money	114
Lesson 34: Twos and counting in twos	117
Lesson 35: Twos arrays	120
Lesson 36: Twos sharing and grouping	123
Week 11	126
Lesson 37: Number patterns: twos	126
Lesson 38: Patterns of two	129
Lesson 39: Time	132
Lesson 40: Time – Calendars	135

ABOUT THE LESSON PLANS AND RESOURCES

The lesson plans and resources in this book are part of the Teacher Toolkit for Mathematics Grade 2 Term 1. The other documents in the toolkit are:

- a CAPS aligned Planner, Tracker and Assessment Resources

A variety of printable resources that you can copy for yourself and/or your learners are included at the end of the lesson plans in this book. They include:

- 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.
- 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.
- 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 1 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	
<p>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.</p>	
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	<p>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.</p> <ul style="list-style-type: none"> You need to read through this section when you do your lesson preparation. No time is allocated to this part of the plan because it does not form part of the teaching of the day's lesson. 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. Remediation may be needed on prior knowledge that you notice is not properly in place.
Assessment	<p>A reminder to refer to the tracker for the formal oral, practical or written assessment activity for the day is given here.</p> <ul style="list-style-type: none"> On-going formal, 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. 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. 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. A <i>Suggested Assessment Record Sheet</i> that you can use to record your term marks is given in the tracker. This sheet aligns with the SA-SAMS.
Remediation	<p>Optional as required. You could use these activities to assist slower learners. 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.</p>

Lesson Plan Outline

Enrichment	<p>Optional as required. You could use these activities as extra work for fast learners or others interested in doing them.</p> <p>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 at the end of the lesson plan set. 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.</p> <p>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 if they have any.</p> <p>All learners who show an interest in the enrichment activities should be encouraged to work through the cards.</p>
Mental mathematics (15 minutes)	<p>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.</p> <p>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.</p> <ul style="list-style-type: none"> • 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. • The answers to the ten mental mathematics questions are given in the answer column in the lesson plans. • 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. <p>There is a mental mathematics challenge cards set at the end of the lesson plans. 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.</p>
Correction/reflection on homework (15 minutes)	<p>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.</p> <p>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.</p>
Lesson content – concept development (30 minutes)	<p>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.</p> <ul style="list-style-type: none"> • 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. • 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 <i>optional</i> – these need only be done if you have sufficient time.

Lesson Plan Outline

Classwork activity (25 minutes)	<p>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).</p> <ul style="list-style-type: none">• 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.• 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.• 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 (5 minutes)	<p>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.</p>
Reflection	<p>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.</p>

WEEK 1: REVISION LESSON ACTIVITIES

The lesson activities given below are for you to use on the first few days of school when the learners are still settling down and you are not quite ready to start the formal CAPS lesson plans that follow. These revision lesson activities will help you to keep learners occupied in a meaningful way at the beginning of the term and to make observation notes on their mathematical knowledge development. The observation notes that you make will inform your intervention strategies. It will also help you get to know the learners.

Activities are provided relating to eight CAPS topics. You do not need to use all of these activities.

- Choose the ones that you think would be best for your learners to work on in order to revise/recap on work done in the previous year.
- You can do it in the order of your choice.
- For some of the activities you need to work with your learners interactively while learners can do the others independently or in groups.

Keep a notebook where you write your observations on learners' knowledge.

The CAPS baseline framework

Criteria: Can the learner	Yes	No
Count objects up to 50 using groups of tens and units		
Read number symbols 1 to 100		
Compare a collection of objects up to 20		
Build and break numbers up to 20 into tens and units		
Solve word problems in context involving addition and subtraction up to 20 and use symbols +, - and =		
Add money to the total of 20c or R20		
Count in twos, fives and tens up to 100		
Identify odd and even numbers		
Solve problems using repeated addition up to 20 and use symbols +, - and =		
Solve practical problems involving equal sharing and grouping with whole numbers up to 20		
Identify, describe and name 3-D objects (balls and boxes)		
Sequence events		
Apply language of position		
Name the months of the year and place birthdays on a calendar		
Use measurement vocabulary		
Collect, sort, make a drawing of sorted object and answer questions on data		

Topic 1: Number concept

Concepts and skills for today

- Count out **50** objects reliably, saying the names in sequence.
- Complete number sequences of counting in ones back from 100.
- Read number symbol 1 to 100.
- Write number names 1 to 10.

Warm-up activity

Give the learners the opportunity to familiarise themselves with the Mathematics teaching and learning resources in your classroom by letting them play with some of them for about 10 minutes in their groups. These may include:

- Counting manipulatives such as base ten blocks, counters, stones, etc.
- Space and shape manipulatives such as shapes, blocks, cubes, etc.

Prepare some base ten blocks (see *Printable Resources*) for your learners to use when they count. These blocks will help them to structure their counting activities rather than count big numbers of unit counters in ones. While they work with the blocks, they could use the blocks to structure the unit counting of other objects. This will help consolidate the concept of place value.

- Ask 11 learners to come to the front of the class. Give them a number as they come up, from 0 to 10. They each write their number on the board, from 0 to 10. The numbers should be written in order.
- Write some random numbers between 0 and 100 on the board (e.g. 23, 45, 66, 70, 81, 95, etc.).
- Ask learners to read the number names.
- Ask learners to suggest other numbers between 0 and 100 for you to write on the board. Call on a different learner to suggest a number and another one to read the number each time.

Spend five minutes with your learners packing the learning resources away. Ask the learners why they think we should pack the learning resources away neatly and look after them well.

Activities

Give learners the DBE workbooks. Briefly share with them how we should take care of a book.

Activity	Can the learners	Observation
1. Give learners a variety of objects to count. They should each count several different sets of counters. Note if learners count in ones or tens.	• Count objects up to 50 using groups of tens and units?	
2. Ask learners to count the balloons in DBE worksheet 3 (p. 7) question 2 (the first four blocks only). Note that the last two examples go beyond the number range		
3. Ask learners to read the number symbols in question 1 (p. 6).	• Read the number symbols 1 to 100?	

Topic 2: Sorting shapes and patterns

Concepts and skills for today

- Count out **50** objects reliably, saying the names in sequence.
- Count forwards and backwards in ones up to 100.
- Using numbers in context.
- Compare collections of objects up to 20.
- Building and breaking numbers up to 20.
- Decompose numbers 11 to 20 into tens and units.

Warm-up activity

Allow learners to compare numbers and practice the vocabulary of comparison (greater than/smaller than; more than/less than; equal to/the same as):

- Ask five learners to stand up on the one side of the class and eight learners to stand up on the other side of the class.
- Ask questions such as:
 - **Are there more learners standing on the left-hand side of the class than on the right-hand side?** (left-hand side)
 - **How many learners are standing on the left-hand side?** (8)
 - **How many learners are standing on the right-hand side?** (5)
 - **Is 8 more or less than 5?** (more than)
- Try to actively involve all of the learners in the lesson in this way – ask various groups of learners to stand up and others to make comparisons between the groups that are standing.

Tell learners that yesterday they worked with numbers, and today they are going to look at numbers in their daily life. Do DBE worksheet 1 (p. 2) question 1 orally with your class. Ask the learners if they would like to use different ways to describe their friends. Discuss ways of describing friends that involve numbers (**My friend has 10 fingers, My friend has 2 legs**, etc.) and also talk about ways of describing friends that do not involve numbers. Talk about the difference between these descriptions.

Activities

Give learners the DBE workbooks. Briefly remind the learners how we should take care of a book.

Activity	Can the learners	Observation
1. Ask the learners to count the beads on the left in DBE worksheet 4 (p. 9) question 3. Note if learners count in ones or if they notice groups of ten and units and then count on from there: e.g. 10, 11, 12.	<ul style="list-style-type: none">• Count objects to 50?	
2. Ask the learners to point to 15 beads in question 3 (p. 9). Ask: Show me a group of beads less than/more than 15.	<ul style="list-style-type: none">• Compare a collection of objects?	
3. Match the beads with the number cards in question 3 (p. 9). Ask what numbers are represented, $10 + 2 = 12$. Ask the learners how they would write 12 using tens and units.	<ul style="list-style-type: none">• Build and break numbers up to 20 into tens and units?	

Topic 3: Addition and subtraction

Concepts and skills for today

- Know the days of the week.
- Add and subtract numbers up to 20.
- Use symbols +, – and =.
- Recognise South African coins and notes (R10 and R20).
- Identify coins that will add up to a given total.

Warm-up activity

Write the days of the week on the board. Have a class discussion in which you talk about activities the learners do on different days of the week.

- Ask questions such as:
 - **What day is it today? What did you do this morning? What will you do this afternoon?**
 - **What day is the first day of the school week? (Monday) What did you do on Monday?**
 - **What day is the last day of the school week? (Friday) What did you do on Friday?**
 - **Etc.**

Ask the learners to go to DBE worksheet 5 (p. 10) in the DBE workbook. Ask learners to look at the apples and make a story sum, e.g. **Mom bought a bag with 6 apples. Dad bought a bag with 7 apples. How many apples do we have?** Ask the learners to look at the second picture of apples and make a story sum, e.g. **Mom bought a bag with 13 apples and we ate 6. How many apples are left?** Tell learners that we use mathematics in everyday life. Let the learners give you a few examples of where they use mathematics every day.

Activities

Activity	Can the learners	Observation
1. Ask learners to make and solve story sums using each in question 1 in DBE worksheet 5 (p. 10).	<ul style="list-style-type: none">• Solve word problems in context involving addition and subtraction up to 20?	
2. Work through question 2 orally and then in their writing books. Discuss learners' answer, asking them how they did the calculations, e.g. counting on, building and breaking, using counters, fingers, number lines etc.	<ul style="list-style-type: none">• Add and subtract numbers up to 20?• Use symbols +, – and =?	
3. Have learners complete question 2 part 1 in DBE worksheet 6 (p. 13).	<ul style="list-style-type: none">• Recognise South African coins and notes?	
4. Have learners complete question 2 part 2 in DBE worksheet 6 (p. 13) (colouring-in activity).	<ul style="list-style-type: none">• Add money to the total of 20c or R20?	

Topic 4: Repeated addition and patterns

Concepts and skills for today

- Know the months of the year.
- Counting in twos, fives and tens up to 100.
- Identify odd and even numbers.
- Extend geometric and number patterns.
- Solve problems in context involving repeated addition up to 20.
- Use + and = in number sentences.

Warm-up activity

Draw a table with 12 columns on the board, one for each month, labelled according to the 12 months of the year. Have a class discussion in which you talk about activities the learners do in the different months of the year. Find out about the birthday months of the learners.

- Ask learners when their birthdays are.
- Tally up the number of birthdays per month in the table on the board.
- Ask: **What do you notice about the birthdays in our class?** (We have lots of birthdays in April/There are no birthdays in January, etc.)
- Use the birthday chart to guide you and ask questions like:
 - **How many more birthdays are there in (November) compared to (June)?**
 - **How many less birthdays are there in (February) than in (May)?**
 - **Which month has the least birthdays?**
 - **Which month has the most birthdays? etc.**

Ask learners to count the eyes, dots and patches in question 1 in DBE worksheet 2 (p. 4). Allow the learners who are struggling to count objects in a picture to use things such as counters/stones to help them count. Encourage them to count in groups rather than counting items one by one. Discuss the different types of groups they could use for counting. Counting in groups develops skills of mental arithmetic and it helps learners find progressive terms in a pattern.

Activities

Activity	Can the learners	Observation
1. Ask learners to colour the beads as they go in question 3, 4 and 5 in DBE worksheet 7 (p. 14).	<ul style="list-style-type: none">• Count in twos, fives and tens up to 100?	
2. Ask the learners to count in twos. Have the learners complete question 1 in DBE worksheet 4 (p. 8) on odd and even numbers.	<ul style="list-style-type: none">• Identify odd and even numbers?	
3. Ask the learners to make story sums with question 3 in DBE worksheet 5 (p. 10). E.g. I have 4 packets with 2 apples each. How many apples do I have?	<ul style="list-style-type: none">• Solve problems using repeated addition up to 20?• Use symbols + and =?	

Topic 5: Grouping, sharing and shapes

Concepts and skills for today

- Count in twos, fives and tens up to 100.
- Sort and name 2-D shapes (triangles, squares, rectangles, circles).
- Solve practical problems involving equal sharing and grouping with whole numbers.
- Use + and = in number sentences.

Warm-up activity

Find some old cardboard, and make your own packs with shapes. (Each pack should have **8** triangles, **16** squares, **10** rectangles and **4** circles.) Put the learners into groups, and give each group a pack of shapes. (If you are not able to prepare the pack with so many shapes, make sure each group gets at least two of each shape and use counters for the sharing activity.) Before starting the activity, talk to the learners about how to behave when they work in groups. Share the basic rules of group work with your learners.

- Ask learners to sort and then name the shapes. (triangles, squares, rectangles, circles)
- Ask learners to share the shapes/counters in different ways, such as:
 - **Share 8 triangles between two friends.** (Each person will get 4 triangles.)
 - **Share 8 triangles among four friends.** (Each person will get 2 triangles.)
 - **Share 4 circles among 4 friends.** (Each person will get 1 triangles.)
 - **Share 10 rectangles between 2 friends.** (Each person will get 5 triangles.) Etc.
- Make up more sharing questions for the groups.
- Discuss the solutions that the groups find – allow different individual learners to stand up and describe their sharing activity.

Activities

Activity	Can the learners	Observation
1. Ask learners to share the fruit equally in question 1, DBE worksheet 6 (p. 12). Ask them to make a story sum such as: Phindile and Simon bought 8 apples. They shared it equally between them. How many apples did each get?	<ul style="list-style-type: none"> • Solve practical problems involving equal sharing with whole numbers up to 20? 	
2. Ask the learners take their 16 squares and pack them into packets of twos (as if for a toy shop). Ask: How many packets of 2 can you make?	<ul style="list-style-type: none"> • Solve practical problems involving grouping with whole numbers up to 20? 	
3. Ask learners to make story sums with question 3 in DBE worksheet 5 (p. 11). E.g. I have 4 packets with 2 apples each. How many apples do I have?	<ul style="list-style-type: none"> • Solve problems using repeated addition up to 20? • Use symbols + and =? 	

Topic 6: Balls, boxes and position

Concepts and skills for today

- Sequence events.
- Identify, describe and name 3-D objects (balls and boxes).
- Apply language of position.

Warm-up activity

Have a discussion with your learners to find out how they would sequence some events. For example:

- Ask them what they do in the morning before they leave for school. Allow different individual learners to respond. Ask them to name at least four different things that they do. Discuss the order in which they do those things.
- Ask them what they do on a Sunday morning. Again ask them to name at least for different things. Discuss the order in which they do those things.
- Etc.

You need to prepare some balls and boxes for this activity. See DBE worksheet 9 (p. 18). You will allow the learners some time to run around and play with balls. They could kick or throw them to each other, into and around the boxes. Explain to the learners that there are rules that must be followed when they go outside to play games. Explain the rules and make sure that learners understand what is expected of them.

Activities

Activity	Can the learners:	Observation
1. Ask learners to circle the boxes in blue and the balls in red in DBE worksheet 9 (p. 18) question 1.	<ul style="list-style-type: none">• Identify balls and boxes?	
2. Ask the learners to describe boxes and balls in question 2 and 3 (p. 18 and 19) using words such as slide, roll, curved and straight edges.	<ul style="list-style-type: none">• Describe balls and boxes?	
3. Ask learners to look at the pictures in question 4 (p. 19) and use the given words to describe the position of the ball or box orally.	<ul style="list-style-type: none">• Apply language of position?	

Topic 7: Measurement

Concepts and skills for today

Use measurement vocabulary of length, mass and capacity:

- Length: *shorter, longer, higher, lower, shorter and taller.*
- Mass: *heavier and lighter.*
- Capacity: *full, empty, half, same and less.*

Warm-up activity

Prepare a collection of some objects for this lesson that you can use to talk about length, mass and capacity. For example, a large empty bottle and a small empty bottle; a large full bottle and a small full bottle; some books of different thickness and size; etc.

Place a few different objects on the tables of each group of learners. Ask the learners to show you some of the objects according to different criteria that you name. For example:

- **Show me a full bottle.**
- **Show me an empty bottle.**
- **Show me two books – one should be heavier and one lighter than the other.**
- **Please can two learners in your group stand up – one shorter and one taller than the other.**
- Etc.

Talk to learners, and ask them how they have used the DBE workbook so far. Ask how they have cared for their workbooks. Ask if they have shared some of their Mathematics activities with a family member.

Activities

Activity	Can the learners	Observation
1. Look at the pictures in questions 1 to 3 in DBE worksheet 10 (p. 20). Ask learners to use the words <i>shorter, longer, higher, lower, shorter and taller</i> to describe the pictures.	<ul style="list-style-type: none">• Use vocabulary related to length?	
2. Look at the pictures in questions 1 to 3 in DBE worksheet 11 (p. 22). Ask learners to use the words <i>heavier and lighter</i> to describe the pictures.	<ul style="list-style-type: none">• Use vocabulary related to mass?	
3. Look at the pictures in questions 1 and 4 in DBE worksheet 12 (p. 24). Ask learners to use the words <i>full, empty, half, same and less</i> to describe the pictures.	<ul style="list-style-type: none">• Use vocabulary related to capacity?	

Topic 8: Data handling

Concepts and skills for today

- Place birthdays on a calendar.
- Collect and sort objects.
- Make a drawing of sorted objects.
- Answer questions on sorted objects.

Warm-up activities

Refer to your class calendar (or draw a rough calendar for one month on the board – laid out as it would be in a calendar). Ask which learners have their birthdays in the month you have chosen. Ask each one who does to come to the front and put an X on the date of their birthday.

Draw a chart on the board to show the 12 months of the year. The chart should have 12 columns, one for each month.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

- Ask all the learners who have a birthday in January to raise their hands.
- Point to the class wall calendar to show the position of the birthday dates of each child (or at least some of them).
- Count the number of learners and write it above January.
- Do the same for each month of the year.
- Discuss the birthday data that you have recorded on the board. Ask questions such as:
 - **In which month are there the most birthdays?**
 - **In which month are there the least birthdays?**
 - **How many birthdays are there in March?** etc.

Let learners work in pairs. Before you do this activity, give learners rules on how to work together as partners. Ask the learners to look at the picture in DBE worksheet 15 (p. 30) and describe it to their partners. Encourage learners to use words such as *number, balls, colours (green, red, blue and yellow), the same, flowers, etc.*

Activities

Activity	Can the learners	Observation
1. Ask the learners to look at question 1 in DBE worksheet 15 (p. 30). Ask them how they think they could sort the balls shown in the picture. Discuss the different suggestions they give.	<ul style="list-style-type: none"> • Collect and sort objects where the sorting criteria are given? 	
2. Ask the learners to look at questions 1 to 3 in DBE worksheet 16 (p. 32). Ask the learners to sort the objects and to draw them. Discuss the ways the learners chose to sort the objects.	<ul style="list-style-type: none"> • Collect and sort objects where the sorting criteria are not given? • Make a drawing of sorted objects? 	
3. Do question 4 orally with your learners.	<ul style="list-style-type: none"> • Answer data questions? 	

WEEK 2

LESSON 1: NUMBERS UP TO 20

Teacher's notes

CAPS topics: 1.1 Count objects 1.3 Number symbols and number names

Lesson vocabulary: Number names, number symbols, whole numbers, forwards, backwards, greatest, smallest, smaller than and greater than

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Count forwards and backwards from 0 to 100.
- Recognise and read number symbols 1 to 100.
- Write number symbols 1 to 20.

Concepts:

- Recognise, identify, read and write number symbols 0 to 20.
- Recognise, identify, read and write number names 0 to 25.
- Order and compare whole numbers up to 25, from greatest to smallest and smallest to greatest.

Resources: Counters, 1–100 number board (see *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: Ask learners who need additional support to come and sit on the carpet. Ask them to count themselves. Then ask them to form the number symbol using their own bodies, e.g. three learners can make the symbol three as a group. If the group is big, subdivide them into a number of groups, and repeat the activity.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 1 to 25; count backwards from 25 to 1.
- Count onwards from a given number 0 to 25, e.g. 12, 18, 2.

1.2 Recall and strategies (10 minutes)

What are next two numbers after...?

		Answer			Answer
1.	7, 8, 9...	10, 11	6.	3, 4...	5, 6
2.	11, 12, 13...	14, 15	7.	25, 24, 23...	22, 21
3.	20, 19, 18...	17, 16	8.	14, 15...	16, 17
4.	8, 7, 6...	5, 4	9.	12, 11, 10...	9, 8
5.	21, 22, 23...	24, 25	10.	19...	20, 21

2. Correction/reflection on homework (15 minutes)

Use a few minutes to explain to learners what is expected when they get homework.

3. Lesson content – concept development (30 minutes)

Activity 1: Learners work in pairs

- Give each pair of learners 20 counters.
- Ask learners to make a group of **five** counters. Then ask one learner to make a group of *more than five* counters.
- Ask another learner to make a group of *less than five* counters.
- Write the number symbol and the number name on the board as learners are making these groups.
- Repeat the activity using **fourteen** objects, and only write the number symbol on the board.

Activity 2: Whole class activity

- Write number symbols 0 to 20 and number names one to ten on the board.
- Ask learners to show the number 1.
- Ask the learners to find the number name for 1 on the board.
- Do the same with numbers 2 to 20.
- Ask the learners to show any number between 0 and 10 on the number board. Ask these numbers randomly.
- Ask the learners to show any number between 11 and 20 on the number board. Ask these numbers randomly.
- Ask the learners to identify which number is smaller and which is greater.
- For example: **Which of these numbers is smaller than 14 – 6/12/20/1/15?**
- Probe learners' answers when they make a mistake.
- Ask questions such as: **Why do you think it is smaller than...?**
- **Is the number made of tens and units? How many tens and how many units?**
- **Think again about your answer ... which is the smaller number...?**
- **Which of these numbers is greater than 14 – 12/2/19/3/9?**
- Probe learners' answers when they make a mistake.
- Ask questions such as: **Why do you think it is greater than...?**
- **Is the number made of tens and units? How many tens and how many units?**
- **Think again about your answer ... which is the bigger number...?**
- Do this activity using different pairs of numbers.

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

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

6. Reflection on lesson

Term 1 Lesson 1: Numbers up to 20

Classwork

- Write the following as numbers:
 - five (5)
 - ten (10)
 - six (6)
 - two (2)
- Write 17 as a number name. (seventeen)
- Which number is smaller? 18 or 13 (13)
- Which number is greater? 11 or 17 (17)
- Write the numbers in the correct order starting with the smallest number. 15, 12, 14, 11, 13
(11, 12, 13, 14, 15)

Homework

- Write eight as a number symbol. (8)
- Write 14 as a number name. (fourteen)
- Which number is smaller? 20 or 12 (12)
- Write the numbers in the correct order starting with the greatest number. 15, 12, 14, 11, 13
(15, 14, 13, 12, 11)

LESSON 2: NUMBERS 11 TO 20

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, compare and order numbers 1.16 Mental mathematics

Lesson vocabulary: Forwards, backwards, more than, greater than, greatest, less than, equal to, smaller than, smallest

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise and read number symbols 1 to 100.
- Write number symbols 1 to 20.
- Describe, compare and order up to 20 objects and numbers to 20.

Concepts:

- Recognise, identify, read and write number symbols 0 to 20 and number names zero to twenty-five.
- 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, 1–100 number board (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 17 (pp. 34 and 35)

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

Remediation: Give learners the counters and ask them how they will count 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20 (starting from 10). Ask learners to lay out each number using the counters. Ask questions, e.g. **Which number is bigger, 11 or 13?**

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 1 to 31.
- Count backwards in ones from 31 to 1.

1.2 Recall and strategies (10 minutes)

Which number is smaller: ... or...?

		Answer
1.	9 or 12	9
2.	12 or 13	12
3.	20 or 21	20
4.	25 or 28	25
5.	16 or 17	16

		Answer
6.	33 or 31	31
7.	35 or 33	33
8.	29 or 25	25
9.	27 or 30	27
10.	29 or 19	19

2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work/homework – identifying, reading and writing number symbols from 0 to 20.

3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

- Write number symbols and number names 11 to 20 on the board.
- Write the numbers 11 to 20 in the air.
- Ask learners to show the number 11 using counters.
- Show the number by putting 10 counters in one row and one counter next to it.
- Explain that the number 11 is made of 10 plus 1.
- Ask the learners to find the number name for 11 on the board.
- Do the same with numbers 12 to 20.
- Each time display the number with the counters grouped into tens and units and explain the importance of knowing the place value breakdown of the number into tens and units.
- For example: 16 is made of 1 ten and 6 units. Ask learners to tell you how the numbers are made up.
- Point to the digits in their places so that learners start to learn about place value right from the beginning.

Activity 2: Whole class activity

- Extension – counting beyond 20.
- Ask learners to show the numbers 21, 22, 23, 24, 25, 26, 27, 28, 29 and 30 on the number board by pointing. Ask these numbers randomly.
- Ask learners to show a number less/greater than another number. For example: **Show me a number that is less/greater than 27 ...** (any correct answers should be accepted).
- If learners give incorrect answers probe to check why an incorrect number was chosen by asking, **Why did you say so? How do you know it was less/greater than ...?**
- Ask the learners to show the numbers 31, 32, 33, 34, 35, 36, 37, 38, 39 and 40 on the number board. Ask these numbers randomly.
- Discuss correct/incorrect answers given by learners in the same way that you did above.

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

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

6. Reflection on lesson

Term 1 Lesson 2: Numbers 11 to 20

Classwork

- Write the following as number symbols:
 - seventeen (17)
 - eleven (11)
 - nineteen (19)
 - sixteen (16)
- Write 12 as a number name. (twelve)
- Which number is one more than 15? (16)
- Which number is one less than 19? (18)
- Which number is equal to 13? (13)
- What number is between:
 - 3 and 5 (4)
 - 18 and 20 (19)
- What number comes after 10? (11)
- What number comes before 15? (14)

Homework

- Write the following as number symbols:
 - fifteen (15)
 - thirteen (13)
- Write the number names for the following numbers:
 - 18 (eighteen)
 - 14 (fourteen)
- Write down the number that is:
 - 1 more than 18 (19)
 - 1 less than 14 (13)
- Write down the number that is equal to 17. (17)

LESSON 3: NUMBERS 1 TO 20 (PLACE VALUE)

Teacher's notes

CAPS topics: 1.1 Count objects 1.16 Mental mathematics 1.5 Place value 1.4 Describe, compare and order numbers

Lesson vocabulary: Number, more, less, estimate, before, after, digit, units, tens, between, place value

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise the place value of numbers 11 to 19.
- Describe, compare and order up to 20 objects and numbers to 20 and say which is more or less.

Concepts:

- Recognise place value of two-digit numbers to 20, and know what each digit represents.
- Decompose two-digit numbers into multiples of tens and ones/units and state the value of each digit.

Resources: Base 10 blocks, flard cards (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 18 (p. 36) Questions 1 to 3

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

Remediation: Use Unifix cubes to build up to a group of 13. Demonstrate how you take out a group of ten to make a base 10 block. Use this block to make up the numbers 11 to 19. Now ask the learners to show you the following numbers using or Unifix cubes: 11, 12, 13, 14, 15, 16, 17, 18 and 19. Ask the learners what they will do with their Unifix cubes to make them one more or one less. Ask the learners what number comes before 12 and what number comes after 12.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

Count forwards and backwards in ones between 31 and 51.

1.2 Recall and strategies (10 minutes)

Which number is 1 more than number...?

		Answer
1.	9	10
2.	12	13
3.	30	31
4.	44	45
5.	35	36

		Answer
6.	30	31
7.	34	35
8.	49	50
9.	37	38
10.	39	40

2. Correction/reflection on homework (15 minutes)

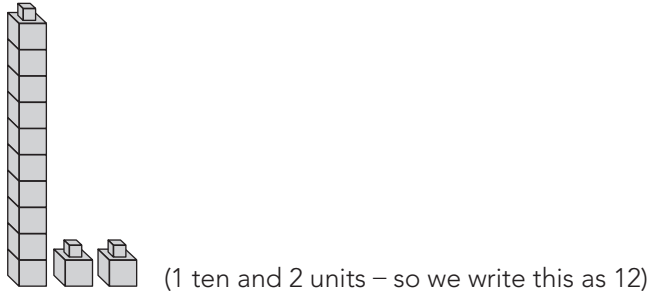
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

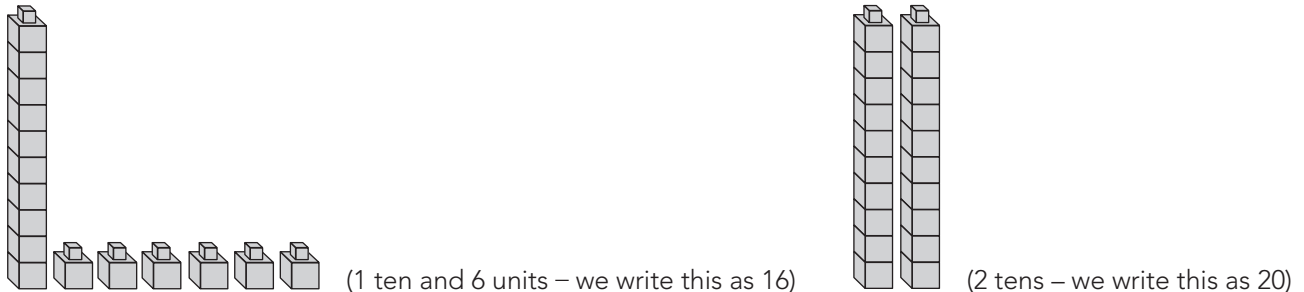
Activity 1: Whole class activity

Write the numbers 10 to 20 on the board.

- Ask the learners to show **10**, then **11** using a base 10 block and using ones/units. For example, 12 is one ten and 2 ones/units.
- This is what the display of 12 looks like using base ten blocks:



- Ask the learners to show you each number up to 20 using a base 10 block and ones/units.
- This is what the display of 16 looks like using base ten blocks:



- Now revise number concept by comparing numbers – using the words *between*, *more than* and *less than*. This will also consolidate the concept and terminology of comparison.
- Ask the learners to show you which number is *between 14* and *16* using a base 10 block and ones/units. Repeat using different numbers.
- Ask the learners to show you which number is *one/two less than 17*. Repeat using different numbers.
- Ask learners to show you which number is *one/two more than 13*. Repeat using different numbers.

Activity 2: Learners work in pairs

- Write the following numbers on the board: 11, 18, 20, 15, 13 (etc. numbers up to 20).
- Ask learners in their pairs to show you these numbers using flard cards. Ensure that the cards are being used correctly (tens and ones).



- The 10 card and the 1 card can be used to show the number 11. If you overlap the units you see the number 11 as it should be written.



- Ask the learners to tell you what number they are showing (e.g. 11) and then to tell you the value of the number in tens and units. (e.g. 11 is 1 ten and 1 unit).
- Do this with all of the numbers from 11 to 20 using flard cards and calling on different learners to show you their number displays and tell you (using place value language of tens and units) what they are showing you each time.

4. **Classwork activity (25 minutes) (See next page)**
5. **Homework activity (5 minutes) (See next page)**
6. **Reflection on lesson**

Term 1 Lesson 3: Numbers 1 to 20 (place value)

In this activity learners are asked to draw objects to show a number, use flard cards to show numbers and also to write numbers using number symbols. All of these activities are aimed at consolidating number concept (of 2-digit numbers) and how to write these numbers correctly. This is the goal – to understand place value up to 2-digit numbers and to be able to write these numbers using symbols correctly.

Classwork

1. Draw objects for the number 12, showing tens and units.
○○○○○○○○○○○○
○○ (1 ten and 2 units)
2. Show the number 12 with flard cards. ($10 + 2$)
3. Show the number 13 with flard cards. ($10 + 3$)
4. What is one more than 11? (12)
5. What is one less than 17? (16)
6. Fill in the missing number: $17 = 10 + _$ (7)
7. Look at the following: $18 = 1 \text{ ten and } 8 \text{ units}$ OR $10 + 8 = 18$
8. Now complete:
 - a) $15 = _ (1) \text{ ten} + _ (5) \text{ units}$ OR $_ (10) + _ (5) = 15$
 - b) $21 = _ (2) \text{ tens} + _ (1) \text{ unit}$ OR $_ (20) + _ (1) = 21$

Homework

1. Draw a picture of the number 15, showing tens and units.
○○○○○○○○○○○○
○○○○○ (1 ten and 5 units)
2. What is: 2 more than 17? (19)
3. What is: 2 less than 16? (14)
4. Complete the following:
 - a) $10 + 3 = _$ (13)
 - b) $_ (10) + 6 = 16$

LESSON 4: NUMBERS 1 TO 25 (PLACE VALUE)

Teacher's notes

CAPS topics: 1.1 Count objects 1.16 Mental mathematics 1.4 Describe, compare and order numbers 1.5 Place value

Lesson vocabulary: Tens, units, digits, biggest, smallest, more, less, after, estimate, add, subtract, equal to, place value

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise the place value of numbers 11 to 19.
- Describe, compare and order up to 20 objects and numbers to 20 and say which is more or less.

Concepts:

- Order and compare whole numbers from smallest to greatest/greatest to smallest and using *smaller than/greater than/more than/less than* and *is equal to*.
- Recognise the place value of at least two-digit numbers to 25 and know what each digit represents.
- Decompose two-digit numbers into multiples of tens and ones/units and state the value of each digit.

Resources: Unifix cubes, flard cards (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 19 (pp. 38 and 39)

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

Remediation: Ask the learners to show you the following numbers using Unifix cubes, 20, 21, 22, 23, 24 and 25. Ask the learners to break these into base 10 blocks and cubes, e.g. $22 = 10 + 10 + 2$. Do this for each of the numbers.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 43 to 73.
- Count backwards in ones from 73 to 43.

1.2 Recall and strategies (10 minutes)

What are the next two numbers after...?

		Answer
1.	35	36, 37
2.	22	23, 24
3.	15	16, 17
4.	44	45, 46
5.	50	51, 52

		Answer
6.	3	4, 5
7.	66	67, 68
8.	71	72, 73
9.	60	61, 62
10.	19	20, 21

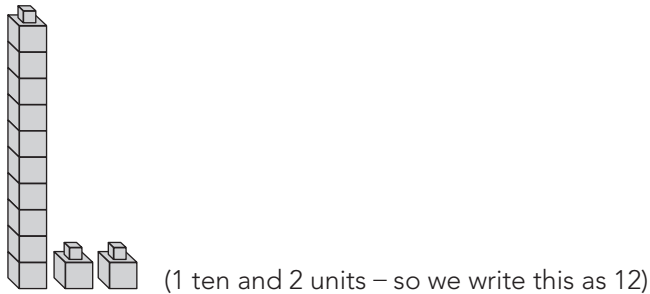
2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

- Have the Unifix cubes and flard cards ready to give to the class. This activity should be brief – it allows a recap of the previous lessons on place value.
- Start the lesson by recapping how to recognise the place value of two-digit numbers to 20 and knowing what each digit represents. Recap the following:
 - Single-digit numbers represent different numbers of units.
 - Two-digit numbers represent numbers that have tens and units.
 - The digit on the right is in the units place and shows the number of units.
 - The digit on the left is in the tens place and shows the number of tens.
- Using the Unifix cubes, demonstrate 12, 15 and 19.



- Using the flard cards, show 13, 17 and 20, e.g. $13 = 10 + 3 = 13$



Activity 2: Whole class activity

- Write the numbers 16 to 25 on the board. This activity extends the numbers to 22 and it is the main activity of the lesson.
- Discuss with learners what makes one number bigger than another. (Check the tens and the units digits – the number with the highest number of tens and units is the biggest number.)
- For example, compare the numbers 15 and 25. Ask: **Which is bigger and why?** (25 is bigger by 10 – it has 2 tens and 5 units while 15 has 1 ten and 5 units.)
- Discuss with learners what makes one number smaller than another. (Check the tens and the units digits – the number with the lowest number of tens and units is the smallest number.)
- For example, compare the numbers 12 and 22. Ask: **Which is smaller and why?** (12 is smaller by 10 – it has 1 ten and 2 units while 22 has 2 tens and 2 units.)
- Ask the learners to show 19, 23 and 25 first with their base ten blocks and then their flard cards.
- Ask the learners which is the biggest number. (25)
- Repeat using other numbers from 0–25.
- Ask the learners which is the smallest number. (19)
- Repeat using other numbers from 0–25.
- Ask the learners to show you which number is one less than 23. Repeat using different numbers.
- Ask the learners to show you which number is one more than 21. Repeat using different numbers.

4. **Classwork activity (25 minutes) (See next page)**
5. **Homework activity (5 minutes) (See next page)**
6. **Reflection on lesson**

Term 1 Lesson 4: Numbers 1 to 25 (place value)

This activity gives further consolidation. The number line in Question 6 is an opportunity for learners to show you whether or not they are able to show numbers on a number line. You will revise number lines with the whole class in coming lessons.

Classwork

1. Draw objects for the number 23, showing tens and units.

○ ○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ (2 tens and 3 units)

2. Show the number 21 with flard cards. ($20 + 1$)

3. What is one more than 19? (20)

4. What is one less than 24? (23)

5. Fill in the missing number:

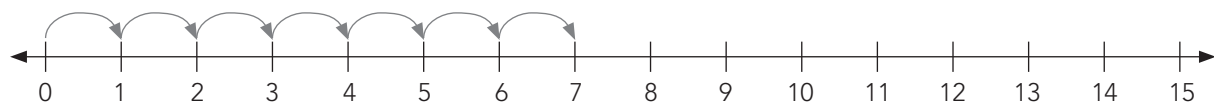
a) $22 = 20 + _$ (2)

b) $20 = 20 + _$ (0)

c) $24 = 20 + _$ (4)

d) $26 = 20 + _$ (6)

6. Draw a number line like this from 0 to 15. Start at 0 and do 7 jumps along the line. Where do you land? (7)



Homework

1. Draw a picture of the number 25, showing tens and units.

○ ○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ (2 tens and 5 units)

2. What is: 2 more than 21? (23)

3. What is: 2 less than 21? (19)

4. Complete the following:

a) $20 + 3 = _$ (23)

b) $_$ (23) $+ 2 = 25$

WEEK 3

LESSON 5: NUMBERS 20 TO 25 (PLACE VALUE)

Teacher's notes

CAPS topics: 1.1 Count objects 1.16 Mental mathematics 1.4 Describe, compare and order numbers 1.5 Place value

Lesson vocabulary: Decompose, two-digit numbers, multiples, more, less, between, value, place value, units, tens, ones

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise the place value of numbers 11 to 19.
- Describe, compare and order objects and numbers from 0 to 20 and say which is more or less.

Concepts:

- Order and compare whole numbers using *smaller than/greater than*, *more than/less than* and *is equal to*.
- Decompose two-digit numbers into multiples of tens and ones/units and state the value of each digit.

Resources: Flard cards, number lines (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 18 (p. 37)

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

Remediation: Ask the learners to show you the following numbers using Unifix cubes, 17, 18, 19, 20, 21, 22, 23, 24 and 25. Ensure that each learner can break the numbers down into the correct base 10 and ones/units.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 9 to 39.
- Count backwards in ones from 39 to 9.

1.2 Recall and strategies (10 minutes)

Give the number between...and...

		Answer
1.	12 and 14	13
2.	2 and 4	3
3.	23 and 25	24
4.	15 and 17	16
5.	14 and 12	13

		Answer
6.	9 and 11	10
7.	20 and 22	21
8.	21 and 19	20
9.	13 and 11	12
10.	19 and 17	18

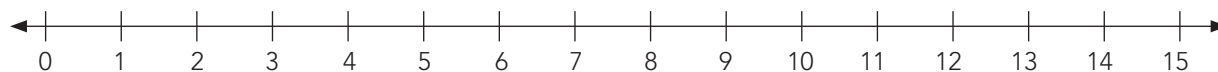
2. Correction/reflection on homework (15 minutes)

Learners had no homework, but reflection/remediation based on previous day's work must be done.

3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

- Draw a 0–15 number line on the board.



- Discuss the spaces between numbers (they must be equal), the labels on the number line (they are consecutive units from 0 to 15).
- Ask different learners to come to the board to show you different pairs of numbers and talk about how their position on the number line shows which number is bigger and which number is smaller.
- For example: **Show me the numbers 6 and 13 on the number line. Which number is bigger? How do you know?** (13 is bigger, it has 1 ten and 3 units, it is to the right of 6 on the number line.)
- Draw a blank number line on the board that you can label from 15 to 25 together with the learners.



- Ask the learners to show you the number *between* 21 and 23. Repeat using different numbers.
- Ask the learners to show you which number is *one/two less than* 22. Repeat using different numbers.
- Ask learners to show you which number is *one/two more than* 20. Repeat using different numbers.

Activity 2: Learners work in pairs

- Write the following numbers on the board: 20, 17, 15, 25 and 22.
- Ask the learners in pairs to show you the numbers on the board using flard cards. It is important that they use the flard cards correctly (tens and then units/ones).
- Allow the learners (in their pairs) to use flard cards to show each other any of the numbers between 20 and 25. Each time they display a number they must talk about how it is made up of tens and units to each other.

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

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

6. Reflection on lesson

Term 1 Lesson 5: Numbers 20 to 25 (place value)

Classwork

1. Draw objects for the number 24, showing tens and units.

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ (2 tens and 4 units)

2. Show the number 21 with flard cards. ($20 + 1$)

3. What is one more than 24? (25)

4. What is one less than 25? (24)

5. Fill in the missing number.

a) $22 = 20 + \underline{\quad}$ (2)

b) $24 = 20 + \underline{\quad}$ (4)

c) $16 = 10 + \underline{\quad}$ (6)

d) $18 = 21 - \underline{\quad}$ (3)

6. Write as number names:

a) 10 (ten)

b) 18 (eighteen)

c) 15 (fifteen)

d) 21 (twenty one)

e) 23 (twenty three)

Homework

1. Draw objects for the number 21, showing tens and units

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

○ (2 tens and 1 unit)

2. What is: 2 more than 20? (22)

3. What is: 2 less than 24? (22)

4. Complete the following:

a) $20 + 1 = \underline{\quad}$ (21)

b) $\underline{\quad}$ (20) + 5 = 25

LESSON 6: LENGTH

Teacher's notes

CAPS topics: 1.1 Count objects 1.16 Mental mathematics 4.2 Length

Lesson vocabulary: Length, width, measure, metres, compare, estimate, order, record, forwards, backwards, metres, standard unit, non-standard unit, shortest, longest, rectangle, index finger

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Estimate, measure, compare, order and record length using non-standardised measures, e.g. hand spans, steps, pencil lengths, counters, etc.

Concepts:

- Estimate, measure, compare, order and record length using non-standardised measures, e.g. hand spans, paces, pencil length, counters, etc. as part of informal measuring.
- Introduce how to estimate, measure, compare, order and record length using metres as the standardised unit of length as a part of formal measuring.

Resources: Paper, scissors, pencils, sticks, counters, a metre stick

DBE workbook activities relevant to this lesson:

- DBE worksheet 10 (p. 20)

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

Remediation: Learners use their cut-out hands to measure the length of the following objects in the class: the length of your desk, the length of the carpet/floor and the width of the door. It is important that the learners use the same hand when measuring the objects.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 21 to 61.
- Count backwards in ones from 61 to 21.

1.2 Recall and strategies (10 minutes)

Which number is between...and...?

		Answer
1.	21 and 23	22
2.	34 and 36	35
3.	38 and 40	39
4.	55 and 57	56
5.	59 and 61	60

		Answer
6.	44 and 46	45
7.	19 and 21	20
8.	56 and 54	55
9.	31 and 29	30
10.	53 and 55	54

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 recaps some of the terminology of length that was introduced in Grade 1 and it gives learners another opportunity to work with non-standard units in order to realise the value of using standard units for length. This is done by opening up a discussion about the problem of everyone using a different unit to measure length. (The standard unit is not yet introduced. This will be done in the next lesson.)

Activity 1: Whole class activity

- Introduce your learners to today's topic – how to estimate, measure and compare objects by measuring their length using hands, pencils and counters.
- Ask your learners to do each of these activities:
 - Trace their hand on a piece of paper and then to cut out their drawing. Each learner must then compare their hand with their friend's hand. **Is it the same?**
 - Measure the length of their desk with their cut-out hand and then talk to a partner about how many hands long their desks were.
- Call up two learners. Ask each learner to take one step. Each learner should take one step and then measure the length of their steps using sticks – use a different stick for each step. Break the sticks to show the correct length of each of the two learners' steps. Compare the length of the sticks. **Are they the same? If not, why not?**
- Call up two different learners to measure the length of the classroom using the two sticks you have made as step lengths. (Remember that there should be no gaps between the sticks when you measure.)
- Compare the lengths of the classroom that have been measured using the sticks. The class can help count the stick lengths while the learners who have been called up do the activity. The class can also check that the learners are not leaving any gaps when they mark off one stick at a time, back-to-back. (One learner will find that the classroom is, possibly, 16 sticks long while another may say 14 sticks long; this is because of the different stick lengths.)
- Now ask the learners what could be done to solve the problem of having lots of different results? **How can we avoid the confusion caused by having all these different measurements?**
- Explain that when we measure things in life, e.g. when Mom buys material for curtains or pieces of wood for building, we use metres.
- Show the learners a metre stick, and explain that we need a standardised unit to measure with, because people's hands/feet, etc. are not the same size.
- Therefore we use standardised measuring units.

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

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

6. Reflection on lesson

Term 1 Lesson 6: Length

Classwork

1. Which line is shorter?
a) _____ or b) _____ (a)
2. Which line is longer?
a) _____ or b) _____ (b)
3. Draw a rectangle, and measure the sides using your index finger. (Learner answers will vary.)
4. Use a pencil to measure the width of the window frame in the classroom. (various)
5. Use your hand span to measure the length of your desk. (various)
6. Use your step (one foot in front of the other, with no spaces in between) to measure how many steps it takes to walk around the classroom. (various)

Homework

(Learner answers will vary for this activity.)

1. Draw a picture of you and your friend.
2. Say whether she or he is taller or shorter than you.

LESSON 7: LENGTH

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 4.2 Length

Lesson vocabulary: Length, informal measurement, informal units, compare, order, record, metres, standardised unit, value, longer, shorter, taller, wider

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Estimate, measure, compare, order and record length using non-standardised measures e.g. hand spans, paces, pencil lengths, counters, etc.

Concepts:

- Estimate, measure, compare, order and record length using non-standardised measures.
- Describe the length of objects by counting and stating how many informal units long they are, using language to talk about the comparison e.g. *shorter, longer, taller* and *wider*.
- Introduce how to estimate, measure, compare, order and record length using metres as the standardised unit of length as a part of formal measuring.

Resources: Collect empty matchboxes before the lesson, a broom, a metre stick

DBE workbook activities relevant to this lesson:

- DBE worksheet 10 3 to 5 (p. 21)

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

Remediation: Measure the width, length and height of objects with a matchbox versus a broom. Ask the learners what they would use to measure the following and why: the **length** of their Mathematics books, the **length** of your desk, the **height** of the door, the **length** of their pencil cases and the **height** of their friends.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

Count forwards in ones from 33 to 71. Count backwards in ones from 71 to 33.

1.2 Recall and strategies (10 minutes)

Break down into smaller numbers, but with the same total value:

		Answer
1.	10	5, 5
2.	20	10, 10
3.	35	10, 10, 10, 5
4.	12	3, 3, 3, 3
5.	50	10, 10, 10, 10, 10

		Answer
6.	24	10, 10, 4
7.	28	10, 10, 8
8.	44	20, 20, 4
9.	15	5, 5, 5
10.	6	2, 2, 2

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 in groups

- Explain the concepts of width and height to the learners using a desk as a concrete aid.
- The *width* of the desk is the measurement across the shorter length across the desk.
- The *height* of the desk is the measurement from the ground up to the top of the desk.
- Give each group of learners some empty matchboxes.
- Ask the learners to measure the *height* of their desks with a matchbox.
- Ask the learners to measure the *width* of their desks with a matchbox.
- Discuss the measurements found by a few different groups.
- Ask: **Are the measurements the same/different? Why?** (The measurements should be roughly the same because learners are all using the same unit – a matchbox.)
- Ask: **Do you think we could use matchboxes all the time to measure lengths?** (No, because they are clumsy to work with and even if we all used the same matchboxes, not all matchboxes are the same and if everyone used matchboxes to measure, there would be different measurements for the same length which is no good.)
- Ask the learners what they would rather use to measure the *width* of the classroom: a matchbox or a broom? Why? (A matchbox is too small, it would not be a good unit to measure a thing as long as the width of the classroom. A broom would be better. But a broom is still not a standard unit and could lead to the same problems of inconsistency in measurement as the matchbox did for the shorter lengths.)
- Discuss the value of standard units such as the centimetre and metre.
- Discuss the differences between the centimetre and metre – the one is a smaller unit and the other is a bigger unit. They can be efficiently used to measure different lengths. For example: The centimetre would be used to measure the width of the desk and the metre would be used to measure the width of the classroom.
- The next activity introduces the metre.

Activity 2: Whole class activity

- Discuss with learners the standard measurement of a metre.
- Illustrate with a metre stick.
- Ask learners to choose the objects they think should be measured in *metres*, e.g. the *height* of the door.
- Measure these objects, but before you do this, ask learners to estimate how many *metres* the object or distance will be, e.g. the *height* of the door or the *length* of the classroom.
- Discuss with the class the differences between the estimates and the actual measurements.

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

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

6. Reflection on lesson

Term 1 Lesson 7: Length

This activity gives learners the opportunity to estimate and measure lengths in metres. It is very important that they do both – estimate and measure. This will help them get to know what the basic length of a metre is. Explain to learners that ideally they should be able to make fairly accurate estimates – this will show that they know what the basic length of a metre is. They need to know the basic length of a metre well and be able to make good estimates of lengths in metres.

If you do not have old newspapers or magazines to use in Questions 7 and 8 of this activity, learners could draw these things instead.

Classwork

1. When you measure the length of the classroom, will it be *more than 1 metre* or *less than 1 metre* in length? (more)
2. When you measure the width of the teacher's table, will it be *more than 1 metre* or *less than 1 metre* in length? (This will depend on the type of table, normally less.)
3. When you measure the height of your table from the floor, will it be *more than 1 metre* or *less than 1 metre* in length? (less)
4. When you measure the height of the door, will it be *more than 1 metre* or *less than 1 metre* in length? (more)
5. Make a drawing of something in the classroom that is 1 metre long.
6. Write down the names of five objects in the classroom that are shorter than a metre. (e.g. a pencil, ruler)
7. Select and cut out two pictures from old magazines or newspapers of things that you estimate to be more than a metre in length. Stick the pictures in your Mathematics book. (various – check that pictures chosen are appropriate.)
8. Select and cut out two pictures from old magazines or newspapers of things that you estimate to be less than a metre in length. Stick the pictures in your Mathematics book. (various – check that pictures chosen are appropriate.)

Homework

1. When you measure the length of your bed will it be: 1 metre/less than 1 metre/more than 1 metre? (Learner answers will vary.)
2. Make a drawing of an object in your kitchen that is 1 metre long.
3. Write down the names of 2 objects in your bathroom that are shorter than 1 metre. (various, e.g. a face cloth)
4. Write down the names of 2 objects in your yard that are longer than 1 metre. (various)

LESSON 8: COUNTING ON AND BACK: ADDITION AND SUBTRACTION

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.12 Techniques – methods or strategies, 1.13 Addition and subtraction

Lesson vocabulary: Addition, subtraction, solve, word problems, symbols

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures and number lines when solving and explaining problems and performing calculations.
- Add and subtract up to 20 as well as use the appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20 and using appropriate symbols (+, -, =, □)
- When solving problems, the learners may use drawings, concrete apparatus and number lines.

Resources: Counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 20 (pp. 40 and 41)
- DBE worksheet 23b (pp. 48 and 49)

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

Remediation: Ask the learners to use counters to answer the question: **What is 5 + 2?** Learners will start at one and count to five and then continue counting to seven. Do the same with 7 + 5 and 11 + 4. Ask the learners: **What is 8-2?** Learners can also start at the bigger number, which is eight, and count back two steps to six. Repeat using 10-5 and 12-3.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 0 to 40.
- Count backwards in ones from 40 to 0.

1.2 Recall and strategies (10 minutes)

Which is more: ...or...?

		Answer
1.	12 or 21	21
2.	31 or 13	31
3.	25 or 24	25
4.	35 or 37	37
5.	40 or 30	40

		Answer
6.	9 or 11	11
7.	23 or 34	34
8.	31 or 13	31
9.	39 or 29	39
10.	17 or 19	19

2. Correction/reflection on homework (15 minutes)

Reflection/remediation based on previous day's work.

3. Lesson content – concept development (30 minutes)

This activity consolidates and extends the concepts of addition and subtraction using counters and number lines. The first activity using counters (concrete) leads into the next activity in which number lines (semi-concrete) are used.

Activity 1: Learners work in groups of four

- Give each group of learners 20 counters.
- Ask the learners to count out **seven** counters and to add 3 more counters by counting on from seven. They should count eight, nine, ten.
- This shows that $7 + 3 = 10$. Write the number sentence on the board.
- Ask the learners to count out **6** counters and to add 8 more counters by counting on from six. Add them together as a class. If they add by counting on from six, they will count 7, 8, 9, 10, 11, 12, 13, 14.
- This shows that $6 + 8 = 14$. Write the number sentence on the board.
- Ask the learners to demonstrate: $18 - 11$ by counting out 18 counters and then counting back, by taking away one counter at a time, 11 counters. How many counters are left? (7)
- Ask the learners to use counters to demonstrate $19 - 9$ by counting out 19 counters and then counting back by taking away one counter at a time, 9 counters. How many counters are left? (10)
- Do a few more examples of addition and subtraction to give learners more practice but leave time in the lesson to move onto the next activity.

Activity 2: Whole class activity

- Draw a 0 to 20 number line on the board.



- Ask the learners to point to **12** on the number line. Then count forwards 6. **Where do you land on the number line? (18) Can you jump in 1s or 2s?** (You can jump in both. The 2s are marked on the number line so that might be easier.)
- Show the jumps that you count as hops above the number line to show the addition.
- Repeat with $8 + 8 = _$, $14 + 6 = _$, $8 + 10 = _$. Each time do this by pointing to the starting number on the number line and counting on to find the answer.
- Ask the learners to point to 10 on the number line. Then count back 4. Where do you land on the number line? (6)
- Show the jumps that you count as hops below the number line to show the subtraction.



- Repeat with $12 - 6 = _$, $14 - 7 = _$, $20 - 8 = _$. Each time do this by pointing to the starting number on the number line and counting back to find the answer.

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

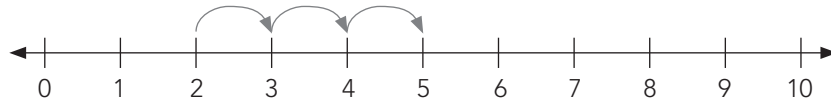
5. Homework activity (5 minutes) (See next page)

6. Reflection on lesson

Term 1 Lesson 8: Counting on and back – addition and subtraction

Classwork

Look at the following example:



Start at 2 and jump 3 places. $2 + 3 = 5$

1. Draw a number line from 0 to 20. Start at 3, and jump 6 places. Now write what you have done as a sum. ($3 + 6 = 9$)
2. Draw a number line from 0 to 20. Start at 2, and jump 12 places. Now write this as a sum. ($2 + 12 = 14$)
3. You have 14 sweets and you give your friend 2. Write this as a subtraction number sentence. ($14 - 2 = 12$)

Homework

1. $12 + 3 = \square$ (15)
2. $19 - 6 = \square$ (13)
3. $15 + 3 = \square$ (18)
4. $20 - 9 = \square$ (11)

WEEK 4

LESSON 9: NUMBER BONDS AND FAMILY FACTS TO 20

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.7 Addition and subtraction, 1.12 Techniques – methods and strategies, 1.13 Addition and subtraction

Lesson vocabulary: Number bonds, family facts, addition, subtraction, number line

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, number lines, breaking down and building up of numbers when solving and explaining problems and performing calculations.
- Addition and subtraction up to 20 as well as using the appropriate symbols (+, -, =, □).
- Number bonds up to 10.

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20 and using appropriate symbols (+, -, =, □)
- When solving problems, the learners may use drawings, concrete apparatus and number lines as well as building up and breaking down of numbers.

Resources: Counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 23a (pp. 46 and 47)

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

Remediation: Give learners 20 red counters and 20 blue counters (or any other two colours that you have available). Say: **We will show 1 + 9 like this** (1 red counter and 9 blue counters). Ask them to show: $2 + 8 = 8 + 2$, $7 + 3 = 3 + 7$, $4 + 6 = 6 + 4$, $5 + 5$.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

Count forwards in ones from 41 to 80. Count backwards in ones from 80 to 41.

1.2 Recall and strategies (10 minutes)

Add these numbers:

		Answer
1.	$2 + 3 =$	5
2.	$3 + 3 =$	6
3.	$4 + 2 =$	6
4.	$5 + 4 =$	9
5.	$3 + 6 =$	9

		Answer
6.	$4 + 2 =$	6
7.	$1 + 6 =$	7
8.	$2 + 8 =$	10
9.	$5 + 2 =$	7
10.	$4 + 4 =$	8

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 in groups

- Give each learner 20 counters.
- Do the following practically with your learners using the counters as an aid:
 - $1 + 9 = 9 + 1$
 - $2 + 8 = 8 + 2$
 - $7 + 3 = 3 + 7$
 - $6 + 4 = 4 + 6$
- Now ask the learners the following questions:
 - $1 + \underline{\quad} = 10$ (9)
 - $2 + \underline{\quad} = 10$ (8)
 - $3 + \underline{\quad} = 10$ (7)
 - $4 + \underline{\quad} = 10$ (6)
 - $5 + \underline{\quad} = 10$ (5)
- Discuss if they can see a pattern. (Each sum has a total of 10. These are the bonds of 10.)

Activity 2: Learners work in groups

- Groups of learners should now work with the full set of 20 counters to find the bonds of 20.
- Ask learners to experiment by putting the 20 counters into two groups, changing the group size each time. (For example: $10 + 10 = 20$; $17 + 3 = 20$, etc.)
- Learners should speak to each other about the sums they have made, check the total each time and write the sum in their mathematics book each time.
- Ask: **How many different sums do you find?** (They could find up to 20 different sums. Did they find them all? Which did they not find – compare groups.)
- These are the sums they should find. Write all of the sums on the board, in pairs, as learners report them to you. (They might not be in the same order as shown here – this does not matter.)
 - $1 + 19 = 19 + 1 = 20$
 - $2 + 18 = 18 + 2 = 20$
 - $3 + 17 = 17 + 3 = 20$
 - $4 + 16 = 16 + 4 = 20$
 - $5 + 15 = 15 + 5 = 20$
 - $6 + 14 = 14 + 6 = 20$
 - $7 + 13 = 13 + 7 = 20$
 - Etc.
- Discuss if they can see a pattern. (Each sum has a total of 20. These are the bonds of 20.)
- Discuss the difference between the pairs of sums. For example, ask: **What is the difference between $4 + 16$ and $16 + 4$?** (There is no difference to the total. They both add up to 20. The numbers are just written in a different order. This is the same for all of the pairs of sums. Both of them are correct. It does not matter which order you write the two numbers that you add.)
- Learners should start to look out for this and realise that when they add they can swap the pair of numbers being added around and still get the same answer.

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

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

6. Reflection on lesson

Term 1 Lesson 9: Number bonds and family facts to 20

Classwork

1. Draw circles to show $4 + 6 = \square$. Use two different colours to show what you have done.
($4 + 6 = 10$. Learners can draw this using circles and colours.)
2. Draw squares to show $7 + 4 = \square$. Use two different colours to show what you have done.
($7 + 4 = 11$ Learners can draw this using squares and colours.)
3. Fill in the missing numbers:
 - a) $16 + \square (4) = 20$
 - b) $11 + \square (9) = 20$
4. Show the following on a number line:
 - a) $13 + 7 = 20$
 - b) $7 + 13 = 20$
5. Write an equal sum, e.g. $4 + 2 = 3 + 3$. (Various e.g. $5 + 3 = 4 + 4$)

Homework

1. $6 + \square (4) = 10$
2. $15 + \square (5) = 20$
3. $17 - \square (7) = 10$
4. $20 - \square (10) = 10$

LESSON 10: BUILDING UP AND BREAKING DOWN NUMBERS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.7 Addition and subtraction, 1.12 Techniques – methods or strategies, 1.13 Addition and subtraction

Lesson vocabulary: Building up, breaking down, addition, subtraction, number bonds

Prior knowledge:

In Grade 1, the learners should have learnt 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
- Add and subtract up to 20 as well as use the appropriate symbols (+, -, =, □).
- Number bonds up to 10.

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20 and using appropriate symbols (+, -, =, □)
- When solving problems, the learners may use drawings, concrete apparatus and number lines as well as building up and breaking down of numbers.

Resources: Base 10 blocks (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 24 (pp. 50 and 51)

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

Remediation: Give learners base ten blocks – 10 units and 1 ten. Ask them to show 14 using the blocks. Write a number sentence $10 + 4 = 14$. Remove the units, and write a number sentence $14 - 4 = 10$. Do the same using base ten blocks with numbers 11 to 19, e.g. $10 + 1 = 11$ and $11 - 1 = 10$.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 45 to 85.
- Count backwards in tens from 85 to 45.

1.2 Recall and strategies (10 minutes)

	Double the following numbers:	Answer
1.	2	4
2.	4	8
3.	3	6
4.	5	10
5.	1	2

	What is half of the following numbers?	Answer
6.	10	5
7.	8	4
8.	6	3
9.	4	2
10.	2	1

2. Correction/reflection on homework (15 minutes)

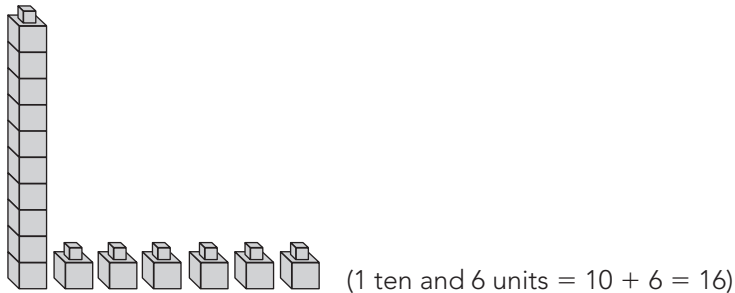
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

This activity consolidates the language of place value. This builds on the lesson activities in the previous lesson where the focus was bonds of 20 (finding pairs of numbers that add up to 20). The focus in this lesson is to revise and consolidate understanding of place value, in numbers up to 25.

Activity 1: Learners work in groups

- Give each group base ten blocks (units and tens blocks only).
- Write the following numbers on the board: **16, 14, 21**.
- Ask the learners to show the numbers using base ten blocks – to show the tens and units.
- Learners should have the following displays on their desks:



- Ask learners to tell you about the number displays on their desks, using the language of place value.
- Repeat with number 11. (1 ten and 1 unit = $10 + 1 = 11$)
- Make up a story sum to go with this number sentence. Ask different learners to give their ideas for the story. Allow as many different learners as possible to make up their own stories.
- For example, **I have ten slices of bread and I cut one more slice. I now have 11 slices of bread.**
- Repeat with number 13. (1 ten and 3 units = $10 + 3 = 13$) Make up a story using this number sentence.
- Repeat with number 19. (1 ten and 9 units = $10 + 9 = 19$) Make up a story using this number sentence.

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

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

6. Reflection on lesson

Term 1 Lesson 10: Building up and breaking down numbers

Classwork

1. Example: Draw 14 with tens and ones/units. Write a number sentence to express breaking down 14 into tens and units.
○○○○○○○○○○○○
○○○○ (14 = 10 + 4)
2. Draw 18 with tens and ones/units. Write a number sentence to express breaking down 18 into tens and units.
(18 = 10 + 8)
3. Draw 16 with tens and ones/units. Write a number sentence to express breaking down 16 into tens and units.
(16 = 10 + 6)
4. 1 ten + 3 units = □ (13)
5. 1 ten + 8 units = □ (18)
6. 12 = 10 + □ (2)
7. 15 = □ (10) + □ (5)
8. 10 + □ (3) = 13
9. □ (10) + 6 = 16
10. □ (10) + 9 = 19

Homework

1. 1 ten + 5 units = □ (15)
2. 1 ten + 0 units = □ (10)
3. 17 = □ (1) ten + □ (7) units
4. 19 = □ (1) ten + □ (9) units

LESSON 11: ADDITION DOUBLES: 1 TO 20

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving, 1.7 Addition and subtraction, 1.12 Techniques – methods or strategies, 1.13 Addition and subtraction

Lesson vocabulary: Doubles, addition doubles, doubling, halving

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.
- Addition and subtraction up to 20 as well as using the appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20 and using appropriate symbols (+, -, =, □).
- When solving problems the learners may use doubling and halving using drawings, concrete apparatus and number lines.

Resources: Counters

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 the learners **20** counters each. Ask them to show you **7** counters. Ask them to double it. Ask: **How many counters do you have now?** (14) Do the same with 4, 5, 8 and 9.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 0 to 40, 0 to 80.
- Count backwards in tens from 40 to 0, 60 to 10.

1.2 Recall and strategies (10 minutes)

Which number is greater: ... or...?

		Answer
1.	10 or 20	20
2.	15 or 21	21
3.	13 or 31	31
4.	20 or 40	40
5.	12 or 21	21

		Answer
6.	29 or 31	31
7.	4 or 3	4
8.	14 or 13	14
9.	39 or 29	39
10.	37 or 40	40

2. Correction/reflection on homework (15 minutes)

Learners had no homework but reflection/remediation based on previous day's work must be done.

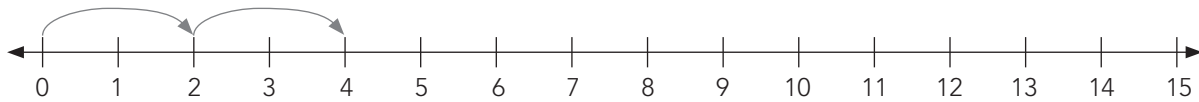
3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

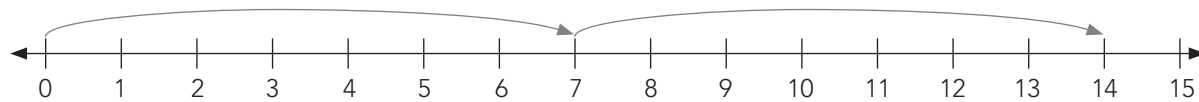
- Draw a picture of a butterfly on the board.
- Draw 2 dots on each wing.
- Ask the learners to double the dots on the wings by drawing them.
- Count the number of dots on each side of the butterfly, and add them together.
- Discuss what you have drawn and the number operation that you have performed:
Double 2 is (4).
- Repeat, drawing different numbers of dots on the one side, allowing learners to draw in the same number of dots on the other side of the butterfly.
- Count the number of dots on each side of the butterfly, and add them together.
- Discuss what you have drawn and the number operation that you have performed:
Double ... is

Activity 2: Learners work in pairs

- Give each pair **20** counters.
- Ask them to show double 2 using counters.
- Record the number sentence on the board. ($2 + 2 = 4$)
- Draw the doubling on a number line on the board.



- Ask them to show double 3 using counters.
- Record the number sentence on the board. ($3 + 3 = 6$)
- Repeat, doubling 6, 4, 10, 8, 7.
- Draw each of them on a number line, showing the equal hops each time. e.g. double 7 is 14. ($7 + 7 = 14$)



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

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

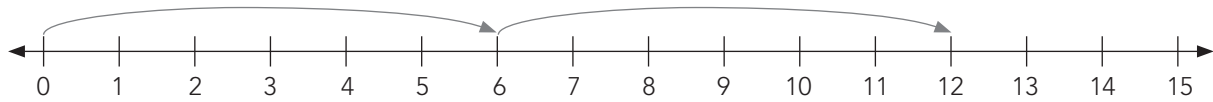
6. Reflection on lesson

Term 1 Lesson 11: Addition doubles – 1 to 20

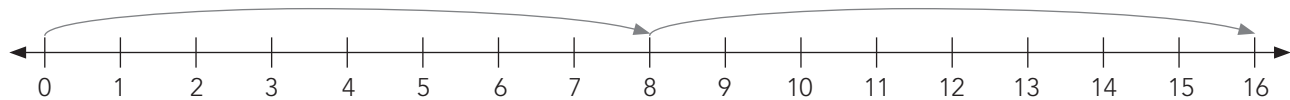
Classwork

- Complete the following:
 - $1 + 1 = \underline{\quad}$ (2)
 - $2 + 2 = \underline{\quad}$ (4)
 - $3 + 3 = \underline{\quad}$ (6)
- Make a drawing using counters to show the following
 - Double 6 ($12 \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc + \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$)
 - Double 8 ($16 \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc + \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$)

- Make a drawing using a number line to show the following
 - Double 6 (12)



- Double 8 (16)



- Write a number sentence and calculate:
 - Double 7 ($7 + 7 = 14$)
 - Double 10 ($10 + 10 = 20$)
 - Double 5 ($5 + 5 = 10$)

Homework

- $4 + 4 = (8)$
- $8 + 8 = (16)$
- Make a drawing using counters to show the following
 - Double 5 ($10 \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc + \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$)
 - Double 7 ($14 \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc + \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$)
- Write a number sentence and calculate:
 - Double 3 ($3 + 3 = 6$)
 - Double 9 ($9 + 9 = 18$)

LESSON 12: NEAR DOUBLES

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.7 Addition and subtraction, 1.12 Techniques – methods or strategies, 1.13 Addition and subtraction

Lesson vocabulary: Near doubles, addition, problem solving, double, doubles, doubling

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.
- Addition and subtraction up to 20 as well as using the appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20 and using appropriate symbols (+, -, =, □).
- When solving problems, the learners may use drawings, concrete apparatus and number lines as well as doubling and halving.

Resources: Counters

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: Use counters to allow the learners to experiment with near doubles. Give learners 20 counters each. Ask them to make one group of 4 counters and one group of 5 counters. Can they make two groups which are equal in number using the same counters? Are there counters left over? Record $4 + 4 + 1 = 9$. Ask: **How can we say double 4 plus 1 equals 9?** Repeat with other groups, e.g. 3, 5 and 6.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 20 to 70.
- Count backwards in tens from 70 to 20.

1.2 Recall and strategies (10 minutes)

What is...more than...?

		Answer
1.	2 more than 2	4
2.	1 more than 2	3
3.	5 more than 3	8
4.	10 more than 4	14
5.	10 more than 2	12

		Answer
6.	2 more than 11	13
7.	1 more than 2	3
8.	10 more than 1	11
9.	5 more than 4	9
10.	1 more than 7	8

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

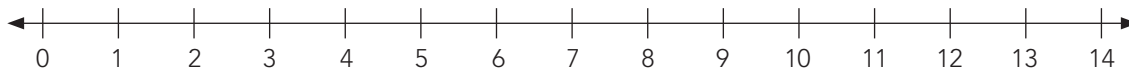
This lesson introduces the idea that learners can use doubles to calculate sums that are 'near' to doubles. For example, double 5 is $5 + 5$ which is 10. But $5 + 6$ is very close to $5 + 5$, it is just one more. So we call it a near double. We can work out $5 + 6$ by using our knowledge of $5 + 5$, just add the extra 1. This idea might be difficult for some learners to grasp but if you work through the activities with the counters and number lines this will give them opportunities to visualise the 'double plus 1' more easily.

Activity 1: Learners work in pairs

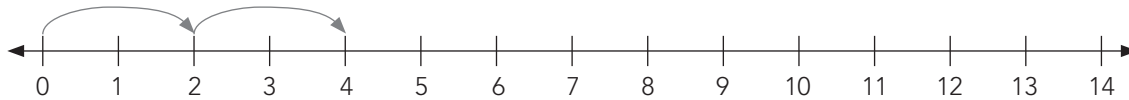
- Give groups of learners **20** counters.
- Ask them to make one group of **6** counters.
- Ask them to make another group, this time with **7** counters.
- Discuss what they need to do to make the groups equal in number. Ask: **Are there counters left over?** (One counter is set aside.)
- Ask them to write a number sentence to express what they have done with the counters.
- Discuss how we can say, **Double 6 plus 1 equals 13.**
- Repeat with fours: **Double 4 plus 1 equals 9.**

Activity 2: Whole class activity

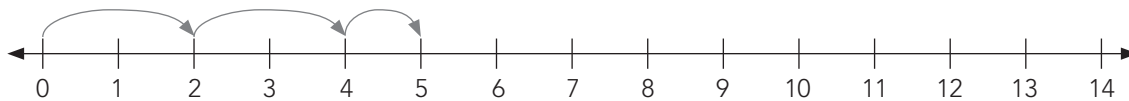
- Draw a ones number line from 0–14 on the board before the lesson.



- Ask the learners what $2 + 2$ is (4), and show it on the number line.



- Ask learners to add 1. Show it on the number line.



- How would you write it? ($2 + 2 + 1 = 5$)
- Discuss that you can also write it as $2 + 3 = 5$.
- Now repeat with other sums using number lines and recording the number sentences:
e.g. $8 + 8 = 16$, $8 + 9 = 17$.

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

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

6. Reflection on lesson

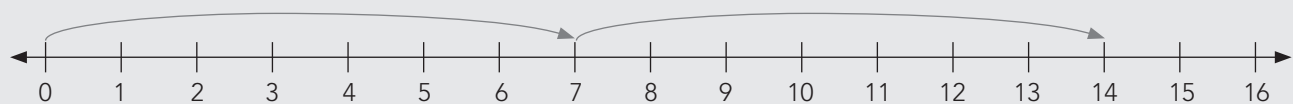
Term 1 Lesson 12: Near doubles

Classwork

- Write a number sentence for
 - five plus six ($5 + 6 = 11$)
 - five plus five plus one ($5 + 5 + 1 = 11$)
- Write a number sentence for:
 - double 2 ($2 + 2 = 4$)
 - double 5 ($5 + 5 = 10$)
- Write a number sentence for:
 - double 8 plus 1 ($8 + 8 + 1 = 17$)
 - double 5 plus 1 ($5 + 5 + 1 = 11$)

Homework

- Show double 7 on a number line. (14)



- Show double 9 on a number line. (18)
(Draw a number line as above but to 18.)
- Write a number sentence for double 4. ($4 + 4 = 8$)
- Write a number sentence for double 7 plus 1. ($7 + 7 + 1 = 15$)

WEEK 5

LESSON 13: MASS – STARTING TO UNDERSTAND KILOGRAMS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 4.3 Mass

Lesson vocabulary: Kilograms, more, lightest, heaviest, balance, mass, horizontal, scale, compare, record order, estimate, estimation

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Estimate, measure, compare, order and record mass using non-standard measures and a balancing scale, e.g. blocks, bricks, etc.
- Talk about the comparison, e.g. light, heavy, lighter than, heavier than.

Concepts:

- Compare, order and record the mass of commercially packaged goods that have their mass stated in kilograms e.g. 2 kg of rice and 1 kg of flour.
- Measure own mass in kilograms using a bathroom scale.

Resources: Bathroom scale, a balance scale, some 1 kg bags of sugar, rice, flour or mealie meal and a range of bigger and smaller bags (500 g, 5 kg, 10 kg, etc.)

DBE workbook activities relevant to this lesson:

- DBE worksheet 11 (pp. 22 and 33)

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

Remediation: Give the learners a balancing scale and two objects to compare. Use a variety of products from the kitchen. Give the learners two products to balance the scale as an initial step. Then find the mass of the two objects and discuss which object is *lighter* or *heavier*.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 4 to 48.
- Count backwards in ones from 48 to 4.

1.2 Recall and strategies (10 minutes)

Which one is more: ...or...?

		Answer
1.	23 or 25	25
2.	14 or 15	15
3.	9 or 19	19
4.	20 or 19	20
5.	11 or 10	11

		Answer
6.	18 or 16	18
7.	21 or 20	21
8.	9 or 11	11
9.	10 or 20	20
10.	13 or 23	23

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

- Select a few learners to stand in front of the class. Be sensitive in your selection of learners so that no unpleasant issues relating to body mass arise. Ask these learners to arrange themselves according to their mass from lightest to heaviest. Use estimation. When you estimate you make a reasoned/calculated guess at how much the mass is. An average 8 year old has a mass of 25 kg. You could use this as a guideline. Then use a bathroom scale to discover and record their actual mass on the board. Discuss if the estimates were correct.

Activity 2: Learners work in groups

- Place a balance scale on each group's table and do the following activities with your learners:
- Place identical objects, e.g. exercise books, on either side of the balance scale, to see that the bar or base of the balance scale is horizontal when the two objects have the same mass.
- Learners then focus on the two objects themselves, comparing them by placing one on each side of the balance scale to see which is heavier or lighter.
- Learners can then compare objects by placing more than one object on one or both sides of the scale to see how many objects have the same mass as another, e.g. five crayons have the same mass as one pair of scissors.
- Give learners some 1 kg products and products with a mass of more than 1 kg. Ask the learners to compare the mass of packages of different products (such as sugar, rice, mealie meal) that are sold in 1 kg amounts. Ask them to place these on a scale to see that although the size of the packages may differ, they have more or less the same mass.
- Give learners a range of packets to sequence from the heaviest to the lightest, where they sequence according to the mass stated on the package, e.g. 2 kg rice, 1 kg sugar, 5 kg mealie meal, 10 kg samp. Find the mass of these packets to see if there are any discrepancies between the mass stated on the packet and the reading on the scale.

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

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

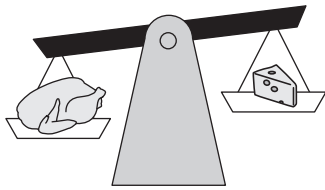
6. Reflection on lesson

Term 1 Lesson 13: Mass – starting to understand kilograms

This is the first lesson in Grade 2 on the topic of mass. Take time to revise the terminology of mass (kilograms, more, lightest, heaviest, balance, mass, scale, compare, record, order) and make sure that the learners use the words themselves while they talk about the measuring activities so that they become fluent in the mathematical language.

Classwork

1. Which is lighter, a brick or a pencil? (pencil)
2. Which is heavier, an eraser or a soccer ball? (soccer ball)
3. Draw a scale with a 3 kg object on one side and a 1 kg object on the other side, and show which is heavier. Here is an example of a drawing of a scale:



4. Draw a scale with a 1 kg object on one side and two 1 kg objects on the other side, and show which is heavier. (Draw – the scale will not be balanced, the side with only 1 kg is lighter.)
5. Draw a scale with a 2 kg object on one side and two 1 kg objects on the other side and show which is heavier. (Draw – the scale will be balanced, both sides have 2 kg.)

Homework

1. Find three objects in your kitchen that have the same mass, and make a drawing of them. (e.g. sugar, rice)
2. Find and draw another 3 objects that have a different mass. (various)
3. Who is the heaviest and who is the lightest person at your home? (various)
4. What is heavier, a 2 kg packet of rice OR three 1 kg packets of sugar? (sugar) Draw a picture to show your answer. (various)

LESSON 14: BUILDING THROUGH 10 AND WORKING IN TENS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.7 Addition and subtraction, 1.12 Techniques – methods or strategies, 1.13 Addition and subtraction

Lesson vocabulary: Bridging through ten, addition, subtraction, breaking down, doubling, halving

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations up to 20.
- Addition and subtraction up to 20 as well as using the appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context, and explain own solutions to problems involving addition and subtraction with answers up to 20 and using appropriate symbols (+, -, =, □).
- When solving problems the learners may use drawings, concrete apparatus and number lines as well as doubling and halving.

Resources: Unifix cubes, number lines

DBE workbook activities relevant to this lesson:

- DBE worksheet 21 (pp. 42 and 43)

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

Remediation: Give learners 20 Unifix cubes each. Ask them to show $8 + 7$ using their cubes. Write a number sentence, $8 + 7 = 15$. Give the learners a new number sentence ($10 + 5 = 15$). Ask them to work it out using the cubes. Do the same with: $9 + 6$, $6 + 5$, $8 + 5$, $7 + 4$ and $6 + 6$. Ensure that learners are bridging through 10.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 10 to 60.
- Count backwards in tens from 60 to 10.

1.2 Recall and strategies (10 minutes)

Add and subtract

		Answer
1.	$10 + 2 =$	12
2.	$8 + 2 =$	10
3.	$9 + 1 =$	10
4.	$10 + 1 =$	11
5.	$4 + 2 =$	6

		Answer
6.	$3 - 2 =$	1
7.	$7 - 3 =$	4
8.	$7 - 5 =$	2
9.	$6 - 4 =$	2
10.	$5 - 4 =$	1

2. Correction/reflection on homework (15 minutes)

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

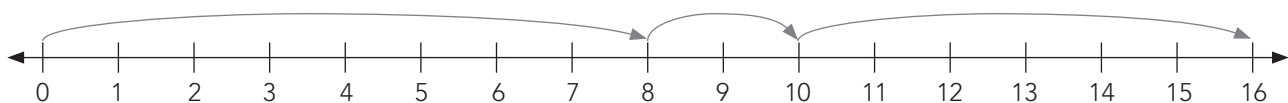
3. Lesson content – concept development (30 minutes)

Activity 1: Learners work in groups

- Give each group **20** Unifix cubes or other counters.
- Ask the learners to find and count **10** real life objects, like their fingers, stationery, beads, etc.
- Revise the bonds of 10 (pairs of numbers that add up to 10). Learners should know these bonds well and be able to recall them quickly.
- Discuss how we can add 5 + 5 fingers to make 10.
- Give learners some time in their groups to show each other some of the different bonds of 10. (They should find most of the pairs – 0 + 10; 1 + 9; 2 + 8; 3 + 7; 4 + 6; 5 + 5 and so on.)

Activity 2: Whole class activity

- Ask the learners to make one group of **10**.
- Now add another **2** cubes.
- Ask: **How many altogether?** Write the number sentence on the board. ($10 + 2 = 12$)
- The sum $10 + 2$ has an answer bigger than 10.
- In their groups learners should use the Unifix cubes to solve $10 + 3 = 13$ and $9 + 4 = 13$.
- Ask the learners what they notice. (They both add up to 13. $10 + 3 = 9 + 4 = 13$. Discuss this and repeat if necessary.)
- Record the number sentences on the board.
- Repeat with $7 + 5 = 12$ and $7 + 3 + 2 = 12$ using Unifix cubes.
- Discuss how different numbers can be broken down, e.g. $5 = 3 + 2$ or $4 + 1$ and $7 = 4 + 3$ or $6 + 1$.
- Ask: **Why is it useful to break numbers down?** (This helps us to break them into smaller parts which might be useful to simplify an addition question. For example, $7 + 5$ can be written as $7 + 3 + 2$ which is easier to add because $7 + 3$ gives 10 plus another 2 gives 12. Breaking the 5 into $3 + 2$ helps you to do the calculation mentally.)
- Ask learners to add a range of other number pairs that involve bridging 10 (give answers that are bigger than 10). For example:
 - $5 + 8 =$
 - $7 + 9 =$
 - $6 + 7 =$
 - $4 + 9 =$
 - Etc.
- You could draw some of these on a number line. For example:
 $8 + 8 = 8 + 2 + 6 = 10 + 6 = 16$



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

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

6. Reflection on lesson

Term 1 Lesson 14: Building through 10 and working in tens

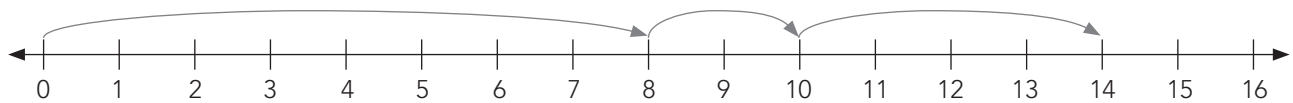
Classwork

1. Calculate:

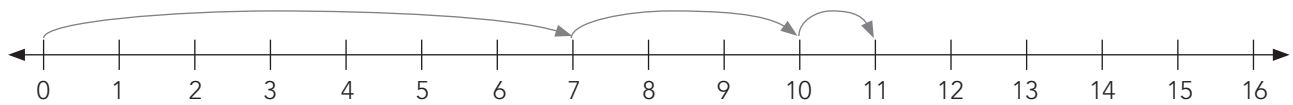
- a) $8 + 5 = _$ (13)
- b) $10 + _$ (3) = 13
- c) $7 + 8 = _$ (15)
- d) $10 + _$ (5) = 15

2. On a number line show:

- a) $8 + 6 = 14$ ($8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$)



- b) $7 + 4 = 11$ ($7 + 4 = 7 + 3 + 1 = 10 + 1 = 11$)



3. You have 10 red and 2 blue beads. How many beads are there altogether? Write this as a number sentence.

($10 + 2 = 12$)

4. Add the following:

- a) $8 + 6 = (14)$
- b) $6 + 5 = (11)$
- c) $9 + 3 = (12)$
- d) $8 + 8 = (16)$
- e. $7 + 6 = (13)$

Homework

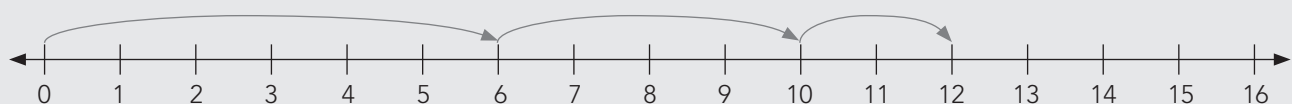
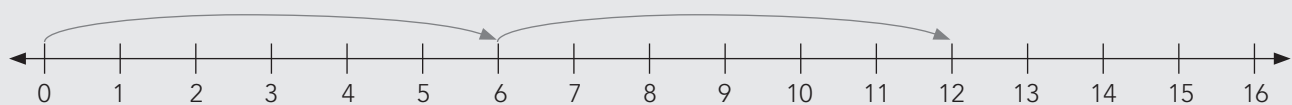
1. Find the missing numbers:

- a) $6 + 9 = _$ (15)
- b) $6 + (4) + 5 = 15$
- c) $10 + _$ (5) = 15

2. Find the missing numbers:

- a) $7 + 12 = _$ (19)
- b) $7 + _$ (3) + 9 = 19
- c) $_$ (10) + 9 = 19

3. Show $6 + 6 = 12$ and $6 + 4 + 2 = 12$ on a number line.



LESSON 15: TENS AND COUNTING IN TENS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.8 Repeated addition leading to multiplication, 1.12 Techniques – methods or strategies

Lesson vocabulary: Group, tens, between, share, divide, division, copy, extend, describe, number sequences

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Copy, extend and describe simple number sequences to at least 100, which should show counting forwards and backwards in ones.
- Counting forwards in tens, fives and twos between and up to 100.

Concepts:

- *Copy, extend* and *describe* simple number sequences to at least 100.
- Drawings or concrete apparatus like counters should be used to solve problems.

Resources: Unifix cubes

DBE workbook activities relevant to this lesson:

- DBE worksheet 31 (p. 64)

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

Remediation: Give each learner **30** Unifix cubes. Ask learners to make one group of 10. Ask: **How many cubes do you have left?** Ask learners to make another group of **10**. Ask: **How many cubes do you have now? How do we say this?** (2 groups of 10 is 20.) Repeat with three groups (30).

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 0 to 100.
- Count backwards in tens from 100 to 0.
- Count in tens from 5 to 65.

1.2 Recall and strategies (10 minutes)

Which number is between the following two numbers?

		Answer
1.	5 and 7	6
2.	13 and 15	14
3.	19 and 21	20
4.	3 and 5	4
5.	9 and 11	10

		Answer
6.	6 and 8	7
7.	11 and 13	12
8.	21 and 23	22
9.	22 and 24	23
10.	1 and 3	2

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 5 learners to come to the front of the class and face the rest of the learners.
- Ask the first learner to put both hands up into the air.
- Ask the rest of the class: **How many fingers can you see?** (10)
- Repeat the exercise with the second learner putting up her/his hands.
- Ask: **How many fingers are there now?** (20)
- Do the same with the other three learners who are in the front of the class. All 5 learners hold up their hands and the class counts together in tens: **Let us count 10, 20, 30, 40, 50.**
- Call another 5 learners to the front of the class. Now there are ten learners in front. Ask the class to count in tens while each learner holds up their hands. Count **10, 20, 30, 40, 50, 60, 70, 80, 90, 100.**

Activity 2: Learners work in groups

- Learners take **10** cubes.
- Ask each learner how many cubes they have. (10)
- Ask two learners to put their cubes together. **How many cubes altogether?**
- Learners record the number sentence in their mathematics books. ($10 + 10 = 20$)
- Repeat with three learners ($10 + 10 + 10 = 30$) and then four learners ($10 + 10 + 10 + 10 = 40$).
- Discuss the solutions that learners have found in their groups. Continue the discussion as a whole class. Call one learner at a time to the front of the class, each learner bringing their 10 cubes with them to the front.
- Continue until you have asked ten learners to come to the front and hold up their 10 Unifix cubes (use other counters if you do not have Unifix cubes).
- Ask: **How many counters are being held up? Count in tens.** (10, 20, 30, 40, 40, 50, 60, 70, 80, 90, 100)

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

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

6. Reflection on lesson

Term 1 Lesson 15: Tens and counting in tens

In this activity many drawings are called for. It is not necessary for learners to draw the drawings if they are able to visualise the number sentences that describe the situation. The value of the concrete objects (such as hands and fingers) and being able to visualise the number of fingers helps learners to work through the activity. The aim of the activity is to be able to write the correct number sentences and to count in tens, not to draw pictures – remember to keep the focus on the counting.

Classwork

(Drawings not shown here.)

1. Draw 2 children both with their hands up in the air. Write a number sentence of how many fingers you count.
(Learners may do the drawing. The number sentence is most important:
 $5 + 5 + 5 + 5 = 20$ or $10 + 10 = 20$.)
2. Draw 6 pairs of hands.
 - a) How many fingers can you count? (60)
 - b) Write a number sentence to express this. ($10 + 10 + 10 + 10 + 10 + 10 = 60$)
3. Draw 2 groups of ten cubes each. Answer the following questions:
 - a) How many groups are there? (2)
 - b) How many counters are there altogether? (20)
4. Draw 3 faces. Under each face draw a bag with 10 sweets in it.
 - a) How many sweets altogether? (30)
 - b) Write a number sentence to express this. ($10 + 10 + 10 = 30$)
5. Draw 4 empty bags. Draw 10 sweets in each bag.
 - a) How many sweets are there altogether? (40)
 - b) Write a number sentence to express this. ($10 + 10 + 10 + 10 = 40$)

Homework

(Drawings not shown here.)

1. Draw 20 stones, and put them in groups of ten each.
 - a) How many groups are there? (2)
 - b) Write a number sentence to express this. ($10 + 10 = 20$)
2. Draw 4 hands in your book.
 - a) How many fingers are there altogether? (20)
 - b) Write a number sentence to express this. ($5 + 5 + 5 + 5 = 10 + 10 = 20$)
3. Draw any other part of your body (not your fingers) that will make a group of ten if you put them next to one another. (toes)

LESSON 16: TENS ARRAYS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.8 Repeated addition leading to multiplication, 1.12 Techniques – methods or strategies

Lesson vocabulary: Groups, array, row, column, addition

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.
- Counting up to 20 as well as using the appropriate symbols +, -, =, □).

Concepts:

- Copy, extend and describe simple number sequences to at least 100.
- Repeated addition leading to multiplication.
- Drawings or concrete apparatus such as Unifix cubes may be used to solve problems.

Resources: Unifix blocks

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 the learners **40** Unifix cubes each. Ask them to make **4** groups of **10** cubes. Ask: **How many groups are there?** (4) **How many cubes are there in each group?** (10) Count the cubes: 10, 20, 30, 40. Ask the learners to show **2** groups with **10** cubes in each group. Count and write down how many cubes there are. (10, 20) Do the same with **3** groups and **10** cubes in each group. While doing the counting ensure that learners use the language of Mathematics, i.e. 4 groups of 10 is 40.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 0 to 60.
- Count backwards in tens from 60 to 0.
- Count in tens from 4 to 84.

1.2 Recall and strategies (10 minutes)

What is one less than...?

		Answer
1.	15	14
2.	12	11
3.	10	9
4.	25	24
5.	19	18

		Answer
6.	9	8
7.	10	9
8.	7	6
9.	24	23
10.	20	19

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

CAPS talks about 'arrays'. These are number grids, like the one used in this lesson to show repeated addition of 10.

Activity 1: Learners work in groups of four

- Draw a grid on the board (5 rows with 10 squares in a row).

- Show the learners what a row is (shade the top row in the array on the board) and then ask them to count the rows. (5)
- Ask them to count how many squares there are in each row. (10)
- **Let's count up the number of squares in the table: 10, 20, 30, 40, 50.**
- Discuss: **We have 5 rows of 10 squares each. We can count as follows: 10, 20, 30, 40, 50.**
- Erase the bottom rows of the grid. Ask: **How many rows do we have now? (4 rows with 10 squares in a row)**
- **Let's count up the number of squares in the table: 10, 20, 30, 40.**
- Erase **one more** row. Now there are **3** rows with **10** squares in a row.
- Count as follows: 10, 20, 30.
- Erase another **two** rows. Now there is just **one** row.
- Count the squares. (10)
- Ask: **How many rows did we start off with? (5)**
- Ask some learners (one at a time) to add the rows back onto the table, one at a time. Build the table back to a table with 5 rows of 10. Count all the rows again – 10, 20, 30, 40, 50.

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

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

6. Reflection on lesson

Term 1 Lesson 16: Tens arrays

In this activity the drawings are to help the learners see the increasing/decreasing counts of ten. If learners can count and write the counts of ten they should not waste too much time doing the drawings. The development of number concept (in this lesson with a focus on counting in 10s) is the key learning in this lesson.

Classwork

(Drawings not shown here.)

1. Draw 2 rows with 10 circles in each row.
 - a) How many rows are there? (2)
 - b) How many circles per row? (10)
 - c) How many circles are there altogether? (20)
2. Draw 5 rows with 10 triangles in each row.
 - a) How many rows are there? (5)
 - b) How many triangles per row? (10)
 - c) How many triangles are there altogether? (50)
3. Draw 3 rows with 10 rectangles in each row.
 - a) How many rows are there? (3)
 - b) How many rectangles per row? (10)
 - c) How many rectangles are there altogether? (30)
4. Draw 1 row with 10 blocks in the row.
 - a) How many rows are there? (1)
 - b) How many blocks per row? (10)
 - c) How many blocks are there altogether? (10)

Homework

(Drawings not shown here.)

1. Draw 3 rows with 10 flowers in each row.
 - a) How many rows are there? (3)
 - b) How many flowers per row? (10)
 - c) How many flowers are there altogether? (30)
2. Draw 1 row with 10 triangles in the row.
 - a) How many rows are there? (1)
 - b) How many triangles per row? (10)
 - c) How many triangles are there altogether? (10)
3. Draw 5 rows with 10 squares in each row.
 - a) How many rows are there? (5)
 - b) How many squares per row? (10)
 - c) How many squares are there altogether? (50)

WEEK 6

LESSON 17: TENS SHARING AND GROUPING

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.9 Grouping and sharing to division, 1.12 Techniques – methods and strategies

Lesson vocabulary: Sharing, equally, same, grouping, remainders

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.
- Solve word problems in context involving equal sharing and grouping and with answers that may include remainders.

Concepts:

- Solve and explain solutions to practical problems that involve *equal sharing* and *grouping* up to 20 with answers that may include remainders.
- Drawings or concrete apparatus such as counters may be used to solve problems.

Resources: Unifix cubes, counters

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 the learners **5** counters each. Ask them to share them amongst **4** friends. Discuss if there are any counters left over. (1) Discuss with the learners: **We can say this is a remainder.** Repeat sharing **3** counters between **2** friends and **7** counters between **6** friends.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 30 to 90.
- Count backwards in tens from 90 to 30.

1.2 Recall and strategies (10 minutes)

	Which number is 10 more than...?	Answer
1.	2	12
2.	5	15
3.	11	21
4.	9	19
5.	10	20

	Which number is 10 less than...?	Answer
6.	23	13
7.	25	15
8.	12	2
9.	17	7
10.	20	10

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 consolidate their understanding developed in Grade 1 of division with and without remainders. The two division strategies, grouping and sharing are also consolidated. Learners should ultimately be able to think of division using either strategy comfortably. They should be able to read a word problem and choose the appropriate strategy in order to find the solution to the problem. This skill will be developed through lots of practice doing division using both strategies.

Activity 1: Whole class activity

- Guide the learners through the following grouping activity.
- Give each pair of learners **20** Unifix cubes/counters.
- Ask learners to build towers with 2 blocks in each tower/2 counters per group.
- Ask: **How many towers did you make?** (10)
- Say: **20 cubes will make ten towers with two blocks in each tower.**
- Draw the division on the board. First draw the 20 counters.
○○○○○○○○○○○○○○
○○○○○○○○○○○○○○
- Then draw the grouped counters to show that 20 counters can be made into 10 groups if you make groups with 2 counters in each group.
○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○
- Give the learners **21** Unifix cubes. Ask them to build towers with 2 blocks in each tower (or groups using counters).
- Ask: **How many towers did you make?** (10)
○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○
- **Are there any cubes left?** (1)
- **Why is 1 cube left?** (Because I cannot make another tower which has 2 cubes in it with only one cube.)
- **What can we say to describe this? We can say: 21 Unifix cubes will make ten towers with two cubes in each tower and there will be one cube left over.**
- Discuss how to describe this situation, and guide the learners towards the idea that we call what is left over the remainder. (We have a remainder when we have shared a certain number and some counters are left over that cannot be shared so that everyone gets the same amount.)

Activity 2: Learners work in pairs

- Give each pair of learners **20** counters.
- Share **20** counters equally between **two** circles. Ask: **How many counters are there in each circle?** (10) **How many counters are left?** (0)
- Share **20** counters equally amongst **ten** circles. Ask: **How many counters are in each circle?** (2) **How many counters are left?** (0)
- Share **21** counters equally amongst **two** circles. Ask: **How many counters are there in each circle?** (10) **How many counters are left?** (There is 1 counter left over.)
- Share **21** counters equally amongst **ten** circles. Ask: **How many counters are in each circle?** (2) **How many counters are left?** (There is 1 counter left over.)

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

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

6. Reflection on lesson

Term 1 Lesson 17: Tens sharing and grouping

Classwork

(Drawings not shown here.)

1. Draw 20 triangles.
 - a) Share them equally into ten groups.
 - b) Are any triangles left or not? (There are none left.)
 - c) Write: $\underline{\quad}$ (20) shared amongst $\underline{\quad}$ (10) is $\underline{\quad}$ (2).
 $\underline{\quad}$ (0) triangles are left.
2. Draw 11 flowers.
 - a) Share the flowers equally amongst ten children.
 - b) Are there any flowers left? (Yes, one.)
 - c) Write: $\underline{\quad}$ (11) shared amongst $\underline{\quad}$ (10) is $\underline{\quad}$ (1). $\underline{\quad}$ (1) flower is left.
3. Draw 19 circles.
 - a) Share them equally into ten groups.
 - b) Are there any circles left or not? (Nine are left.)
 - c) Write: $\underline{\quad}$ (19) shared amongst $\underline{\quad}$ (10) is $\underline{\quad}$ (1).
 $\underline{\quad}$ (9) circles are left.
4. Draw 10 squares.
 - a) Share them equally into ten groups.
 - b) Are there any squares left or not? (There are none left.)
 - c) Write: $\underline{\quad}$ (10) shared amongst $\underline{\quad}$ (10) is $\underline{\quad}$ (1).
 $\underline{\quad}$ (0) squares are left.

Homework

(Drawings not shown here.)

1. Draw 20 rectangles.
 - a) Share the rectangles equally amongst 10 bags.
 - b) Write: $\underline{\quad}$ (20) rectangles shared amongst $\underline{\quad}$ (10) bags is $\underline{\quad}$ (2).
 $\underline{\quad}$ (0) rectangles are left.
2. Draw 17 suckers.
 - a) Share the suckers equally amongst 10 children.
 - b) Write: $\underline{\quad}$ (17) suckers shared amongst $\underline{\quad}$ (10) children is $\underline{\quad}$ (1).
 $\underline{\quad}$ (7) suckers are left.

LESSON 18: NUMBER PATTERNS: 10

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.2 Number patterns

Lesson vocabulary: Number patterns, add, take away, biggest, smallest, forwards, backwards, copy, extend, describe, number sequences

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Copy, extend and describe simple number sequences to at least 100, which should show counting forwards and backwards in ones.
- Counting forwards in tens, fives and twos between and up to 100.

Concepts:

- Copy, extend and describe simple number sequences to at least 100, and they should show counting forwards and backwards in tens from any multiple of 10.

Resources: 1–100 board (see *Printable Resources*), counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 31 (p. 65)

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

Remediation: Give each learner a 1–100 board and 10 counters. Ask the learners to place their counters on the tens and guide them by counting 10, 20, 30, 40, 50, 60, 70, 80, 90, 100. Ask them to put their fingers on 20 and to count on to 50 (20, 30, 40, 50). Discuss how many squares we moved. Remember to point out that you are using a pattern of 10. Repeat with 40 to 50 and 60 to 70. Ask them to put their fingers on 80 and to count back to 10 (80, 70, 60, 50, 40, 30, 20, 10). Do the same with the following: count on from 20 to 60 and 30 to 100. Count back from 100 to 30.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 10 to 80.
- Count backwards in tens from 80 to 10.
- Count in tens from 3 to 73.

1.2 Recall and strategies (10 minutes)

	Which number do we need to add to ... to make 10?	Answer
1.	3	7
2.	2	8
3.	4	6
4.	6	4
5.	1	9

	Which number is left when ... is taken away from 10?	Answer
6.	5	5
7.	8	2
8.	9	1
9.	3	7
10.	2	8

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

- Give each group of learners a 1–100 board and some counters.
- Ask the learners to place a counter on 10, 20, 30 and 40. Ask them to continue the pattern up to 100. (50, 60, 70, 80, 90, 100)

Activity 2: Whole class activity

- Write the multiples of 10 between 0 and 100 on the board in a random order.
- Ask the learners to arrange, orally, as a class, the numbers 10, 30, 20, 40 on the board from the smallest to the biggest number (10, 20, 30, 40) and then from the biggest to the smallest number (40, 30, 20, 10). They can use the numbers on the board and the number boards as an aid.
- Ask the learners to order from 50 to 100 from the smallest to the biggest number and say what they have done. (50, 60, 70, 80, 90, 100). Explain to learners that this is counting on in 10s – from 50 to 100.
- Ask them to use the same numbers and order them from the biggest to the smallest number. (100, 90, 80, 70, 60, 50). Explain to learners that this is counting back in 10s – from 100 to 50.

Activity 3: Whole class activity

- Call out numbers between 0 and 100 randomly, e.g. 5, 16, 21, 50, 66, 72, 80, 90.
- Learners clap their hands when they hear a multiple of 10.
- Allow learners in the class to participate by calling out numbers – one learner calls and the rest of the class claps when the learner calls a multiple of 10.

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

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

6. Reflection on lesson

Term 1 Lesson 18: Number patterns: 10

Classwork

- Fill in the blanks.
 - 10, 20, 30, _ (40), _ (50), 60, _ (70), _ (80), _ (90), 100.
 - 100, 90, 80, _ (70), _ (60), (50), _ (40), _ (30) _ (20), 10.
 - (100), _ (90), _ (80), _ (70), _ (60), 50, _ (40), _ (30), 20, _ (10).
- Continue the pattern:
 - 10, 20, 30, _ (40), _ (50).
 - 30, 40, 50, _ (60), _ (70).
 - 100, 90, 80, _ (70), _ (60).
 - 70, 60, 50, _ (40), _ (30).
- Draw 3 friends. How many toes do they have altogether? (30)
- Draw 10 friends. How many hands do they have altogether? (20)

Homework

- Complete the following: 10, 20, 30, _ (40), _ (50), _ (60), _ (70), _ (80), _ (90), 100.
- Fill in the missing numbers: 30, 40, _ (50), _ (60), _ (70), 80, _ (90), 100.
- Continue the pattern:
 - 60, 50, _ (40), _ (30), _ (20).
 - 90, 80, _ (70), _ (60), _ (50), 40, _ (30), _ (20).

LESSON 19: PATTERNS OF 10

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.2 Number patterns

Lesson vocabulary: Number patterns, smaller, bigger

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use calculation strategies to add and subtract efficiently, putting the larger number first in order to count on or count back; Use number lines, double and halve and build up and break down numbers.
- Work with number bonds recalling addition and subtraction facts.

Concepts:

- Copy, extend and describe simple number sequences to at least 100.
- Learners are able to count forwards and backwards in tens from any multiple of 10.

Resources: Number lines, 1–100 board (see *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: Draw a number line marked in intervals of 10 up to 100 with the learners. Cover up various numbers using counters, e.g. 30, 50, 70 and 100. Discuss with the learners which number would be under each counter. Let the learners offer suggestions before you reveal the answer. Use the number line to count in tens up to 100.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 0 to 90.
- Count backwards in tens from 90 to 0.

1.2 Recall and strategies (10 minutes)

Put the larger number first:

		Answer
1.	10, 11	11, 10
2.	8, 9	9, 8
3.	11, 12	12, 11
4.	20, 21	21, 20
5.	6, 7	7, 6

		Answer
6.	18, 19	19, 18
7.	15, 16	16, 15
8.	9, 10	10, 9
9.	24, 25	25, 24
10.	2, 3	3, 2

2. Correction/reflection on homework (15 minutes)

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

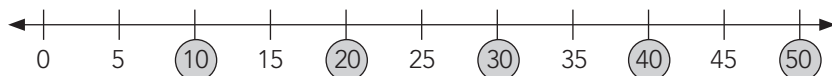
3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

- Draw a fives number line from 0 to 50 on the board.



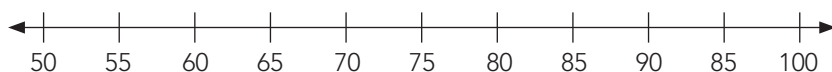
- Ask the learners to count in tens from 10 to 50, pointing at each multiple of 10 on the number line.
- As they count, circle the multiples of ten on the number line. (10, 20, 30, 40, 50)



- Discuss why you have circled these numbers.
- Discuss which numbers fall in certain intervals, e.g. 0 and 10, 20 and 30.
- Discuss that the fives have been labelled on this number line but that there are also other numbers that fall in the intervals you have spoken about. (For example, you could ask for a few learners to point out some other numbers on the number line – for example 46 comes just after 45, it is there although it is not labelled.)
- Count backwards in tens now, pointing to the multiples of 10 again. (50, 40, 30, 20, 10)

Activity 2: Whole class activity

- Draw a fives number line from 50 to 100 on the board.



- Ask the learners to count in tens from 50 to 100, pointing at each multiple of 10 on the number line.
- As they count, circle the multiples of ten on the number line. (50, 60, 70, 80, 90, 100)
- Discuss why you have circled these numbers.
- Discuss which numbers fall in certain intervals, e.g. 50 and 60, 90 and 100.
- Discuss again that the fives have been labelled on this number line but that there are also other numbers that fall in the intervals you have spoken about. (As above.)
- Count backwards in tens now, pointing to the multiples of 10 again. (100, 90, 80, 70, 60, 50)

Activity 3: Whole class activity

- Give each learner a 1–100 board. In this activity you do not count in multiples of ten. You add in tens, starting from a given number. This will help learners to see the adding pattern.
- Ask the learners to count on in tens from any number on the board. (e.g. 15, 25, 35, 45, 55, 65, 75, 85, 95)
- Write the sums on the board to show the counting from 15 increasing in 10s:
 - $15 + 10 = 25$
 - $25 + 10 = 35$
 - $35 + 10 = 45$, etc.
- Ask the learners to count back in tens from any number on the board. (e.g. 87, 77, 67, 57, 47, 37, 27, 17, 7)
- Write the sums on the board to show the counting count back in tens:
 - $87 - 10 = 77$
 - $77 - 10 = 67$
 - $67 - 10 = 57$, etc.

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

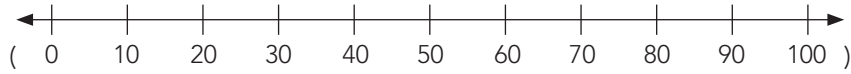
5. Homework activity (5 minutes) (See next page)

6. Reflection on lesson

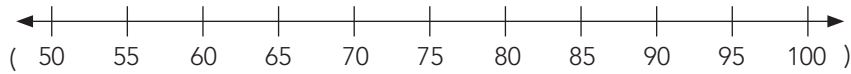
Term 1 Lesson 19: Patterns of 10

Classwork

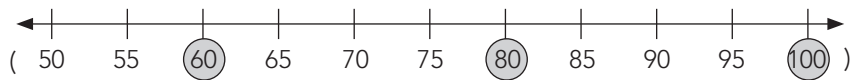
1. Draw a tens number line filling in the multiples from 10 to 100.



2. Draw a number line in fives from 50 to 100.



3. Circle the following numbers on your number line: 60, 80, 100.



4. Complete:

- a) $3 + 10 = \underline{\quad}$ (13)
- b) $13 + 10 = \underline{\quad}$ (23)
- c) $23 + 10 = \underline{\quad}$ (33)
- d) $33 + 10 = \underline{\quad}$ (43)
- e) $43 + 10 = \underline{\quad}$ (53)

5. Complete the following:

- a) $95 - 10 = \underline{\quad}$ (85)
- b) $85 - 10 = \underline{\quad}$ (75)
- c) $75 - 10 = \underline{\quad}$ (65)
- d) $65 - 10 = \underline{\quad}$ (55)
- e) $55 - 10 = \underline{\quad}$ (45)

Homework

1. Susan's family has 10 pairs of shoes. How many shoes do they have altogether? Make a drawing. (20)

2. Complete:

- a) $6 + 10 = \underline{\quad}$ (16)
- b) $16 + 10 = \underline{\quad}$ (26)
- c) $26 + 10 = \underline{\quad}$ (36)

3. Complete the following:

- a) $76 - 10 = \underline{\quad}$ (66)
- b) $66 - 10 = \underline{\quad}$ (56)
- c) $56 - 10 = \underline{\quad}$ (46)

LESSON 20: GEOMETRIC PATTERNS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.1 Geometric patterns

Lesson vocabulary: Patterns, geometric patterns, shapes, horizontal, vertical

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Identify, describe in words and copy geometric patterns in nature, from modern everyday life and from our cultural heritage.
- Create and describe own geometric patterns with physical objects and by drawing lines, shapes or objects.

Concepts:


- Copy, extend and describe in words simple patterns made with drawings of lines, shapes or objects.
- Create own geometric patterns with physical objects or by drawing lines, shapes or objects.

Resources: Shapes to make patterns

DBE workbook activities relevant to this lesson:

- DBE worksheet 28 (pp. 58 and 59)

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

Remediation: Discuss with learners what a pattern is. Ask learners to design a pillow case pattern using only circles and triangles, e.g. 

Ask them to make their own pattern using other shapes. They should draw the patterns they have created.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 0 to 100.
- Count backwards in tens from 100 to 0.

1.2 Recall and strategies (10 minutes)

Which number is less: ... or...?

		Answer
1.	21 or 20	20
2.	20 or 19	19
3.	10 or 25	10
4.	12 or 21	12
5.	13 or 15	13

		Answer
6.	3 or 2	2
7.	3 or 4	3
8.	17 or 18	17
9.	19 or 18	18
10.	24 or 25	24

2. Correction/reflection on homework (15 minutes)

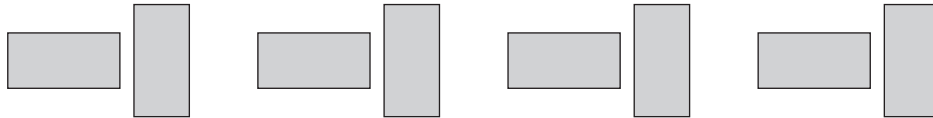
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

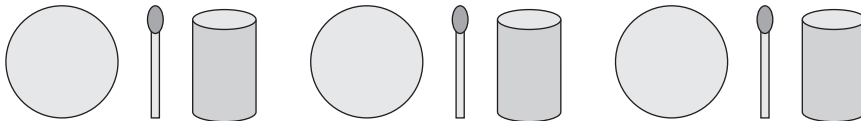
In this lesson you will demonstrate and draw many different patterns which are made of shapes. The patterns that you draw grow in different ways. Talk about the ways in which the patterns grow and allow the learners to describe how the patterns grow. This allows the learners to develop their observational skills and to develop their mathematical language.

Activity 1: Whole class activity

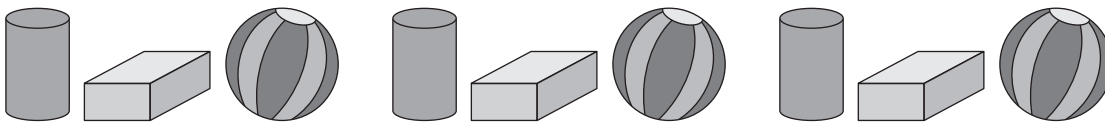
- Draw the shapes that make up the patterns below on the board as you discuss each one.
- Ask learners to line up boy, girl; boy, girl; boy, girl; boy, girl; and ask learners if they can identify the pattern.
- Ask: **What pattern do you see?** (One boy, one girl, repeating)
- Draw a pattern by repeating the same shape (circles) but changing the colours of the shape to create a pattern, e.g. ○ ● ○ ● ○ ● ○ ● ○ ●
- Ask: **What pattern do you see?** (One white circle, one grey circle, one black circle, repeating)
- Draw a pattern using identical repeating groups, where each group has only **one** kind of shape, e.g. rectangles but the position of the objects in the group changes. Identical groups are repeated, e.g.



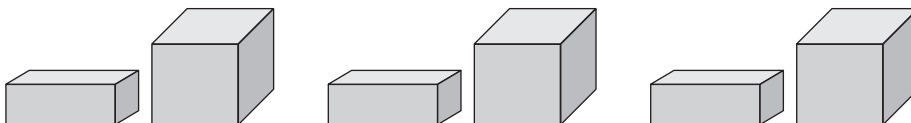
- Ask: **What pattern do you see?** (One horizontal rectangle, one vertical rectangle, repeating)
- Make a pattern using **three** different shapes, e.g.



- Ask: **What pattern do you see?** (One circle, one matchstick one cylinder, repeating)
- Draw a pattern where the objects are used to make a group (e.g. a group of objects – a cylinder, a box and a ball) but the group of objects is repeated in exactly the same way, e.g.



- Ask: **What pattern do you see?** (One cylinder, one box, one ball, repeating)
- Draw a pattern where the size of the objects alternates or varies in exactly the same way, e.g.



- Ask: **What pattern do you see?** (One small box, one big box, repeating)

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

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

6. Reflection on lesson

Term 1 Lesson 20: Geometric patterns

Classwork

1. Draw a pattern using one triangle and two squares. Copy and extend the pattern.
(Learner answers will vary e.g. $\triangle \square \square \triangle \square \square$)
2. Draw a pattern using a circle a square and a triangle. Copy and extend the pattern.
(Learner answers will vary e.g. $\circ \square \triangle \circ \square \triangle$)
3. Draw a pattern with three circles that get bigger each time. Copy and extend the pattern.
(Learner answers will vary e.g. $\circ \circ \bigcirc \circ \circ \bigcirc$)
4. Draw a pattern using one object, but change the colours of the object in a regular way.
Copy and extend the pattern in your book. (Learner answers will vary.)

Homework

(Learner answers will vary but must satisfy the criteria.)

1. Draw and colour in 4 red circles, 4 blue circles and 4 yellow circles.
2. Draw a pattern with coloured circles – make up your own order of the colours.
3. Make your own pattern by pasting pictures into your books.

WEEK 7

LESSON 21: GEOMETRIC PATTERNS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.1 Geometric patterns

Lesson vocabulary: Patterns, geometric patterns, shapes

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Identify, describe in words and copy geometric patterns in nature, from modern everyday life and from our cultural heritage.
- Create and describe own geometric patterns with physical objects and by drawing lines, shapes or objects.

Concepts:

- *Copy, extend and describe in words* simple patterns made with drawings of lines, shapes or objects.
- *Create own* geometric patterns with physical objects or by drawing lines, shapes or objects.

Resources: Unifix cubes, counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 27 (pp. 56 and 57)

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

Remediation: Give each learner **10** Unifix cubes and **10** counters. Build a pattern with the learners of **1** cube, **1** counter. Move onto **2** cubes, **2** counters. Experiment with **2** cubes, **3** counters. Let the learners extend the pattern.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in fives from 0 to 30.
- Count backwards in fives from 30 to 0.

1.2 Recall and strategies (10 minutes)

	Double	Answer
1.	2	4
2.	4	8
3.	5	10
4.	7	14
5.	8	16

	Halve	Answer
6.	4	2
7.	6	3
8.	8	4
9.	12	6
10.	10	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 this lesson learners will be given the opportunity to describe patterns that they have made using shapes. Make sure that they describe the patterns accurately and that they do describe patterns that repeat. An important aspect of patterns is that they repeat, and that each repetition is exactly the same as the other.

Activity 1: Whole class activity

- All learners stand up.
- Clap a pattern with them (clap, clap, clap, clap, clap, clap). Discuss the pattern.
- Clap using different counts and discuss the pattern in the clapping each time.
- Call on a few individual learners to clap the pattern out on their own. Repeat with different patterns.
- Repeat with clicking fingers (click, click, click, click, click, click).
- Call on a few individual learners to click the pattern out on their own. Repeat with different patterns.
- Discuss the pattern each time, focus on what is repeated.

Activity 2: Learners work in groups

- Give each group of learners 20 counters and 20 Unifix cubes.
- Ask the learners to design, in their groups, a pattern using the cubes and the counters. (Learners patterns will vary depending on the colours and counters they have. They must make a pattern that repeats and be able to describe the pattern to you. For example, one Unifix, two counters **or** one red Unifix, one blue Unifix, one counter **or** two Unifix, two counters **or** one Unifix three counters, etc.)
- Ask each group to describe at least one of the patterns they have made to the whole class. The key to these patterns is that the number/colour and/or type of shapes is changing.

Activity 3: Learners work in groups

- Give each group of learners a piece of scrap paper to draw on.
- Ask learners to draw a pattern of circles that changes in a regular way.
- Learners could draw circles that grow or get smaller, or they could draw groups of circles that increase.
- For example, the next shape in this pattern would be an even bigger circle.



- BUT in another example, the next shape in this pattern would be the tiny circle – starting a new group of 4 increasing circles.



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

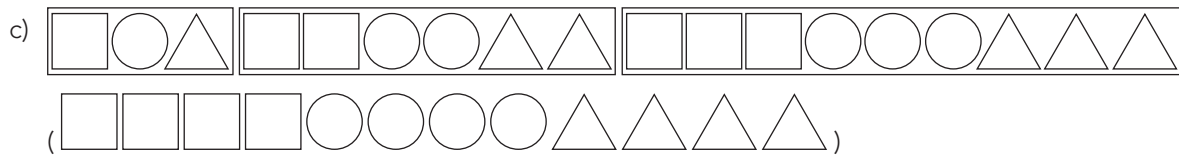
5. Homework activity (5 minutes) (See next page)

6. Reflection on lesson

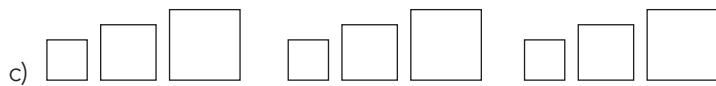
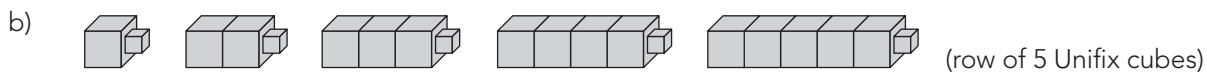
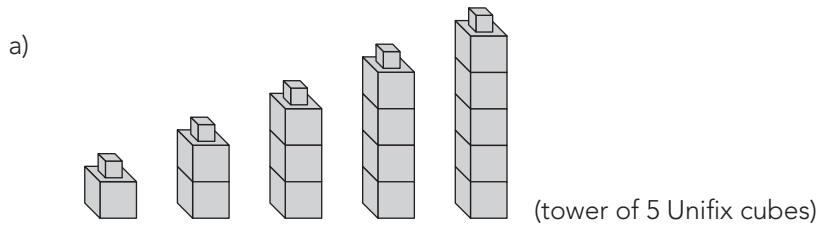
Term 1 Lesson 21: Geometric patterns

Classwork

1. Draw the next set of shapes in the given patterns below:



2. Copy and extend these patterns in your book.



3. Draw your own pattern of circles that grows in a regular way.

(Learner answers will vary. Note that the growth could happen in various ways – the squares could get bigger in size, or they could get smaller in size, or they could do a pattern that starts with one square, then has 2 squares, then three squares and so on. Check all patterns to see if they follow a rule and are made of squares in some way.)

Homework

1. Draw your own pattern using shapes. (Learner answers will vary.)

LESSON 22: DATA

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 5.4 Collect and organise data, 5.5 Represent data, 5.6 Analyse and interpret data

Lesson vocabulary: Data, topic, key, pictograph, shapes, more, less

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Analyse data from representations provided: pictographs.

Concepts:

- Collect data about the class or school to answer questions you pose.
- Present data in a pictograph, analyse it and interpret the data.

Resources: Coloured shapes

DBE workbook activities relevant to this lesson:

- DBE worksheet 15 (pp. 30 and 31)

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

Remediation: Sorting shapes. Give the learners **3** different shapes with varying quantities of each, e.g. **3** squares, **6** circles and **10** triangles. Ask the learners to sort the shapes according to the different types. Ask the learners to draw their sorting. Then draw a pictograph and plot the shapes. Give the learners the topic for the pictograph (number of shapes) and the key.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in threes from 39 to 72.
- Count backwards in threes from 72 to 39.

1.2 Recall and strategies (10 minutes)

Calculate the following:

		Answer
1.	$1 + 5 =$	6
2.	$7 - 6 =$	1
3.	$3 + 6 =$	9
4.	$4 + 4 =$	8
5.	$9 - 6 =$	3

		Answer
6.	$8 + 2 =$	10
7.	$8 - 2 =$	6
8.	$7 - 3 =$	4
9.	$6 + 4 =$	10
10.	$10 - 4 =$	6

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 and group activity

- Give the learners different shapes.
- Learners sort the shapes according to the differences in the shapes.
- Ask the learners to make drawings of their sorting, e.g. 3 squares, 4 rectangles, 6 circles, 10 triangles. (Each group will be given different numbers of the shapes, they just need a few of each, they don't need to have the same amounts.)
- Take the shape sorting of one of the groups, and make a pictograph on the board. Give the learners the topic for the pictograph. (Different shapes) Work out a key, e.g. S = 1 shape
- Ask learners questions that they can answer by looking at the pictograph:
 - **Which shape is most represented?** (there are more of those shapes than any other shape)
 - **Which shape is least represented?**
 - **Are there more of one shape than another?** E.g. Are there more squares than circles?
 - **Are there fewer of one shape than another?** E.g. Are there fewer circles than triangles?
- Compare the numbers of each shape in a class discussion. (Answers will depend on who got what shapes.)
 - **Which group had the most squares?**
 - **Which group had the most rectangles?**
 - **Which group had the most circles?**
 - **Which group had the most triangles?**
- Each group can draw their own pictograph, for the numbers of shapes that they counted.

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

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

6. Reflection on lesson

Term 1 Lesson 22: Data

The classwork activity presents two different sortings of crayons. Allow learners to do either of the activities rather than both of them as both of them might take too much time for one lesson.

Classwork

(For all of these questions learner answers will vary. Check that they have answered the questions correctly and discuss as needed.)

1. Work in pairs. Take out all your crayons. Sort them according to colour.
Draw a picture of what you have sorted.
2. Use this picture to draw a pictograph.
3. Sort the crayons according to length. Now draw what you have sorted.
4. Use this picture to draw a pictograph.

Homework

(For all of these questions learner answers will vary. Check that they have answered the questions correctly and discuss as needed.)

1. Collect a handful of cutlery from the kitchen, e.g. teaspoons (small spoons), forks and tablespoons (big spoons).
2. Sort the cutlery.
3. Draw a picture of your sorting.
4. Draw a pictograph to show your data. (The topic is cutlery.)

LESSON 23: DATA

Teacher's notes

CAPS topics: 1.2 Count forwards and backwards, 1.16 Mental mathematics, 5.4 Collect and organise data, 5.5 Represent data, 5.6 Analyse and interpret data

Lesson vocabulary: Data, pictograph, topic, key, more, less

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Analyse data from representations provided: pictograph.

Concepts:

- Collect data to answer questions you pose.

Resources: Old magazines/newspapers or adverts for shops like Clicks, Checkers, etc., scissors, Unifix cubes (remediation)

DBE workbook activities relevant to this lesson:

- DBE worksheet 16 (pp. 32 and 33)

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

Remediation: Give the learners 30 Unifix cubes of different colours. Ask learners to sort the cubes according to colour. Record the sorting in a pictograph. Give learners the topic for the pictograph (Colours of Unifix cubes).

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

Start counting at 24, and count on in twos to 48.

1.2 Recall and strategies (10 minutes)

	Calculate:	Answer
1.	$14 - _ = 9$	5
2.	$12 - _ = 3$	9
3.	$13 - _ = 4$	9
4.	$11 - _ = 9$	2
5.	$12 - _ = 12$	0

	Calculate:	Answer
6.	$8 - _ = 2$	6
7.	$15 - _ = 1$	14
8.	$10 - _ = 0$	10
9.	$13 - _ = 5$	8
10.	$14 - _ = 6$	8

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

If you are not able to collect old magazines/advertisements for this lesson, you could do a tally of the learners' favourite cool drinks to get a data table for this lesson. Try to collect the old papers if possible as this makes the lesson more active and enjoyable for the learners.

Activity 1: Learners work in groups of four

- Discuss: **In this lesson we are going to collect information. Data is not only about answering questions on graphs but also about collecting information.**
- Give each group some old magazines/newspapers/shop advertisements from which to cut pictures.
- Each group finds pictures of different household objects:
 - Group 1: pictures of any kinds of tables
 - Group 2: pictures of any kinds of chairs
 - Group 3: pictures of pots
 - Group 4: pictures of beds
 - Group 5: pictures of any kinds of cupboards
 - Group 6: pictures of cutlery (knives, forks, spoons)

Activity 2: Whole class activity

- Learners tally the number of pictures collected by each of the groups in the time set for the group activity.
- Do this by asking the groups of learners:
 - **How many pictures of tables did the table group find?**
 - **How many pictures of chairs did the chairs group find?**
 - **How many pictures of pots did the pots group find?**
 - **How many pictures of beds did the beds group find?**
 - **How many pictures of cupboards did the cupboards group find?**
 - **How many pictures of cutlery did the cutlery group find?**

Activity 3: Whole class activity

- Ask the learners to guide you on how to draw a pictograph on the chalkboard, using the data set of one of the groups of learners.
- Record the findings from the activity on the chalkboard.
- Draw a shape that represents each group at the bottom of each column.
- Record the findings of the group that you are using in the right place to complete the pictograph.
- Each group draws the pictograph for the data that they collected.

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

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

6. Reflection on lesson

Term 1 Lesson 23: Data

Classwork

(In this activity, learner answers will vary. Check that they have answered the questions correctly, and discuss as needed.)

1. Draw this bar graph in your Mathematics book.
2. Ask 20 learners in your class what month their birthday falls in.
3. Tally up the number of birthdays per month.
4. Complete the graph.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

2. Now answer these questions.
 - a) The most common birthday month is _____ . (the month with the highest frequency)
 - b) The least common birthday month is _____ . (the month with the lowest frequency)

Homework

(In this activity the learner answers will also vary. Check that they have answered the questions correctly and discuss as needed.)

1. Count up the number of 5 different kinds of furniture items you have at home, e.g. chairs, tables, beds, cupboards, sofas.
2. Make a tally table of your counted items.
3. Draw your own bar graph showing the numbers of 5 different items you have at home. (The topic is household items.)

LESSON 24: DATA

Teacher's notes

CAPS topics: 1.2 Count forwards and backwards, 1.16 Mental mathematics, 5.4 Collect and organise data, 5.5 Represent data, 5.6 Analyse and interpret data

Lesson vocabulary: Data, pictograph, topic, key, more, less

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Analyse data from representations provided: pictograph.

Concepts:

- Present data and answer questions in a pictograph with one-to-one correspondence.

Resources: Coloured counters for remediation

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 counters to sort: **5** blue counters, **4** red counters, **8** green counters and **9** yellow counters. Ask them to make a drawing of it. Problem solving – ask: **How did you sort the counters? How many blue, red, green and yellow counters are there? Are there more or less red counters than green counters?** Draw a pictograph of this information as a group.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

Counting – 5 min

- Start counting at 51 and count back in ones to 30, e.g. 51, 50, 49, 48, 47...
- Start counting at 20 and count back in twos to 0.

1.2 Recall and strategies (10 minutes)

Which is the biggest number?

	Which is the biggest number?	Answer
1.	33, 39, 36	39
2.	50, 45, 55	55
3.	69, 59, 49	69
4.	23, 22, 24	24
5.	16, 20, 12	20

		Answer
6.	99, 100, 98	100
7.	93, 99, 96	99
8.	45, 44, 46	46
9.	55, 65, 60	65
10.	44, 40, 48	48

2. Homework– 15 minutes

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

3. Lesson content – concept development (30 minutes)

Activity 1: Learners work on groups

Each group looks around the class and records the following:

- Group one: the number of squares or square objects they can see.
- Group two: the number of triangles they can see.
- Group three: the number of rectangles they can see.
- Group four: the number of circles they can see.
- Group five: the number of ovals they can see.
- Group six: the number of cubes they can see.

Activity 2: Whole class activity

Tally the number of shapes counted by each of the groups in the time set for the activity. Do this by asking the groups of learners.

- **How many pictures of squares did they see?**
- **How many pictures of triangles did they see?**
- **How many pictures of rectangles did they see?**
- **How many pictures of circles did they see?**
- **How many pictures of ovals did they see?**
- **How many pictures of cubes did they see?**

Activity 3: Whole class activity

- Record the findings in a pictograph on the board.
- Discuss which shape occurred the least/most.
- Discuss which shape occurred one more/one less time than another shape.
- **Etc**

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

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

6. Reflection on lesson

Term 1 Lesson 24: Data

Classwork

(Learner answers will vary. Check that they have answered the questions correctly, and discuss as needed.)

1. Work in pairs. Put what you both have in your school bags together.
2. Tally the items.
3. Draw a bar graph that shows at least 6 of the items and how many there are of each.
4. We have made some suggestions. Change them if your items are different.

Lunch boxes	Pencils	Writing books	Reading books	Rulers	Erasers

5. Now answer these questions.
 - a) The most common item is __.
 - b) The least common item is __.

Homework

(Learner answers will vary. Check that they have answered the questions correctly and discuss as needed.)

1. Count up the number of 5 different kinds of clothing items you have at home, e.g. shorts, trousers, pairs of socks, blouses, pairs of shoes.
2. Make a tally table of your counted items.
3. Draw your own bar graph showing the data you have at home. (The topic is clothing items.)

WEEK 8

LESSON 25: 3-D OBJECTS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 3.2 3-D objects

Lesson vocabulary: 3-D objects, double, small, smaller, smallest, big, bigger, biggest, ball shapes, box shapes, roll, slide, cubes, spheres

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise and name 3-D objects such as ball shapes (spheres) and box shapes (cubes) in the classroom and in pictures.
- Describe, sort and compare 3-D objects in terms of: size, colour, objects that roll and objects that slide.

Concepts:

- Recognise and name 3-D objects such as ball shapes (spheres) and box shapes (cubes) in the classroom and in pictures.
- Describe, sort and compare 3-D objects in terms of size, objects that roll and objects that slide.

Resources: A range of balls, books, boxes, marbles (all different sizes & colours), pictures of boxes, balls and bricks from old magazines/advertisements for cutting out pictures (collect)

DBE workbook activities relevant to this lesson:

- DBE worksheet 32 (p. 66)

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

Remediation: Divide learners into groups and give them objects that look like balls and boxes. Ask the learners to sort them into balls and boxes. Then let them identify and name any other ball and box-shaped objects in the classroom. Now ask the learners to draw a house using the ball and box-shaped objects they have identified. As they draw they should name the object they are using so that it is immediately recognisable, e.g. **I am going to put the big blue ball next to the squashed yellow box to make...**

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in ones from 11 to 44
- Count backwards in tens from 66 to 26.

1.2 Recall and strategies (10 minutes)

	Double these numbers:	Answer
1.	2	4
2.	3	6
3.	5	10
4.	4	8
5.	1	2

	What is half of...?	Answer
6.	10	5
7.	6	3
8.	2	1
9.	8	4
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)

Activity 1: Whole class activity

- Display the 3-D objects that you have collected in front of the class. If you did not collect shapes show learners pictures of shapes. But it is MUCH better if you can show them real examples of shapes. Compare and describe 3-D objects; learners compare the sizes of similar objects.
- Compare and describe 3-D objects; learners compare the sizes of similar objects.
- Ask the learners to order two different sized balls according to size. The ball on the left/right is bigger than the ball on the right/left.
- They should use the language of size to compare objects, namely: *big, bigger, biggest, small, smaller and smallest*.
- Reinforce this language by using other objects that can be compared, e.g. books of different sizes and pencils of different lengths.
- Ask the learners to compare the colours of similar objects and then sort the coloured balls/boxes.
- They practise identifying and naming both the objects and their colours, as well as comparing sizes of objects, e.g. the red ball is *bigger* than the blue ball.
- Learners name the balls as spheres and the boxes as cubes/prisms.
- A ball is called a sphere in mathematics.
- A box can be called a cube/prism in mathematics.
- Discuss the properties of a sphere and a cube/prism.
- Compare the edges. (The cube has straight edges and the sphere has round edges.)
- Consider if they will roll or slide. (The cube can slide and the ball can roll. The cube cannot roll and the sphere does not slide.)

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

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

6. Reflection on lesson

Term 1 Lesson 25: 3-D objects

Classwork

(Drawings not shown here.)

1. Draw a picture of a box shape and a ball shape in your book.
2. Give the names of two 3-D objects you can see in the classroom. (E.g. a table and a ball on the teacher's desk.)
3. Do they have round or straight edges? (Learner answers will vary, e.g. the table has straight edges and the ball has round edges.)
4. Say if the following will roll or slide:
 - a) a ball (roll)
 - b) a box (slide)
 - c) a can of cold drink (roll on the curved side, slide on the flat side)

Homework

(Learner answers will vary. Check that they have answered the questions correctly and discuss as needed.)

1. Find 3 different objects in your kitchen at home that are ball shaped.
2. Put the objects in order from the smallest to the biggest and then draw them.
3. Find 3 different box shaped objects in your bedroom/any room at home.
4. Put the objects in order from the biggest to the smallest and draw them.

LESSON 26: BUILDING WITH 3-D OBJECTS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 3.2 3-D objects

Lesson vocabulary: 2-D shapes, 3-D objects, incline, slide, roll, on top, underneath, prediction

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise and name 3-D objects in the classroom and in pictures, e.g. ball shapes (spheres) and box shapes (cubes).
- Describe, sort and compare 3-D objects in terms of: size, colour, objects that roll and objects that slide.

Concepts:

- Observe and build 3-D objects from materials such as cut-out 2-D shapes, building blocks, recycled materials, construction kits and other 3-D geometric objects.

Resources: A range of cardboard boxes, building blocks, books, small balls, empty matchboxes (collect beforehand, asking learners to bring too)

DBE workbook activities relevant to this lesson:

- DBE worksheet 32 (p. 67)

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

Remediation: Divide learners into groups, give them different ball and box-shaped objects and ask them to build a tower. Ask them if they were able to use all the objects to build the tower. Learners should realise that you cannot balance all shapes on top of one another. You can also discuss the position of objects, so that there is focused language enrichment, e.g. *on top of, underneath*.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in threes from 21 to 66.
- Count backwards in tens from 66 to 26.

1.2 Recall and strategies (10 minutes)

By building up numbers, calculate the following.

		Answer
1.	$8 + 5 =$	$10 + 3 =$
2.	$7 + 6 =$	$10 + 3 =$
3.	$9 + 4 =$	$10 + 3 =$
4.	$9 + 6 =$	$10 + 5 =$
5.	$7 + 7 =$	$10 + 4 =$

		Answer
6.	$5 + 7 =$	$10 + 2 =$
7.	$8 + 6 =$	$10 + 4 =$
8.	$9 + 8 =$	$10 + 7 =$
9.	$8 + 3 =$	$10 + 1 =$
10.	$8 + 4 =$	$10 + 2 =$

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 in groups

- Give each group a book, a ball and a number of matchboxes.
- Ask the learners to make a slide or incline by placing a matchbox under one end of a large book.
- Learners can now experiment to see whether objects will slide or roll down the incline.
- The ball rolls down, and the box slides down.

Activity 2: Learners work in groups

- Give each group some boxes and some ball shapes.
- Learners should experiment to see whether you can make towers by using only balls and boxes or a mixture of the two kinds of shapes.
- Ask learners: **Can you build a tower using balls and boxes?**
- Ask learners to predict if it is possible – and how. Discuss and note the learners' predictions.
- Then learners try it out. After they have spent some time, experimenting, ask the following questions:
- Ask learners: **Can you build a tower using only balls and boxes?**
- Ask learners: **Can you build a tower using only boxes?**
- Ask learners: **Can you build a tower using both balls and boxes?**
- Discuss if their predictions were correct. If not, why not? Discuss.

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

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

6. Reflection on lesson

Term 1 Lesson 26: Building with 3-D objects

Classwork

1. Can you build a tower with 4 different sized boxes and 2 different sized balls? (Yes you can build a tower with the boxes but not with the balls, because the balls will roll off.)
2. Can you build a tower just with balls? Why or why not? (No you can't, not without something to keep the balls in place.)
3. Can you build a tower with just boxes? Why or why not? (Yes, depending on their shape; if they do not fit on top of each other and balance it may be a problem but otherwise it should work.)
4. Draw a tower made of 4 boxes. (drawing with four boxes in a tower)
5. Draw your own picture using balls and boxes. (Answers will vary.)

Homework

1. Name 3 round objects in your house.
2. Name 3 box shaped objects in your house.
3. Try to build a tower using box shapes. Does it work well? Why/why not?
4. Try to build a tower using round shapes. Does it work well? Why/why not?

LESSON 27: FIVES AND COUNTING IN FIVES

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.8 Repeated addition, 1.12 Techniques – methods or strategies, 1.14 Repeated addition leading to multiplication

Lesson vocabulary: Groups, fives, smallest, biggest

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.

Concepts:

- *Copy, extend and describe* simple number sequences to at least 100, and they should show counting forwards and backwards in fives from any multiple of 5.
- When solving problems, explaining solutions and performing calculations, the learners may use drawings and concrete apparatus.

Resources: Unifix cubes, counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 30 (p. 62)

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

Remediation: Give each learner **20** Unifix blocks. Ask learners to make one group of **5**. Ask: **How many blocks do you have?** (5) Ask learners to make another group of **5**. Ask: **How many blocks do you have now?** (10) **How do we say this?** (2 groups of 5 are: 5, 10.) Repeat until you get to 20.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in fives from 0 to 40.
- Count backwards in fives from 40 to 0.

1.2 Recall and strategies (10 minutes)

Which is the smallest number?

		Answer
1.	4, 3, 5	3
2.	10, 12, 11	10
3.	14, 13, 15	13
4.	22, 24, 23	22
5.	5, 7, 6	5

		Answer
6.	1, 3, 2	1
7.	9, 8, 7	7
8.	19, 17, 18	17
9.	16, 14, 15	14
10.	20, 21, 19	19

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

- Show the learners **five** fingers, and ask them how many fingers there are. (5)
- Close your hand, and ask: **How many fingers do I have?** (5) **How many of them can you see?** (0).
- Ask **two** learners to come to the front of the class. Lift up **one** hand.
- Ask: **How many fingers are there?** (5)
- Lift up your other hand. Ask: **How many fingers are there now?** (10)
- Show three hands and ask: **How many fingers can you see?** (15)
- Repeat the exercise with four hands up in the air. Ask: **How many fingers are there now?** (20)
- Be sure to count the fingers one by one.
- Ask the learners to count all the hands again. (5, 10, 15, 20)

Activity 2: Whole class activity

- Give each group of learners a pile of counters. (There should be at least 25 counters in the pile.)
- Ask each learner to take **5** counters. Each learner then says how many counters they have. (5)
- Ask **2** learners to put their counters together.
- Then say: **Zola** [or whatever the learner's name is] **has 5 counters. One learner has 5 counters.**
- Point to another learner and say: **Palesa** [or whatever the other learner's name is] **has 5 counters.**
- Point to the two learners and say: **Zola and Palesa have 10 counters. Two learners have 10 counters.**
- Do this for **3** and **4** learners.
- **Three** learners have **15** counters, and **4** learners have **20** counters.
- Ask: **How many counters would 5 learners have?** (Five learners have 25 counters.)
- Count in fives up to 25: (5, 10, 15, 20, 25).

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

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

6. Reflection on lesson

Term 1 Lesson 27: Fives and counting in fives

This activity calls on learners to draw. Remember that the main aim of the activity is to consolidate counting in 5s. Learners should draw their answers as they wish to but the important thing is that they start to learn about the number sequence of counting in 5s.

Classwork

1. If 2 children stand in front of the class, how many fingers will you see? (20)
2. If 3 children stand in front of the class, how many fingers will you see? (30)
3. If you have 4 groups of 5 Unifix cubes:
 - a) How many groups of 5 do you have? (4)
 - b) How many cubes are there altogether? (20)
4. If you have 3 groups of 5 Unifix cubes:
 - a) How many groups of 5 do you have? (3)
 - b) Write a number sentence to express this. ($5 + 5 + 5 = 15$)
5. If you have 6 groups of 5 Unifix cubes:
 - a) How many groups of 5 do you have? (6)
 - b) Write a number sentence to express this. ($5 + 5 + 5 + 5 + 5 + 5 = 30$)
6. Draw 4 empty bags. Draw 5 sweets in each bag.
 - a) How many sweets there are altogether? (20)
 - b) Write a number sentence to express this. ($5 + 5 + 5 + 5 = 20$)

Homework

1. Collect 15 stones and put them in groups of five each.
 - a) Write down the number of groups. (3)
 - b) Write a number sentence to express this. ($5 + 5 + 5 = 15$)
2. Draw 5 hands in your book.
 - a) Write down how many fingers there are. (25)
 - b) Write a number sentence to express this. ($5 + 5 + 5 + 5 + 5 = 25$)
3. Draw 4 bags in your book. Draw 5 apples inside of each bag.
 - a) Write down how many apples there are. (20)
 - b) Write a number sentence to express this. ($5 + 5 + 5 + 5 = 20$)

LESSON 28: FIVES ARRAYS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.8 Repeated addition leading to multiplication, 1.12 Techniques – methods or strategies, 1.14 Repeated addition leading to multiplication

Lesson vocabulary: Groups, fives, bigger, smaller, array, rows, columns, grid, triangles, circles

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.

Concepts:

- Copy, extend and describe simple number sequences to at least 100, and count forwards and backwards in fives from any multiple of 5.
- Repeated addition leading to multiplication.
- Drawings or concrete apparatus such as counters may be used to solve problems.

Resources: Counters, Unifix cubes

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 the learners 20 counters each. Draw the counters on the board (3 rows x 5 counters), and ask them to copy it using their counters. Ask: **How many rows are there?** (3) **How many counters are there in each row?** (5) **Count them.** (5, 10, 15) Discuss and talk through that 3 rows with 5 counters in each is 15. Ask learners to show 2 rows with 5 counters each. Count them. (5, 10) Do the same with 4 rows of 5 counters each.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in fives from 40 to 80.
- Count backwards in fives from 80 to 40.

1.2 Recall and strategies (10 minutes)

Which number is bigger?

		Answer
1.	15 or 17	17
2.	25 or 22	25
3.	12 or 21	21
4.	11 or 9	11
5.	16 or 19	19

		Answer
6.	7 or 4	7
7.	19 or 9	19
8.	21 or 23	23
9.	21 or 22	22
10.	5 or 9	9

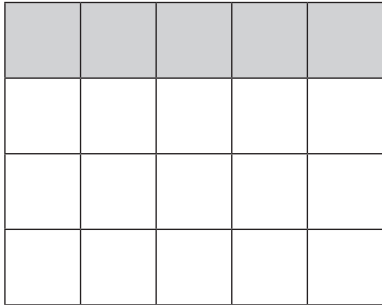
2. Correction/reflection on homework (15 minutes)

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

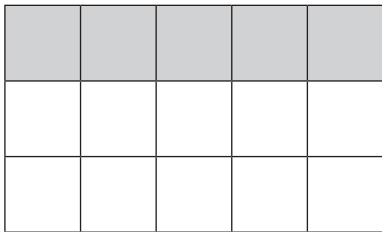
3. Lesson content – concept development (30 minutes)

Activity 1: Learners work in groups of four

- Draw 3 different grids on the board (4 rows with 5 squares in each row, 3 rows with 5 squares in each row and 1 row with 5 squares).
- Using one of the grids on the board (the 4 rows with 5 squares in a row), show learners what a row is, and then ask them to count the rows. (4)



- Ask them to count how many squares there are in each row. (5).
- Ask: **How many rows are there in the grid?** (4)
- Count the square in the grid: 5, 10, 15, 20.
- Ask learners to write down how many squares there are in the grid. Write this as a number sentence. ($5 + 5 + 5 + 5 = 20$)
- Using the grid with 3 rows and 5 squares in a row, ask learners to write down how many squares there are in the grid. (Count 5, 10, 15. Write this as a number sentence. $5 + 5 + 5 = 15$)



- Repeat using the grid with 1 row. Learners write down how many squares there are in the grid. (5)



- Give each group **25** Unifix cubes/counters.
- Ask them to make **5** groups of **5** cubes/counters.
- Count the cubes/counters: 5, 10, 15, 20, 25.
- Ask: **How many rows are there in the grid?** (Write this as a number sentence. $5 + 5 + 5 + 5 + 5 = 25$)

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

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

6. Reflection on lesson

Term 1 Lesson 28: Fives arrays

This activity again calls on learners to draw. Remember that the main aim of the activity is to consolidate counting in 5s. Learners should draw their answers as they wish to but the important thing is that they start to learn about the number sequence of counting in 5s.

Classwork

(Drawings not shown here.)

1. Draw 2 rows with 5 flowers in each row.
 - a) How many rows are there? (2)
 - b) How many flowers per row? (5)
 - c) How many flowers altogether? (10)
2. Draw 5 rows with 5 circles in each row.
 - a) How many rows are there? (5)
 - b) How many circles are there per row? (5)
 - c) How many circles altogether? (25)
3. Draw 3 rows with 5 squares in each row.
 - a) How many rows are there? (3)
 - b) How many squares per row? (5)
 - c) How many squares altogether? (15)
4. Draw 1 row with 5 triangles in the row.
 - a) How many rows of triangles are there? (1)
 - b) How many triangles per row? (5)
 - c) How many triangles altogether? (5)

Homework

(Drawings not shown here.)

1. Draw 5 rows with 5 cars in each row.
 - a) How many rows are there? (5)
 - b) How many cars are there in a row? (5)
 - c) How many cars altogether? (25)
2. Draw 2 rows with 5 stars in each row.
 - a) How many rows are there? (2)
 - b) How many stars are there in a row? (5)
 - c) How many stars altogether? (10)

WEEK 9

LESSON 29: FIVES SHARING AND GROUPING

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.9 Grouping and sharing leading to division, 1.12 Techniques – methods or strategies

Lesson vocabulary: Sharing, grouping, more than, five, equally, remainders, circles, squares, triangles

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context involving equal sharing and grouping and with answers that may include remainders.

Concepts:

- Solve and explain solutions to practical problems that involve equal sharing and grouping up to 20 with answers that may include remainders.
- Drawings or concrete apparatus such as counters may be used to solve problems.

Resources: Unifix cubes, counters

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 **20** Unifix cubes. Ask them to build **five** towers of the same height. Ask: **How many cubes are there in each tower? (4) How many towers are there? (5)** Say: **We can say 20 cubes will make five towers with four blocks in each tower.** Give the learners **17** Unifix cubes. Ask them to build **five** towers of the same height. Ask: **How many cubes are there in each tower? (3) How many towers are there? (5) Are there any cubes left? (2)** Say: **We can say 17 Unifix cubes will make five towers with three cubes in each and two cubes left over.**

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in fives from 15 to 55.
- Count backwards in fives from 55 to 15.

1.2 Recall and strategies (10 minutes)

What is two more than...?

		Answer
1.	4	6
2.	14	16
3.	11	13
4.	3	5
5.	17	19

		Answer
6.	19	21
7.	21	23
8.	15	17
9.	22	24
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 learners again consolidate their understanding developed in Grade 1 of division with and without remainders. The two division strategies, grouping and sharing are also consolidated. Learners should ultimately be able to think of division using either strategy comfortably. They should be able to read a word problem and choose the appropriate strategy in order to find the solution to the problem. This skill will be developed through lots of practice doing division using both strategies.

Activity 1: Learners work in groups

- Give each group **20** counters to work on the following sharing activity.
- Take 15 counters. Share **15** counters equally between five group members.
- Ask: **How many counters does each member get?** (3) **How many counters are left?** (0)
- Take 20 counters. Share 20 counters equally between five group members.
- Ask: **How many counters does each member get?** (4) **How many counters are left?** (0)
- Discuss with the class that the two examples that they have just worked through left no remainder.
- Ask: **What does it mean if there is no remainder?** (Allow several learners to answer. Make sure they understand the idea that the sharing is complete, there is nothing left to share and each group that has been made has the same number.)
- Discuss the remainders in the next three examples while you work through each one.
- Take 11 counters. Share 11 counters equally amongst group members.
- Ask: **How many counters does each get?** (2) **How many counters are left?** (1)
- Take 14 counters. Share 14 counters equally amongst the 5 group members.
- Ask: **How many counters does each member get?** (2) **How many counters are left?** (4)
- Take 16 counters. Share 16 counters equally amongst the five group members.
- Ask: **How many counters does each member get?** (3) **How many counters are left?** (1)

Activity 2: Whole class activity

- In this discussion you will focus on division by grouping instead of sharing. Note that the examples are mixed – remainders and no remainders. Discuss these with learners to consolidate the concept of equal sharing with and without remainders.
- Take 19 counters. Ask: **How many groups of 5 can you make? What is left over?** (I can make 3 groups of 5 and I will have 4 counters left over.)
- Take 8 counters. Ask: **How many groups of 5 can you make? What is left over?** (I can make 1 group of 5 and I will have 3 counters left over.)
- Take 10 counters. Ask: **How many groups of 5 can you make? What is left over?** (I can make 2 groups of 5 and I will have 0 (no) counters left over.)
- Take 12 counters. Ask: **How many groups of 5 can you make? What is left over?** (I can make 2 groups of 5 and I will have 2 counters left over.)
- Etc.

Before setting the individual classwork activity, allow learners to ask questions about the differences between grouping and sharing. (When we share we have a number of items and we work out how many items will be shared, according to the question, equally. When we group, we have a number of items and we work out how many groups we can make, if we put the items into groups of equal size.)

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

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

6. Reflection on lesson

Term 1 Lesson 29: Fives sharing and grouping

Classwork

(Drawings not shown here.)

1. Draw 15 triangles. Share them equally amongst five groups.
 - a) Are any triangles left or not? (There are none left.)
 - b) Write: $\underline{\quad}$ (15) shared amongst $\underline{\quad}$ (5) is $\underline{\quad}$ (3). $\underline{\quad}$ (0) triangles are left.
2. Draw 11 suckers. Share the suckers equally amongst five children.
 - a) Are there any suckers left? (one)
 - b) Write: $\underline{\quad}$ (11) shared amongst $\underline{\quad}$ (5) is $\underline{\quad}$ (2). $\underline{\quad}$ (1) sucker is left.
3. Draw 20 circles. Share them equally amongst five groups.
 - a) Are there any circles left or not? (There are none left.)
 - b) Write: $\underline{\quad}$ (20) shared amongst $\underline{\quad}$ (5) is $\underline{\quad}$ (4). $\underline{\quad}$ (0) circles are left.
4. Draw 17 squares. Share them equally amongst five groups.
 - a) Are there any squares left or not? (two)
 - b) Write: $\underline{\quad}$ (17) shared amongst $\underline{\quad}$ (5) is $\underline{\quad}$ (3). $\underline{\quad}$ (2) squares are left.

Homework

(Drawings not shown here.)

1. Draw 10 cars. Share them between five children.
 - a) Are any cars left or not? (There are none left.)
 - b) Write: $\underline{\quad}$ (10) shared amongst $\underline{\quad}$ (5) is $\underline{\quad}$ (2). $\underline{\quad}$ (0) cars are left.
2. Draw 17 suckers. Share the suckers equally amongst five children.
 - a) Are there any suckers left? (2)
 - b) Write: $\underline{\quad}$ (17) shared amongst $\underline{\quad}$ (5) is $\underline{\quad}$ (3). $\underline{\quad}$ (2) suckers are left.

LESSON 30: NUMBER PATTERNS: 5

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematic, 2.2 Number patterns

Lesson vocabulary: Number patterns, biggest, smallest, counting on, counting back, before, after, backwards, forwards

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Copy, extend and describe simple number sequences to at least 100, which should include counting forwards and backwards in ones.
- Counting forwards in tens, fives and twos between and up to 100.

Concepts:

- Copy, extend and describe simple number sequences to at least 100 and be able to count forwards and backwards in fives from any multiple of 5 between 1 and 100.

Resources: 1–100 board (see *Printable Resources*), counters

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 1–100 board and 20 counters. Ask them to place the counters on the fives on the board. Guide them by counting 5, 10, 15, 20, 25, 30. Ask them to put their fingers on 5 and count on to 30 (10, 15, 20, 25, 30). Ask them to put their fingers on 40 and count on in fives to 80 (45, 50, 55, 60, 65, 70, 75, 80). Do the same with the following: count on from 25 to 65 and 80 to 100. Now count backwards in fives, using the board, from 30 to 5, 50 to 5, 80 to 5. Ask the learners if they can identify the pattern. Discuss the pattern with them.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in fives from 10 to 50.
- Count backwards in fives from 50 to 10.

1.2 Recall and strategies (10 minutes)

	Which number comes after...?	Answer
1.	15	16
2.	19	20
3.	9	10
4.	11	12
5.	23	24

	Which number comes before...?	Answer
6.	25	24
7.	22	21
8.	18	17
9.	12	11
10.	10	9

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

- Give each group of learners a 1–100 board and some counters.
- Ask the learners to place a counter on 5, 10, 15, 20 and 25. Ask them to continue the pattern up to 100. (30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 100)

Activity 2: Whole class activity

- Write the multiples of 5 from 5 to 100 on the board in a random order.
- Ask the learners to arrange, orally, as a class, the numbers 5, 25, 15, 10, 20 on the board from the smallest to the biggest number (5, 10, 15, 20, 25). Then from the biggest to the smallest number (25, 20, 15, 10, 5). They can use the numbers on the board and the number boards as an aid.
- Ask the learners to order from 50 to 100 from the smallest to the biggest number and say what they have done. (50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100)
- Explain to learners that this is *counting on* – from 50 to 100.
- Ask them to use the same numbers and order them from the biggest to the smallest number. (100, 95, 90, 85, 80, 75, 70, 65, 60, 55, 50)
- Explain to learners that this is *counting back* – from 100 to 50.

Activity 3: Whole class activity

- Call out numbers between 0 and 100 randomly, e.g. 5, 16, 21, 50, 66, 25, 80, 90.
- Learners clap their hands when they hear a multiple of 5.
- Allow learners in the class to participate by calling out numbers – one learner calls and the rest of the class claps when the learner calls 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 1 Lesson 30: Number patterns of 5s

Classwork

1. Use a 1-100 number board on which the multiples of 5 are left blank. Complete the number board.
(Work on the number board.)

2. Complete the patterns:
- a) 5, 10, 15, _ (20), _ (25), _ (30), _ (35), _ (40), _ (45), 50
 - b) 50, 45, 40, _ (35), _ (30), _ (25), _ (20), _ (15), _ (10), 5
 - c) 50, _ (45), _ (40), _ (35), _ (30), 25, _ (20), _ (15), 10, _ (5)
 - d) 10, 20, 30, _ (40), _ (50)
 - e) 30, 40, 50, _ (60), _ (70)
 - f) 100, 90, 80, _ (70), _ (60)
 - g) 70, 60, 50, _ (40), _ (30)

Homework

1. Complete the following: 15, 20, 25, _ (30), _ (35), _ (40), _ (45), _ (50), _ (55), 60
2. Fill in the missing numbers: 35, 40, _ (45), _ (50), _ (55), 60, _ (65), 70
3. Complete the pattern: 55, 50, _ (45), _ (40), _ (35)
4. Complete the pattern: 85, 80, _ (75), _ (70), _ (65), 60, _ (55), _ (50)

LESSON 31: PATTERNS OF FIVE

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.2 Number patterns

Lesson vocabulary: Number patterns, double, half, backwards, forwards, addition, subtraction

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use calculation strategies to add and subtract efficiently, putting the larger number first in order to count on or count back.
- Use number lines, double and halve and build up and break down numbers.

Concepts:

- *Copy, extend and describe* simple number sequences to at least 100 and show counting *forwards* and *backwards* in fives from any multiple of 5 between 1 and 100.

Resources: 1–100 board (see *Printable Resources*), counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 30 (p. 63 no. 4)

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

Remediation: If possible, take the learners outside. Draw a number line in chalk on a hard surface, or use a stick to draw it in the sand. Mark it in intervals of 5. The learners then hop from 5 to 100, saying each multiple of 5 as they hop from one multiple to the next.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in fives from 25 to 85.
- Count backwards in fives from 85 to 25.

1.2 Recall and strategies (10 minutes)

	Double	Answer
1.	3	6
2.	7	14
3.	9	18
4.	11	22
5.	5	10

	What is half of...?	Answer
6.	12	6
7.	8	4
8.	18	9
9.	22	11
10.	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

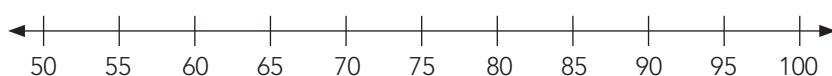
- Draw a fives number line from 0 to 50 on the board.



- Ask the learners to count in fives from 5 to 50.
- As they count, circle the multiples of five on the number line. (5, 10, 15, 20, 25, 30, 35, 40, 45, 50)
- Discuss why you have circled these numbers. (We are counting in 5s.)
- Discuss which numbers fall in certain intervals, For example, the numbers 1, 2, 3 and 4 fall between 0 and 5; the numbers 31, 32, 33 and 34 fall between 30 and 35; and the numbers 46, 47, 48 and 49 fall between 45 and 50.
- Discuss that the fives have been labelled on this number line but that there are also other numbers that fall in the intervals you have spoken about.
- Make sure that learners understand and can identify *between* numbers, e.g. 2 is between 0 and 5, 34 is between 30 and 35 and so on.
- Count backwards in fives now, pointing to the multiples of 5 again. (50, 45, 40, 35, 30, 25, 20, 15, 10, 5)

Activity 2: Whole class activity

- Draw a fives number line from 50 to 100 on the board.



- Ask the learners to count in fives from 50 to 100, pointing at each multiple of 5 on the number line.
- As they count, circle the multiples of ten on the number line. (50, 60, 70, 80, 90, 100)
- Discuss why you have circled these numbers.
- Discuss which numbers fall in certain intervals. For example, ask what numbers fall between 50 and 60 (learners should name any number that falls in this interval, e.g. 53, 55, 58); 85 and 100 (learners should name any number that falls in this interval, e.g. 89, 97).
- Discuss again that the fives have been labelled on this number line but that there are also other numbers that fall in the intervals you have spoken about.
- Make sure that learners understand and can identify *between* numbers, e.g. 67 is between 65 and 70.
- Count backwards in fives now, pointing to the multiples of 5 again.

Activity 3: Whole class activity

- Give each learner a 1–100 board.
- Ask the learners to count on in fives from any number on the board (e.g. 15, 20, 25, 30, 35, 40, 45).
- Write the sums on the board to show the counting from 15 increasing in 5s:
 - $15 + 5 = 20$
 - $20 + 5 = 25$
 - $25 + 5 = 30$, etc.
- Ask the learners to count back in fives from any number on the board (e.g. 85, 80, 75, 70, 65, 60).
- Write the sums on the board to show the counting count back in tens:
 - $85 - 5 = 80$
 - $80 - 5 = 75$
 - $75 - 5 = 70$, etc.

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

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

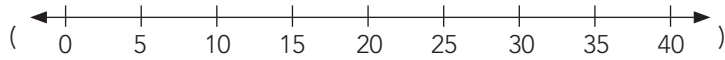
6. Reflection on lesson

Term 1 Lesson 31: Patterns of five

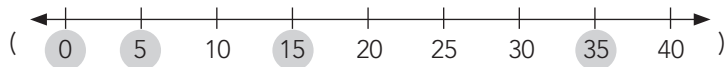
This is a long classwork activity. You might want to select certain questions from the activity for learners to do rather than ask them to complete the whole activity.

Classwork

1. Draw a fives number line from 0 to 40.



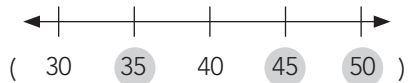
2. Circle the following multiples on the number line: 0, 5, 15 and 35.



3. Draw a fives number line from 30 to 50. (draw)



4. Circle the following multiples on the number line: 35, 45, 50. (Show on the number line)



5. Complete the following:

a) $5 + 5 = (10)$

b) $10 + 5 = (15)$

c) $15 + 5 = (20)$

d) $20 + 5 = (25)$

e) $25 + 5 = (30)$

6. Complete the following:

a) $85 - 5 = (80)$

b) $90 - 5 = (85)$

c) $95 - 5 = (90)$

d) $100 - 5 = (95)$

Homework

1. Complete the following:

a) $70 + 5 = \underline{\quad} (75)$

b) $75 + 5 = \underline{\quad} (80)$

2. Complete the following:

a) $65 - 5 = \underline{\quad} (60)$

b) $60 - 5 = \underline{\quad} (55)$

LESSON 32: MONEY

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.11 Money

Lesson vocabulary: Cents, rand, change, coins, notes, total, between

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use calculation strategies to add and subtract efficiently, putting the larger number first in order to count on or count back.
- Use number lines, double and halve and build up and break down numbers.
- Recognise and identify the South African currency: coins (5c, 10c, 20c, 50c, R1, R2 and R5) and notes (R10 and R20).
- Solve money problems involving totals and change in rand up to R20 and in cents up to 20c.

Concepts:

- Recognise and identify the South African coins: 5c, 10c, 20c, 50c, R1, R2, R5 and bank notes: R10, R20, R50.
- Solve money problems involving totals and change in cents up to 50c and rand to R20.

Resources: Empty food boxes/cans/bags and prices for each item to set up the shop, money cut-outs (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 25 (pp. 52 and 53)

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

Remediation: Give the learners cut-out coins and notes to identify. Show them a chair costing R70. Ask them to show you different combinations of money that could be used to buy the chair. Do the same using a broom for R20 and a book for R5.00. Then move onto explaining cents, 100 cents = R1.00. Explore counting in cents. Ask learners to show you 50c, 70c, 90c, etc. Now ask learners to show you R5,50, R10,70, etc.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in tens from 0 to 100.
- Count backwards in tens from 100 to 0.

1.2 Recall and strategies (10 minutes)

Which number comes between?

		Answer
1.	20 and 22	21
2.	20 and 18	19
3.	10 and 12	11
4.	12 and 14	13
5.	13 and 11	12

		Answer
6.	3 and 1	2
7.	3 and 5	4
8.	17 and 19	18
9.	19 and 21	20
10.	23 and 25	24

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

- Give each learner the printable money resource sheet to cut out before the lesson.
- Set up a shop in your class using empty food boxes/cans/bags and price each item.
- You don't have to use real life prices but rather prices within the number range that the learners know, e.g. R5/R2.50/R14/R7,50 etc.
- Learners come and shop in small groups. Each group may buy products to the value of R20.
- The groups need to ensure that they do not exceed the amount given to them.
- They need to add up the value of their purchases and calculate if they have enough money and what change they should get.

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

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

6. Reflection on lesson

Term 1 Lesson 32: Money

Classwork

Draw the following:

(Learner answers will vary. Check that the total values represented are correct and the coins/notes are in values that we do use.)

1. Coins that will make up 50c. (Learners can draw any coins whose total value equals 50c, e.g. five 10c coins, two 20c coins and a 10c coin.)
2. Coins that will make up 20c. (e.g. $2 \times 10c$ coins)
3. Notes or coins that will make up R10. (e.g. one R10 note)
4. Notes or coins that will make up R50. (e.g. five R10 notes or two R20 notes and one R10 note)
5. Notes and/or coins that will make up R26. (e.g. one R20 note and three R2 coins)

Homework

Draw the following, showing two different ways of reaching that sum of money:

(Learner answers will vary. Check that the total values represented are correct and the coins/notes are in values that we do use.)

1. Money that will make up 15c. ($3 \times 5c$, $1 \times 10c$ and $1 \times 5c$)
2. Money that will make up R20. (Learner answers will vary.)
3. Money that will make up R45. (Learner answers will vary.)
4. Money that will make up R26. (Learner answers will vary.)

WEEK 10

LESSON 33: MONEY

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.11 Money, 1.16 Mental mathematics

Lesson vocabulary: Cents, rand, change, coins, notes, total, change, more, less

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Recognise and identify the South African coins (5c, 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 (5c, 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 rand to R50.

Resources: Money cut-outs (coins and notes) (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 26 (pp. 54 and 55)

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

Remediation: Give learners the following coins and ask them what the total is: 10c + 10c (20c), 5c + 5c + 10c (20c). Discuss if there is another way to show 20c. Ask: **What is the total of: 50c + 50c?** (R1), 20c + 20c + 10c + 50c? (R1)

What is the total of R5 + R5? (R10), R5 + R2 + R2 + R1? (R10) **Is there another way to show R10? What is the total of R10 + R5 + R5?** (R20) **Can you show me some other coins that will make up R20?** Encourage problem solving with questions like: **My mom has one note and two coins in her purse. How much money could there be in her purse?** Learners must show the solution using the cut-out money.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

Count forwards and backwards in fives from 0 to 100.

1.2 Recall and strategies (10 minutes)

	What is one more than:	Answer
1.	49	50
2.	32	33
3.	15	16
4.	25	26
5.	41	42

	What is one less than:	Answer
6.	50	49
7.	22	21
8.	18	17
9.	29	28
10.	20	19

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 in groups

- Give each group cut-outs of the following coins and notes (also used in the previous lesson): 5c, 10c, 20c, 50c, R1, R2, R5, R10, R20, R50.
- Ask them to show you the following: the coins that will make up 20c, the coins that will make up R1, the coins that will make up R10, the notes that will make up R20, the coins and notes that will make up R20, and the coins and notes that will make up R50.
- After each exercise ask the learners if the answer they gave you is the only correct answer. (There will usually be many different ways to make up an amount of money. Try to get as many different ways by asking lots of learners to give different answers.)
- Discuss how various coins and notes can be used.
- Learners will sometimes be limited in their answers because of the coin and note cut-outs they received but they could talk about other possible ways if they share resources.

Activity 2: Whole class activity

- In this activity you work through some different word problems that involve money. The problems involve addition, subtraction, repeated addition (multiplication) and sharing.
- Each time you do a problem work through it step-by-step with the class, discussing how you read the problem carefully to find out what to do in order to solve the problem.
- The discussion should involve identifying the numbers involved in the question and the operation that must be used to solve the problem. Make use of money cut outs to demonstrate the problem solving process.
- Here are 4 suggested problems for you to work through with the whole class. You should make up some more problems if you think the class needs more practice before they do the individual classwork activity.
 1. Busi has 30 cents. Her mom gives her 10 cents. How much money does she now have? (Addition is needed to solve the problem. I have to add 30 and 10. The answer is 40 cents.)
 2. Jabu has 20c. He buys a sweet for 12c. How much money does he have left? (Subtraction is needed to solve the problem. I have to subtract 12 from 20. The answer is 8 cents.)
 3. I have 50c. Can I share it equally amongst 10 children? (Sharing is needed to solve the problem. I have to share 50c among 10 children. The answer is 5 cents.)
 4. Toffees cost 10c each. Thola bought 5 toffees. How much did she spend? (Repeated addition (multiplication) is needed to solve the problem. I have to add 10 five times. The answer is 50 cents.)

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

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

6. Reflection on lesson

Term 1 Lesson 33: Money

Allow learners to use different strategies to solve the problems. They should be able to show what they have done and write the answers correctly writing a simple number sentence.

Classwork

1. Thandi has 10 cents. Her mom gives her 10 cents. How much money does she now have? (20 cents)
2. I have 20c. I buy a sweet for 10c. How much money do I have left? (10c)
3. I have 40c. Can I share it equally amongst four children? (Yes – each child will get 10c)
4. Toffees cost 10c each. Busi spent 50c buying toffees. How many toffees did she buy? (5)
5. A fizz pop costs R2,50. Palesa wants to buy 4 fizz pops.
 - a. She has R8. Can she buy four fizz pops? (No because 4 fizz pops will cost R10)
 - b. How much more money does Palesa need in order to buy the 4 fizz pops? (She needs R10 and she only has R8 so she needs R2 more)

Homework

1. Ask someone at home to show you some coins from their wallet. How much money did they take out of their wallet? (Learner answers will vary.)
2. I have R15. I buy a packet of chips for R2,50 and a Fanta Orange for R8. How much do I have to pay? Is there any change? If so, how much? (R10,50. There is R4,50 change.)
3. Thenje pays R5 to travel by taxi to school in the morning and R6,50 to go home after school in the afternoon. She pays with a R20 note in the morning and uses the change to pay for her ride home. How much change does she have when she arrives home? (R8,50)

LESSON 34: TWOS AND COUNTING IN TWOS

Teacher's notes

CAPS topics: 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.8 Repeated addition leading to multiplication, 1.12 Techniques – methods or strategies, 1.14 Repeated addition leading to multiplication

Lesson vocabulary: Groups, twos, altogether, first, second, third

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down of numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.

Concepts:

- Solve problems and explain solutions in context, involving addition and subtraction up to 20, using the appropriate symbols.
- When solving problems, explaining solutions and performing calculations, the learners may use drawings and concrete apparatus.

Resources: Unifix cubes, counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 29 (p. 60)

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

Remediation: Give each learner **20** Unifix cubes. Ask them to make one group of **2**. Ask them how many cubes they have. (2) Ask the learners to make another group of 2. Ask: **How many cubes do you have now?** (4) **How do we say this?** (2 groups of 2 is 4) Repeat until you get up to 20. (10 groups of 2 is 20)

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in twos from 0 to 40.
- Count backwards in twos from 40 to 0.

1.2 Recall and strategies (10 minutes)

What is the next number?

		Answer
1.	5, 10, ...	15
2.	70, 60, ...	50
3.	34, 35, ...	36
4.	99, 98, ...	97
5.	25, 30, ...	35

		Answer
6.	10, 20, ...	30
7.	65, 70, ...	75
8.	80, 75, ...	70
9.	28, 29, ...	30
10.	82, 81, ...	80

2. Correction/reflection on homework (15 minutes)

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

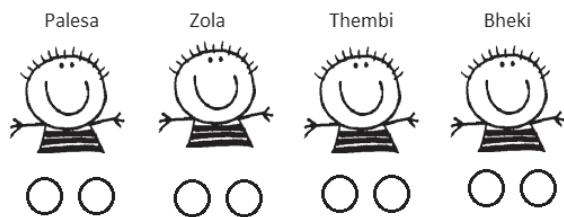
3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

- Ask 10 learners to stand in front of the class.
- Ask the class how many legs the first learner has. (2)
- Ask the learners the following questions and remind them to count in multiples of two:
 - **How many legs do the first and the second learners have altogether?** (4)
 - **How many legs do the first, second and third learners have altogether?** (6)
 - **How many legs do the first, second, third and fourth learners have altogether?** (8)
- Repeat until you have reached the tenth learner.
- Ask all the learners to count all the legs again. (2, 4, 6, 8, 10, 12, 14, 16, 18, 20)

Activity 2: Whole class activity

- Ask each learner to take **2** counters. How many counters does each learner have? (2)
- Draw the following on the board: four learners, with their names and 2 counters each.



- Point to the drawings one at a time and count the counters. (2, 4, 6, 8)
- Learners now have to say the following:
 - **Palesa has 2 counters. One learner has 2 counters.**
 - **Zola has 2 counters. Two learners have 4 counters.**
 - **Thembi has 2 counters. Three learners have 6 counters.**
 - **Bheki has 2 counters. Four learners have 8 counters.**
- Ask: **If 4 learners each have 2 counters, how many counters do they have altogether?** (8)
- Now call on different groups of learners to come to the front and bring their counters – each time work out how many counters they have altogether and say – *If __ learners each have 2 counters, they have __ counters altogether.*

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

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

6. Reflection on lesson

Term 1 Lesson 34: Twos and counting in twos

This activity again calls on learners to draw. Remember that the main aim of the activity is to consolidate counting in 2s. Learners should draw their answers as they wish to but the important thing is that they start to learn about the number sequence of counting in 2s.

Classwork

(Drawings not shown here.)

- If there are 4 children:
 - How many pairs of shoes will you see? (4)
 - How many shoes altogether? (8)
- If there are 8 children:
 - How many pairs of shoes will you see? (8)
 - How many shoes altogether? (16)
- Complete the following. We have done the first one for you.
 - 4 groups of 2 = $2 + 2 + 2 + 2 = 4 \times 2 = 8$
 - 5 groups of 2 = $(2 + 2 + 2 + 2 + 2 = 5 \times 2 = 10)$
 - 6 groups of 2 = $(2 + 2 + 2 + 2 + 2 + 2 = 6 \times 2 = 12)$
- Draw 3 bags with 2 sweets in each bag.
 - How many sweets altogether? (6)
 - Write this in a number sentence. $(2 + 2 + 2 = 3 \times 2 = 6)$
- Draw 4 empty bags. Draw 2 sweets in each bag.
 - How many sweets altogether? (8)
 - Write this in a number sentence. $(2 + 2 + 2 + 2 = 4 \times 2 = 8)$

Homework

- Collect 6 stones and put them into groups of two. Write down how many stones there are. (6)
- Draw 8 pairs of feet in your book. Write down how many feet there are. (16)
- Draw 4 bags in your book. Draw 2 apples inside of each bag. Write down how many apples there are. (8)

LESSON 35: TWOS ARRAYS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.8 Repeated addition leading to multiplication, 1.12 Techniques – methods or strategies, 1.14 Repeated addition leading to multiplication

Lesson vocabulary: Groups, twos, more, array, rows, columns, crosses, triangles, squares

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down of numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 20.

Concepts:

- *Copy, extend and describe* simple number sequences to at least 100 and count forwards and backwards in twos from any multiple of 2.
- Repeated addition leading to multiplication.
- Drawings or concrete apparatus such as counters may be used to solve problems.

Resources: Unifix cubes, counters

DBE workbook activities relevant to this lesson:

- DBE worksheet 29 (p. 61)

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

Remediation: Give the learners **20** counters each. Draw the counters on the board (3 rows with 2 counters in a row), and ask them to copy it using their counters. Ask: **How many rows are there?** (3) **How many counters are there in each row?** (2) **Count the counters.** (2, 4, 6) Ask learners to show 5 rows with 2 counters in a row. **Count the counters.** (2, 4, 6, 8, 10) Do the same with 4 rows with 2 counters in a row.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in twos from 20 to 60.
- Count backwards in twos from 60 to 20.

1.2 Recall and strategies (10 minutes)

	Which number is more: ...or...?	Answer
1.	21 or 12	21
2.	14 or 24	24
3.	13 or 11	13
4.	9 or 10	10
5.	19 or 20	20

		Answer
6.	18 or 8	18
7.	11 or 15	15
8.	21 or 20	21
9.	23 or 22	23
10.	15 or 14	15

2. Correction/reflection on homework (15 minutes)

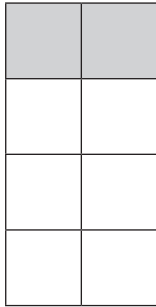
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

Use counters instead of Unifix cubes in this lesson if you do not have Unifix cubes.

Activity 1: Learners work in groups

- Give each group **20** Unifix cubes (or counters).
- Ask the learners to make 10 groups of 2 each with their Unifix cubes.
- Ask the learners to count the Unifix cubes. Count it as follows: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20. You can say: We have 10 pairs of Unifix cubes. **We have 10 groups with 2 Unifix cubes in each group.**
- Draw a grid on the board (4 rows with 2 squares in each row).



- Using the grid on the board (4 rows with 2 squares in a row), show the learners what a row is and then ask them to count the rows. (4).
- Ask them to count how many squares there are in each row. (2)
- Count the total number of squares in the grid. Count it as follows: 2, 4, 6, 8.
- Draw the following grid with the learners: 7 rows with 2 blocks in a row.
- Learners write down how many blocks they have. (2, 4, 6, 8, 10, 12, 14)
- Ask learners to draw the following grid: 1 row with 2 blocks in the row.
- Then they write down how many blocks they have. (2)
- Draw other grids if you have time and if you think the learners need more practice counting in 2s.

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

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

6. Reflection on lesson

Term 1 Lesson 35: Twos arrays

This activity again calls on learners to draw. Remember that the main aim of the activity is to consolidate counting in 2s. Learners should draw their answers as they wish to but the important thing is that they start to learn about the number sequence of counting in 2s.

Classwork

(Drawings not shown here.)

1. Draw 2 rows with 2 circles in each row.
 - a) How many rows are there? (2)
 - b) How many circles are there in a row? (2)
 - c) How many circles altogether? (4)
2. Draw 5 rows with 2 triangles in each row.
 - a) How many rows are there? (5)
 - b) How many triangles are there in a row? (2)
 - c) How many triangles altogether? (10)
3. Draw 3 rows with 2 squares in each row.
 - a) How many rows are there? (3)
 - b) How many squares are there in a row? (2)
 - c) How many squares altogether? (6)
4. Draw 4 rows with 2 blocks in each row.
 - a) How many rows are there? (4)
 - b) How many blocks are there in a row? (2)
 - c) How many blocks altogether? (8)

Homework

(Drawings not shown here.)

1. Draw 3 rows with 2 flowers in each row.
 - a) How many rows are there? (3)
 - b) How many flowers are there in a row? (2)
 - c) How many flowers altogether? (6)
2. Draw 5 rows with 2 cars in each row.
 - a) How many rows are there? (5)
 - b) How many cars are there in a row? (2)
 - c) How many cars altogether? (10)
3. Draw 2 rows with 2 cats in each row.
 - a) How many rows are there? (2)
 - b) How many cats are there in a row? (2)
 - c) How many cats altogether? (4)

LESSON 36: TWOS SHARING AND GROUPING

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 1.6 Problem-solving techniques, 1.9 Grouping and sharing leading to division, 1.12 Techniques – methods and strategies

Lesson vocabulary: Sharing, grouping, add, shared amongst, equally, rectangles, underneath

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use concrete apparatus, pictures, building up and breaking down of numbers, doubling and halving and number lines when solving and explaining problems and performing calculations.
- Solve word problems in context involving equal sharing and grouping and with answers that may include remainders.

Concepts:

- Solve and explain solutions to practical problems that involve equal sharing and grouping up to 20 with answers that may include remainders.

Resources: Counters, Unifix cubes

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 **20** Unifix cubes. Ask them to build **two** trains of the same length. Ask: **How many blocks are there in each train?** (10) **How many trains are there?** (2) Ask learners: **We can say 20 blocks will make two trains with ten blocks in each train.** Give the learners **13** Unifix cubes. Ask them to build **two** trains of the same length. Ask: **How many blocks are there in each train?** (6) **How many trains are there?** (2) **Are there any blocks left over?** (1) Ask learners, **We can say 13 Unifix cubes will make two trains with six cubes in each train and there is one cube left over.** Repeat this activity using numbers 9, 11 and 15. Remember to use the word *remainder* when you talk about the left-overs.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in twos from 42 to 78.
- Count backwards in twos from 78 to 42.

1.2 Recall and strategies (10 minutes)

Add the following numbers:

		Answer
1.	$2 + 2 =$	4
2.	$4 + 4 =$	8
3.	$5 + 3 =$	8
4.	$6 + 3 =$	9
5.	$7 + 1 =$	8

		Answer
6.	$1 + 3 =$	4
7.	$2 + 6 =$	8
8.	$3 + 7 =$	10
9.	$8 + 2 =$	10
10.	$9 + 1 =$	10

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 in groups

- Give each group about **20** counters to use for this sharing activity.
- Use 8 counters. Share **8** counters equally between **two** learners.
- Ask: **How many counters did each learner get?** (4) **How many counters are left over?** (0)
- Use 10 counters. Share **10** counters equally among two learners.
- Ask: **How many counters did each learner get?** (5) **How many counters are left over?** (0)
- Use 14 counters. Share **14** counters equally among two learners.
- Ask: **How many counters did each learner get?** (7) **How many counters are left over?** (0)
- Use 17 counters. Share **17** counters equally among two learners.
- Ask: **How many counters did each learner get?** (8) **How many counters are left over?** (1)
- Work through other examples if necessary before the learners do the individual classwork activity from the Learner Activity Book.

Activity 2: Whole class activity

- In this discussion you will focus on division by grouping instead of sharing.
- Take 8 counters. Ask: **How many groups of 2 can you make? What is left over?** (I can make 4 groups of 2 and I will have 0 (no) counters left over.)
- Take 12 counters. Ask: **How many groups of 2 can you make? What is left over?** (I can make 6 groups of 2 and I will have 0 (no) counters left over.)
- Take 11 counters. Ask: **How many groups of 2 can you make? What is left over?** (I can make 5 groups of 2 and I will have 1 counter left over.)
- Take 17 counters. Ask: **How many groups of 2 can you make? What is left over?** (I can make 8 groups of 2 and I will have 1 counter left over.)
- Etc.

Before setting the individual classwork activity, allow learners to ask questions about the differences between grouping and sharing. (When we share we have a number of items and we work out how many items will be shared, according to the question, equally. When we group, we have a number of items and we work out how many groups we can make, if we put the items into groups of equal size.)

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

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

6. Reflection on lesson

Term 1 Lesson 36: Twos sharing and grouping

Classwork

(Drawings not shown here.)

1. Draw 10 squares. Share them equally between two groups.
 - a) Are there any squares left or not? (None left.)
 - b) $\underline{\quad}$ (10) shared between $\underline{\quad}$ (2) is $\underline{\quad}$ (5). $\underline{\quad}$ (0) squares are left.
2. Draw 15 triangles. Share them equally between two groups.
 - a) Are there any triangles left over or not? (Yes, one is left.)
 - b) $\underline{\quad}$ (15) shared between $\underline{\quad}$ (2) is $\underline{\quad}$ (7). $\underline{\quad}$ (1) triangle is left.
3. Draw 11 crosses. Share the crosses equally between two groups.
 - a) Are there any crosses left? (Yes, one cross is left.)
 - b) $\underline{\quad}$ (11) shared between $\underline{\quad}$ (2) is $\underline{\quad}$ (5). $\underline{\quad}$ (1) cross is left.
4. Draw 19 circles. Share them equally between two groups.
 - a) Are there any circles left or not? (Yes, one circle is left.)
 - b) $\underline{\quad}$ (19) shared between $\underline{\quad}$ (2) is $\underline{\quad}$ (9). $\underline{\quad}$ (1) circle is left.
5. Toffees cost 2c each. Thembi spent 20c buying toffees. How many toffees did she buy? (10)

Homework

(Drawings not shown here.)

1. Draw 16 cars and 2 blocks. Share the cars equally between the blocks.
 - a) Are there any cars left? (no)
 - b) $\underline{\quad}$ (16) cars shared between $\underline{\quad}$ (2) blocks is $\underline{\quad}$ (8). $\underline{\quad}$ (0) cars are left.
2. Draw 21 rectangles and 2 girls. Share the rectangles equally between the girls.
 - a) Are there any rectangles left? (yes, one)
 - b) $\underline{\quad}$ (21) rectangles shared between $\underline{\quad}$ (2) girls is $\underline{\quad}$ (10). $\underline{\quad}$ (1) rectangle is left.
3. Draw 17 suckers and 2 boys. Share the suckers equally between the boys.
 - a) Are there any suckers left? (yes, one)
 - b) $\underline{\quad}$ (17) suckers shared between $\underline{\quad}$ (2) boys is $\underline{\quad}$ (8). $\underline{\quad}$ (1) sucker is left.

WEEK 11

LESSON 37: NUMBER PATTERNS: TWOS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.2 Number patterns

Lesson vocabulary: Number patterns, smallest, biggest

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Copy, extend and describe simple number sequences to at least 100, which should show counting forwards and backwards in ones.
- Count forwards in tens, fives and twos between and up to 100.

Concepts:

- *Copy, extend and describe* simple number sequences to at least 100, and count forwards and backwards in twos from any multiple of 2 between 1 and 100.

Resources: 1–100 board (see *Printable Resources*), counters

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 1–100 board and 25 counters. Ask them to place their counters on the twos on the board. Guide them by counting 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24 ... 50. Ask them to put their fingers on 12 and to count on to 36 (12, 14, 16, 18, 20 ... 36). Ask them to put their fingers on 40 and to count back to 20 (40, 38, 36, 34, 32 ... 20). Do the same with the following: count on from 12 to 30 and 18 to 50. Count back from 40 to 0. Use the word pattern in your discussion with the learners.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics (15 minutes)

1.1 Counting (5 minutes)

- Count forwards in twos from 64 to 100.
- Count backwards in twos from 100 to 64.

1.2 Recall and strategies (10 minutes)

Add

		Answer
1.	$3 + 4 =$	7
2.	$6 + 2 =$	8
3.	$5 + 4 =$	9
4.	$8 + 1 =$	9
5.	$4 + 5 =$	9

		Answer
6.	$6 + 3 =$	9
7.	$10 + 1 =$	11
8.	$11 + 4 =$	15
9.	$11 + 6 =$	17
10.	$10 + 3 =$	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

- Give each group of learners a 1–100 board and some counters.
- Ask the learners to place a counter on 2, 4, 6, 8 and 10. Ask them to continue the pattern up to 40. (12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40)

Activity 2: Whole class activity

- Write the multiples of 2 between 0 and 40 on the board in a random order.
- Use the word pattern while completing this activity – this is mathematical language and in this lesson you are teaching learners about number patterns in 2s.
- Ask the learners to arrange, orally, as a class, the numbers 12, 4, 8, 10, 6, 2, 16, 14, 20, 18 on the board from the smallest to the biggest number. (2, 4, 6, 8, 10, 12, 14, 16, 18, 20)
- Then from the biggest to the smallest number. (20, 18, 16, 14, 12, 10, 8, 6, 4, 2) They can use the numbers on the board and the number boards as an aid.
- Ask the learners to order from 60 to 80 from the smallest to the biggest number and say what they have done. (60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80)
- Explain to learners that this is *counting on* – from 60 to 80.
- Ask them to use the same numbers and order them from the biggest to the smallest number. (80, 78, 76, 74, 72, 70, 68, 66, 64, 62, 60)
- Explain to learners that this is *counting back* – from 80 to 60.

Activity 3: Whole class activity

- You call out numbers between 0 and 50 randomly, e.g. 5, 16, 21, 50, 12, 15, 8, 46.
- Learners clap their hands when they hear a multiple of 2.
- Allow learners in the class to participate by calling out numbers – one learner calls and the rest of the class claps when the learner calls a multiple of 2.

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

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

6. Reflection on lesson

Term 1 Lesson 37: Number patterns – twos

Classwork

1. Use a 1–100 number board on which the multiples of 2 are left blank. Complete the number board.

(Work on number board.)

2. Complete the pattern

- a) 2, 4, 6, _ (8), _ (10), _ (12), _ (14), _ (16), _ (18), 20
- b) 50, 48, 46, _ (44), _ (42), _ (40), _ (38), _ (36), _ (34), 32
- c) 28, _ (26), _ (24), _ (22), _ (20), 18, _ (16), _ (14), (12), _ (10)
- d) 12, 14, 16, _ (18), _ (20)
- e) 38, 40, 42, _ (44), _ (46)
- f) 100, 98, 96, _ (94), _ (92)
- g) 74, 72, _ (70), _ (68), _ (66)

Homework

- 1. Complete: 12, 14, 16, _ (18), _ (20), _ (22), _ (24), _ (26), _ (28), 30
- 2. Fill in the missing numbers: 38, 40, _ (42), _ (44), _ (46), 48, _ (50), 52
- 3. Complete the pattern: 56, 54, _ (52), _ (50), _ (48)
- 4. Complete the pattern: 82, 80, _ (78), _ (76), _ (74), 72, _ (70), _ (68)

LESSON 38: PATTERNS OF TWO

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 2.2 Number patterns

Lesson vocabulary: Number patterns, smallest, biggest

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Count by grouping.
- Use calculation strategies to add and subtract efficiently, putting the larger number first in order to count on or count back.
- Use number lines, double and halve and build up and break down numbers.
- Use number bonds and recall addition and subtraction facts.

Concepts:

- Copy, extend and describe simple number sequences to at least 100, and count forwards and backwards in twos from any multiple of twos between 1 and 100.

Resources: 1–100 number board, number lines (see *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 the learners a 0–20 number line labelled in 10s. Ask them to make interval markings of two up to 20. Write the labels in 2s on the number line. Use the number line to count in twos up to 20. Draw a new number line, from 20 to 40 and count in 2s between 20 and 40. Do the same up to 60.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in twos from 36 to 76.
- Count backwards in twos from 76 to 36.

1.2 Recall and strategies (10 minutes)

Which number do you have when ... is taken away from 9?

		Answer
1.	2	7
2.	4	5
3.	6	3
4.	3	6
5.	7	2

		Answer
6.	1	8
7.	5	4
8.	8	1
9.	6	3
10.	2	7

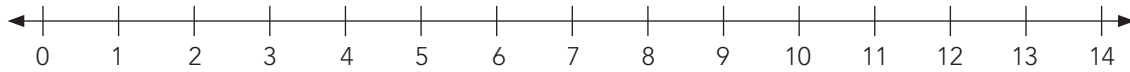
2. Correction/reflection on homework (15 minutes)

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

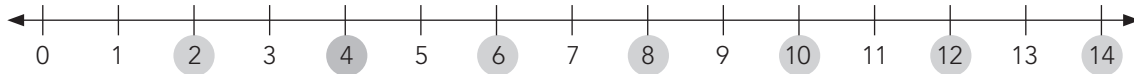
3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

Draw a ones number line from 0 to 14 on the board.



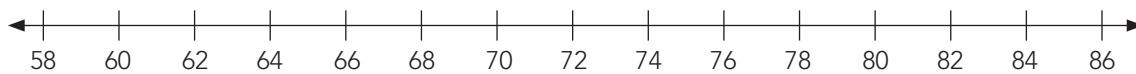
- Ask the learners to count in twos from 2 to 14.
- As they count, circle the multiples of two on the number line. (2, 4, 6, 8, 10, 12, 14)



- Discuss why you have circled these numbers.
- Discuss which numbers fall in certain intervals, e.g. ask which numbers fall in the intervals between 0 and 5, 30 and 35, 45 and 50.
- Ask the learners to show you which numbers fall between 0 and 8. (1, 2, 3, 4, 5, 6, 7 – only the even numbers are labelled on the number line – 2, 4, 6.)
- Count backwards in twos now, pointing to the multiples of 2 again.

Activity 2: Whole class activity

- **Draw a twos number line from 58 to 86 on the board.**



- Discuss the difference between labelling a number line in ones and in twos.
- Ask the learners to count in twos from 58 to 86, pointing at each multiple of 2 on the number line.
- Discuss which numbers fall in certain intervals, e.g. 58 and 60, 68 and 74, 78 and 80.
- Discuss again that the twos have been labelled on this number line but that there are also other numbers that fall in the intervals you have spoken about.
- Make sure that learners understand and can identify *between* numbers, e.g. 67 is between 66 and 68.
- Count backwards in twos now, pointing to the multiples of 2 again as you do so.

Activity 3: Whole class activity

- Give each learner a 1–100 board.
- Ask the learners to count on in 2s from any number on the board. (e.g. 44, 46, 48, 50, 52, 54, etc.)
- Write the sums on the board to show the counting from 44 increasing in 2s:
 - $44 + 2 = 46$
 - $46 + 2 = 48$
 - $48 + 2 = 50$, etc.
- Ask the learners to count back in 2s from any number on the board. (e.g. 88, 86, 84, 82, 80, 78, etc.)
- Write the sums on the board to show the counting count back in twos:
 - $88 - 2 = 86$
 - $86 - 2 = 84$
 - $84 - 2 = 82$, etc.

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

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

6. Reflection on lesson

Term 1 Lesson 38: Patterns of two

This is a long classwork activity. You might want to select certain questions from the activity for learners to do rather than ask them to complete the whole activity.

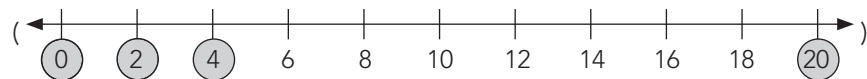
Classwork

1. Draw a twos number line from 0 to 20.

(Draw and label the number line.)



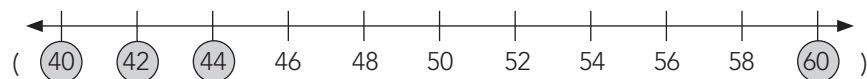
2. Circle the following multiples of 2 on the number line: 0, 2, 4 and 20. (Circle as required.)



3. Draw a twos number line from 40 to 60. (Draw and label.)



4. Circle the following multiples of 2 on the number line: 40, 42, 44 and 60. (Circle as required.)



5. Complete the following:

- a) $52 + 2 = (54)$
- b) $54 + 2 = (56)$
- c) $56 + 2 = (58)$
- d) $58 + 2 = (60)$
- e) $60 + 2 = (62)$

6. Complete the following:

- a) $98 - 2 = (96)$
- b) $96 - 2 = (94)$
- c) $94 - 2 = (92)$
- d) $92 - 2 = (90)$
- e) $90 - 2 = (88)$

Homework

1. There are 6 children. How many feet are there altogether? Draw a picture of the children showing how many feet there are. (12)

LESSON 39: TIME

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 4.1 Time

Lesson vocabulary: Sequencing events, before, after, time, days of the week, months of the year

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use calculation strategies to add and subtract efficiently, put the larger number first in order to count on or count back, use number lines, double and halve and build up and break down numbers.
- Deal with number bonds by recalling addition and subtraction facts.
- Deal with time on a consistent basis during whole class teaching time.

Concepts:

- Telling the time and knowing the days of the week and months of the year.

Resources: Cards with days of the week and months of the year (make out of cardboard). A copy of the calendar month of March per group.

DBE workbook activities relevant to this lesson:

- DBE worksheet 13 (pp. 26 and 27)

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

Remediation: Give the learners random days of the week cards, and ask them to place it in the correct order. Do the same with the months of the year cards.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in threes from 0 to 30.
- Count backwards in threes from 30 to 0.

1.2 Recall and strategies (10 minutes)

Write down the larger number.

		Answer
1.	13, 14	14
2.	7, 8	8
3.	21, 22	22
4.	12, 13	13
5.	17, 18	18

		Answer
6.	2, 3	3
7.	14, 15	15
8.	19, 20	20
9.	23, 24	24
10.	6, 7	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

- You will need days of the week and months of the year cards made out of cardboard.
- Explain that when we talk about time, we can talk about the days of the week.
- Stick/write the days of the week cards/names on the board.
- Discuss what learners do on each day of the week. Allow several learners to respond. Each time they should say what they do and on what day of the week.
- Time can also be expressed in months of the year. Stick/write the months of the year cards/names on the board.
- Discuss the months in relation to birthdays and seasons.
- Discuss time passing. Learners' responses will vary. Listen closely to them and make the conversation meaningful. This will build their positive attitude towards mathematics.
- Ask: **Do we all do things in the same way and at the same time?**
- Ask: **Do you all leave at the same time to come to school?**
- Ask: **Have you ever heard your parents/caregivers say, 'We don't have enough time'? What do they mean by this?**
- Discuss time taken for an activity, e.g. making tea. Ask: **Who makes tea the quickest in your house?**
- Discuss the passing of time from one school holiday to another.

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

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

6. Reflection on lesson

Term 1 Lesson 39: Time

Learners need a copy of the calendar month of March to do this activity. If possible, make a copy for each group of learners for them to refer to when they do this activity.

Classwork

Use a copy of a calendar month, e.g. March this year:

- a) Put a triangle on 26 March to indicate the Mathematics quiz.
- b) Put a square on 12 March to indicate the school play.
- c) Put a red circle around 21 March to indicate a public holiday, and discuss this public holiday (Human Rights Day) with your peers.
- d) Put a rectangle on 24 March to indicate the sports day.
- e) Put a circle around all the Sundays. (on calendar)
- f) How many days in March? (31)
- g) How many days from Human Rights Day to the Mathematics quiz day? (5 if you count the quiz day, and 4 if you only count the days in between)
- h) How many days between the school play and the sports day? (12 if you count the sports day, and 11 if you only count the days in between)

Homework

(For all of these questions learner answers will vary. Check that they have answered the questions correctly, and discuss as needed.)

1. In which month of the year is your birthday?
2. On what day of that month is your birthday?
3. What day does your birthday fall on this year?
4. Draw a picture of something that you do on Saturdays and that takes you a very long time to complete.

LESSON 40: TIME - CALENDARS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.16 Mental mathematics, 4.1 Time

Lesson vocabulary: Calendar, religious festivals, historical days, public holidays, birthday, month, year, between, analogue clock, clock face

Prior knowledge:

In Grade 1, the learners should have learnt how to:

- Use calculation strategies to add and subtract efficiently, put the larger number first in order to count on or count back, use number lines, double and halve and build up and break down numbers.
- Understand time, which was covered on an on-going basis during whole class teaching time.

Concepts:

- Place birthdays, religious festivals, public holidays, historical events and school events on a calendar.

Resources: Three different types of calendars (collect these), e.g. a daily, weekly, monthly and yearly one; a copy of the calendar for the month of December for the current year; months of the year name cards (make your own); analogue clock (see *Printable Resources*)

DBE workbook activities relevant to this lesson:

- DBE worksheet 14 (pp. 28 and 29)
- DBE worksheet 22 (pp. 44 and 45)

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

Remediation: Give learners a copy of one month out of a 12-month calendar (any month). Discuss with them how a calendar is set out, discuss the number of days and the repetition of days, e.g. Monday. Circle all Saturdays in blue and Sundays in red.

Enrichment: See enrichment activity cards – learners can use any cards from the back of this book.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards in threes from 30 to 72.
- Count backwards in threes from 72 to 30.

1.2 Recall and strategies (10 minutes)

Which numbers are between ... and ...?

		Answer
1.	21 and 18	20, 19
2.	23 and 20	22, 21
3.	19 and 22	20, 21
4.	2 and 6	3, 4, 5
5.	8 and 11	9, 10

		Answer
6.	13 and 17	14, 15, 16
7.	15 and 19	16, 17, 18
8.	18 and 16	17
9.	15 and 12	14, 13
10.	10 and 6	9, 8, 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: Learners work in groups

- Give learners a copy of the month of December for the current year.
- Introduce learners to the three different types of calendars (daily, weekly, monthly, yearly).
- Pass the calendars around the class, so that learners can look at them.
- Stick/write the months of the year cards/names on the board.
- Read the names of the months of the year. Ask different individual learners to read the names of the months with you.
- Ask the learners to show the following dates on the December calendar:
 - Religious festivals, e.g. Christmas, Day of Goodwill
 - Public holidays, e.g. Day of Reconciliation
 - School events, e.g. the last day of the school year
 - Learners' birthdays in the month of December
 - Etc.
- Discuss the different months of the year and what events are associated with them, e.g. the start of the school year in January.

Activity 2: Whole class activity

- Do this if you have time – revise telling the time on an analogue clock.
- Draw a clock face on the board showing 3 o'clock.
- Ask learners: **What time is shown on the clock?** (3 o'clock)
- Remind learners that the clock face you have drawn is called an analogue clock.
- Ask some learners to come and draw analogue clock faces showing the following times:
 - 6 o'clock and 8 o'clock. Ask: **How many hours from 6 o'clock to 8 o'clock?** (2 hours)
 - 7 o'clock and 11 o'clock. Ask: **How many hours from 7 o'clock to 11 o'clock?** (4 hours)
 - Etc.

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

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

6. Reflection on lesson

Term 1 Lesson 40: Time – calendars

Questions 1 and 2 of this activity require the learner to have a copy of the calendar for the full year. If you are not able to make copies of these for learners, you could change these questions – learners could just write the name of their birthday month and the birthday months of three of their friends.

Note that this lesson has some questions relating to the revision of telling the time on an analogue clock. If you did not have time to do this revision during the lesson you could allow your learners to leave out those questions.

Classwork

Make a birthday calendar showing all the months from January to December.

1. Write your birthday on the calendar. (various)
2. Add 3 of your friends' birthdays to the calendar. (various)
3. Which day comes before Wednesday? (Tuesday)
4. Which day comes between Monday and Wednesday? (Tuesday)
5. If Monday is the first day of the week, then Friday is the __ (fifth) __ day.
6. Draw an analogue clock to show 4 o'clock.
7. Draw a clock to show 6 o'clock.
8. How many hours from 4 o'clock to 6 o'clock? (2 hours)

Homework

1. Which is the first month of the year? (January)
2. Which two months come between April and July? (May, June)
3. Which is the last month of the year? (December)
4. Draw an analogue clock to show 2 o'clock.
5. Draw a clock to show 7 o'clock.
6. How many hours from 2 o'clock to 7 o'clock? (5 hours)