

GRADE 2

Mathematics

Teacher Toolkit:
CAPS Aligned Lesson Plans
and Resources

TERM 4

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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 4. The other documents in the toolkit are:

- a CAPS aligned Planner, Tracker and Assessment Resources
- a bilingual CAPS Learner Activity Book
- a bilingual Dictionary of Mathematical Terms.

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.

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 also given in the Learner Activity Books, so that learners do not need to waste time copying them down. In Grade 1, learners write in these activity books, and so need a new one each term. In the other grades, activity books should not be written in and should be returned at the end of each term for use the following year.

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 4 of Grade 2 is covered in a set of 38 numbered, fully developed lesson plans, paced to cover a 40-day teaching term. There are two consolidation lessons in the term – one in Week 7 and one in Week 8. You can use this time to catch up, remediate or consolidate the content covered in the term's formal lessons. Learners could complete the worksheets from the DBE workbook related to topics taught in the term if they did not manage to do them in the course of the term.

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

6. *Sequence adherence and pacing*

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

7. *Lesson preparation*

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

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

- Use newspapers and magazines to cut out pictures that could be used in your teaching. If you have access to the internet, search for and print out pictures that you may need to use as illustrations in your lessons.
- c) **Prepare for the written classwork and homework activities:** When preparing your lessons, check the lesson activity requirements. In some instances you will need to write information or draw some diagrams on the board that you will use while you do the interactive whole-class-teaching component of the lesson. Also mark the homework activities as often as you can, so that you can give useful feedback to the learners each day, and be aware of any difficulties learners are having as soon as they become apparent.
- d) **Prepare to teach the concepts and skills associated with the lesson topic:** Think carefully about what it is that you will teach your learners in the lesson. Prepare a short introduction to the topic, so that you can explain it in simple terms to your learners. Make sure you have prepared for the teaching of the concepts before you teach – you need to be able to explain new Mathematics content and skills to the learners. Be sure you have gone through the oral teaching activities provided in the lesson plans. Also make sure that you have thought about how to use the resources in the lesson effectively. This preparation needs to be done in advance, so that you do not waste time during the lesson. Be sure you are familiar with the sequence of activities in the lesson plan. Prepare yourself to assist learners with any questions they might have during the lesson. Also give some thought to how you will accommodate learners with barriers to learning.
- e) **Lesson pace:** Think about how much time you will spend on each activity. It is important to plan how you will manage the pace of the lesson carefully; otherwise you will not manage to cover all the lesson content. Not all learners work at the same pace. You need to determine the pace – be guided by the average learner and the recommendations in the lesson plans. Be careful not to slow down to the pace of the slowest learners as this will disadvantage the other learners.
- f) **Organisation of learners:** Think about how you will organise learners when they do the classwork activities. Will they work alone, in pairs or in small groups? How will you organise the pairs or groups if you choose to use them? You need to organise the learners quickly at the beginning of the lesson, so that you do not waste too much time on this.
- g) **Inclusive education:** Consider the needs of any learners with barriers to learning in your class, and how best you can support them. The DBE has published some excellent materials to support you in working with learners with learning barriers. Two such publications are:
- Directorate Inclusive Education, Department of Basic Education (2011) *Guidelines for Responding to Learner Diversity in the Classroom Through Curriculum and Assessment Policy Statements*. Pretoria. www.education.gov.za, www.thutong.doe.gov.za/InclusiveEducation.
 - Directorate Inclusive Education, Department of Basic Education (2010) *Guidelines for Inclusive Teaching and Learning. Education White Paper 6. Special needs education: Building an inclusive education and training system*. Pretoria. www.education.gov.za, www.thutong.doe.gov.za/InclusiveEducation.

LESSON PLAN OUTLINE

Lesson Plan Outline

Each lesson plan has several components. Information about each is given in the table below. This information tells you how to use each of the components of the lesson plans and how they fit together to create a well-paced and properly scaffolded Mathematics lesson each day. You need to read this outline as you prepare each lesson until you are fully familiar with the general lesson plan components, pace and structure.

Lesson topic	Each lesson has a topic with specific detail about the day's lesson.
CAPS topics	The CAPS content related to the day's lesson is given here, together with the reference number for this content in the expansion of content section in the CAPS document for this term. You are encouraged to look at the CAPS to read about the selected curricular topics for the day.
Lesson vocabulary	A list of all mathematical terms used in the lesson is given here. The terms, with full explanations and diagrams, are also provided in the bilingual Dictionary of Mathematical Terms that is part of your Toolkit. 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/informal oral, practical or written assessment activity for the day is given here.</p> <ul style="list-style-type: none"> • On-going formal/informal oral and practical assessment should be done virtually every day in your class. This means you will record a mark for a few learners for a certain criterion from the curriculum each day. Decide how many learners to assess every day, so that you assess your whole class in the time allocated to each assessment activity. • 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.

Lesson Plan Outline

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 from the LAB.</p>
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 set of mental mathematics challenge cards 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 Plan Outline

<p>Lesson content – concept development (30 minutes)</p>	<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.
<p>Classwork activity from Learner Activity Book (25 minutes)</p>	<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. <p>The bilingual Learner Activity Book contains all of the daily classwork activities.</p>
<p>Homework activity from Learner Activity Book (5 minutes)</p>	<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> <p>The bilingual Learner Activity Book contains all of the daily homework activities.</p>
<p>Reflection</p>	<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

LESSON 1: NUMBERS – PLACE VALUE

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.5 Place value, 1.6 Problem solving techniques.

Lesson vocabulary: Forwards, backwards, order, tens, units, compare, recognise, smallest, biggest, breaking down, between, place value, number symbol, number name, number line, identify, describe, 2-digit.

Prior knowledge: Learners should have been taught how to:

- Identify, recognise and read number symbols **1** to **100**.
- Describe, compare and order up to 20 objects and numbers to 20.
- Recognise the place value of numbers 11 to 19.
- Use techniques like concrete apparatus, pictures and number lines when solving problems.

Concepts:

- Identify, recognise, read and write number symbols **0** to **200** and number names to 100.
- Describe, compare, order numbers and recognise place value in numbers up to 99.
- Use apparatus such as counters, number lines and techniques such as breaking down of numbers when solving problems.

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

DBE workbook activities relevant to this lesson:

- DBE Worksheet 69 (pp. 10 and 11).

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

Remediation: Give the learners base ten blocks. Demonstrate with the learners: 46, 47, 48, 49, 50. (10 units = 1 ten.) Ask them to show you 76, 77, 78, 79, 80. Ask questions such as: *What number comes before 49? What number comes after 50? How could we say this in tens and units?*

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 2s from any multiple between 0 and 200, e.g. 122, 124, 126...

1.2 Mental mathematics activity (10 minutes)

	Give the numbers between:	Answer
1.	10 and 15	11, 12, 13, 14
2.	50 and 52	51
3.	70 and 74	71, 72, 73
4.	45 and 47	46
5.	25 and 28	26, 27

	Give the numbers between:	Answer
6.	95 and 99	96, 97, 98
7.	98 and 100	99
8.	12 and 15	13, 14
9.	0 and 5	1, 2, 3, 4
10.	63 and 66	64, 65

2. Correction/reflection on homework (15 minutes)

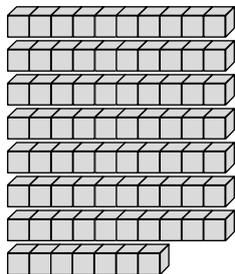
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

This is the first of four lessons which focus on place value for the term. In these lessons learners should consolidate their knowledge of place values in 2-digit numbers to prepare themselves for the extension of place value to 3-digit numbers in Grade 3. Learners will still benefit from the use of concrete representations (such as base ten blocks) and semi-concrete representations (such as flard cards) to help them consolidate this knowledge.

Activity 1: Learners work in groups

- Give each group of learners some base ten blocks and flard cards. Learners should work on their whiteboards/scrap paper.
- Write the number 77 on the board.
- Ask the learners to use their base ten blocks to show the number.



- Ask the learners to use their flard cards to show the number.
- Ask the learners to write the number name on their whiteboards/scrap paper. (seventy-seven)
- Discuss the number 77 in terms of place value: *What is the tens digit? (7) What is the units digit? (7) What is the total value of the number? (77)*
- Repeat with numbers 63 and 80.
- Ask: *Which one of these three numbers (77, 63, 80) is the biggest? (80)*
- *How do you know?* (It has the biggest number in the tens place – it is the biggest number.)

Activity 2: Learners work in groups

- Learners continue to use the base ten blocks.
- Ask the learners to use the base ten blocks to show the number 68. (They lay out 6 tens and 8 units.)
- Ask them to count up to 68, but in tens and then on in units, e.g. 10, 20, 30, 40, 50, 60, 61, 62, 63, 64, 65, 66, 67, 68.
- Ask: *How many tens and units are there in number 68?* (Six tens and eight units.)
- Repeat with numbers 72, 58 and 69.
- Ask: *Which of these four numbers (68, 72, 58, 69) is the smallest?* (58)
- *How do you know?* (It has the smallest number in the tens place – it is the smallest number.)

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

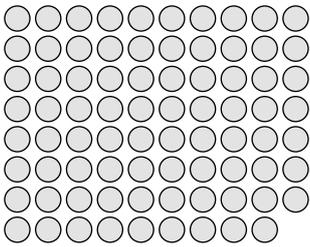
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

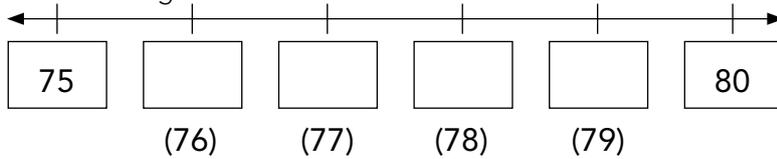
Term 4 Lesson 1: Numbers – place value

Classwork

1. Draw a picture using tens and units and write the number name for 79. (Seventy-nine.)

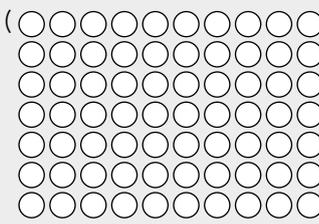


2. Fill in the missing numbers on the number line:



3. Arrange these numbers from the smallest to the biggest: 71, 80, 69, 75, 66. (66, 69, 71, 75, 80)
4. Complete the following:
- $70 + 7 = \underline{\quad}$ (77)
 - $70 + \underline{\quad} = 75$ (5)
 - $\underline{\quad} + 2 = 72$ (70)
5. How many tens are there in 68? (6)
6. How many units are there in 68? (8)

Homework

1. Write down the number name for 79. (Seventy-nine.)
2. Draw only the tens in 79.
()
3. Write down two numbers bigger than 71, but smaller than 75. (72, 73, 74)
4. Which number is 2 more than 69? (71)

LESSON 2: NUMBERS – PLACE VALUE

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.5 Place value, 1.6 Problem solving techniques.

Lesson vocabulary: Forwards, backwards, more, less, compare, tens, units, number range, place value, smallest, recognise, identify, describe, order, breaking down, biggest.

Prior knowledge: Learners should have been taught how to:

- Identify, recognise and read number symbols **1** to **100**.
- Describe, compare and order numbers to 20 and recognise place value of numbers up to 19.
- Use techniques like concrete apparatus, pictures and number lines when solving problems.

Concepts:

- Identify, recognise, read and write number symbols **0** to **200** and names to 100.
- Describe, compare and order numbers to 99.
- Recognise place value of numbers 11 to 99.
- Use apparatus such as counters and techniques such as breaking down of numbers when solving problems.

Resources: Base ten blocks (see *Printable Resources* Term 1), number name cards 90–100 (see *Printable Resources*), whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 97 (pp. 72 and 73).

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

Remediation: Give the learners 53 blocks. Let them count the blocks by counting in tens and then on in units, e.g. 10, 20, 30, 40, 50, 51, 52, 53. Repeat using other numbers in the number range 11–99.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 2s from any multiple between 0 and 200, e.g. 132, 130, 128...

1.2 Mental mathematics activity (10 minutes)

	Which is the smallest number?	Answer
1.	45, 47, 40	40
2.	90, 88, 100	88
3.	12, 21, 2	2
4.	14, 41, 4	4
5.	0, 2, 12	0

	Which is the smallest number?	Answer
6.	90, 99, 50	50
7.	45, 50, 38	38
8.	14, 12, 9	9
9.	15, 41, 2	2
10.	2, 10, 100	2

2. Correction/reflection on homework (15 minutes)

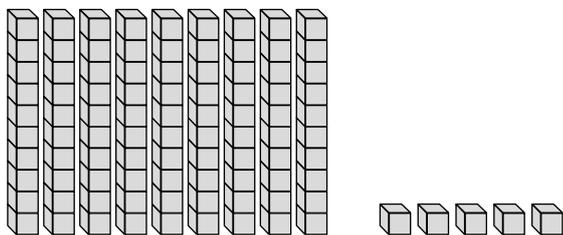
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

In this lesson you need to give each group of learners some base ten blocks and number name cards. If you are not able to print enough copies for all of the groups you should display the cards on the board, or write them on the board neatly and clearly.

Activity 1: Learners work in groups

- Give each group of learners some base ten blocks and number name cards. Learners should work on their whiteboards/scrap paper.
- Ask learners to build the number 95, using their base ten blocks.



- Use the number name cards to show the number name for 95.
- Say: *Let us count to 95 in tens and units.* (Count to 90 in tens and then on in units, e.g. 10, 20, 30, 40, 50, 60, 70, 80, 90, 91, 92, 93, 94, 95.)
- Ask: *Can you show the number that is 2 more than 95 (97) and the number that is 2 less than 95 (93).*
- Count these numbers in tens and units.
- Compare the three numbers (e.g. 93 is the smallest, 97 is the biggest, 93 is smaller than 95, 97 is bigger than 95).
- Discuss the pattern (increasing in 2s) and use units to show the pattern.

Activity 2: Whole class activity

- Call a learner to the board to draw 30 circles.
- Call another learner to the board to draw a square around each group of 10.
- Ask: *How many tens do you see?* (3)
- Repeat with other numbers – 2-digit numbers so that there are tens and units.
- Try to get as many learners as possible to participate in the activity.
- You could get learners to do this activity in groups using their whiteboards/scrap paper.
- Each time they have drawn a number of dots discuss:
 - *How many tens are there?* (Count the number of tens that have been circled.)
 - *How many units are there?* (Count the number of units that remain ungrouped.)

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

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

6. Reflection on lesson

Term 4 Lesson 2: Numbers – place value

Classwork

- If I have 86 counters:
 - how many tens will I be able to make? (8 tens.)
 - how many units will I have? (6 units.)
- Complete the following:
 - $53 = \underline{\quad}$ tens and $\underline{\quad}$ units (5 tens and 3 units.)
 - $94 = \underline{\quad}$ units and $\underline{\quad}$ tens (4 units and 9 tens.)
 - 4 units and 8 tens = $\underline{\quad}$ (84)
 - 3 tens and 5 tens = $\underline{\quad}$ (80)
- Which number has more tens? 56 or 84 $\underline{\quad}$ (84)
- Which number has more units? 89 or 98 $\underline{\quad}$ (89)
- Write these numbers in order from the biggest to the smallest:
7 tens and 6 units, 6 tens and 0 units, 9 units and 8 tens. (60, 76, 89)

Homework

- Complete the following:
 - $47 = \underline{\quad}$ tens and $\underline{\quad}$ units (4 tens and 7 units.)
 - $82 = \underline{\quad}$ units and $\underline{\quad}$ tens (2 units and 8 tens.)
 - 3 units and 5 tens = $\underline{\quad}$ (53)
 - 3 tens and 2 tens = $\underline{\quad}$ (50)
- Which number has more tens? 78 or 87 $\underline{\quad}$ (87)
- Which number has more units? 64 or 46 $\underline{\quad}$ (46)

LESSON 3: NUMBERS – PLACE VALUE

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.5 Place value, 1.6 Problem solving techniques.

Lesson vocabulary: Forwards, backwards, place value, smallest to biggest, biggest to smallest, biggest, tens, units, number symbol, number name, number line, identify, recognise, breaking down, building up.

Prior knowledge: Learners should have been taught how to:

- Identify, recognise and read number symbols **1** to **100**.
- Identify, recognise, read and write number names 1 to 10.
- Describe, compare and order up to 20 objects and numbers to 20.
- Recognise the place value of numbers 11 to 19.
- Use concrete apparatus, pictures and number lines when solving problems.

Concepts:

- Identify, recognise, read and write number symbols **0** to **200**.
- Identify, recognise, read and write number names 0 to 100.
- Describe, compare and order numbers to 99.
- Recognise place value of numbers 11 to 99.
- Use counters, number lines and breaking down and building up of numbers when solving problems.

Resources: Base ten blocks (see *Printable Resources* Term 1), Unifix blocks, whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 98 (pp. 74 and 75).

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

Remediation: Ask the learners to show the following numbers, using their Unifix blocks: 81, 82, 83, 88, 89, 91. Remind them that 10 unit blocks will make a ten. Ask: *What will you do to make it one more/less? Which number comes before 91, 88, etc.?*

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 2s from any multiple between 0 and 200, e.g. 166, 168, 170...

1.2 Mental mathematics activity (10 minutes)

	Which is the biggest number?	Answer
1.	40, 45, 12	45
2.	12, 21, 2	21
3.	47, 74, 87	87
4.	54, 12, 2	54
5.	50, 60, 40	60

	Which is the biggest number?	Answer
6.	41, 71, 31	71
7.	15, 51, 52	52
8.	12, 21, 29	29
9.	10, 100, 0	100
10.	15, 51, 5	51

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 calls for the use of Unifix cubes. It is suggested that you use the cubes collectively as a whole class. However if you have enough cubes to give to all of the groups of learners, the first activity could be done as a group activity. You need 99 Unifix cubes per group for Activity 1. If you don't have enough Unifix cubes then use some other type of counters, e.g. bottle tops.

Activity 1: Whole class activity

- Using 99 Unifix blocks: ask a learner to come to the front of the class and make tens, by stacking ten units at a time.
 - *Are there any blocks left that cannot be grouped into a ten?* (Yes, 9 blocks.)
 - *What do we call the left over blocks?* (Units.)
- Ask another learner to use Unifix cubes to make tens and units to show the number 58.
- *How many tens and how many units did you use?* (5 tens and 8 units.)
- Ask them to count up to 58, counting in tens and then on in units. (10, 20, 30, 40, 50, 51, 52, 53, 54, 55, 56, 57, 58.)
- Count backwards, in the same way – units and then tens (58, 57, 56, 55, 54, 53, 52, 51, 50, 40, 30, 20, 10.)
- Etc. Do this with other numbers if there is time and to give more learners the opportunity to be involved actively in the lesson. Each time, make a display using Unifix cubes, say what the number is and say how many tens and units there are in the number.

Activity 2: Learners work in groups

- Each group is asked to count out a random number of Unifix blocks between 70 and 99. (This step is only possible if you have enough Unifix. If you don't have enough Unifix, use base ten blocks or ask learners to try to do the activity by simply picking numbers – and writing them down on their whiteboards/scrap paper.)
- Each group should have a different number, e.g. 76, 91, 84, 89, 90, etc.
- Ask each group to give their number orally to the rest of the class, but in tens and units, e.g. the learner says: *My number is 76, it is made of 7 tens and 6 units.*
- The rest of the groups then orally give the number (76) to the teacher.
- Write these numbers on the board as each group member gives a number.
- Ask the learners to help you to re-arrange and write the numbers on the board from the smallest number to the biggest number. (This will be done using the actual numbers they called out and you wrote on the board – answers will vary.)
- Repeat the exercise with each group making a new number, calling it out and saying how many tens and units there are in the number. Then you write the number on the board. When all groups have given you their number, this time re-arrange the numbers from the biggest to the smallest.
- Repeat the activity using other numbers suggested by the groups if there is time.

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

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

6. Reflection on lesson

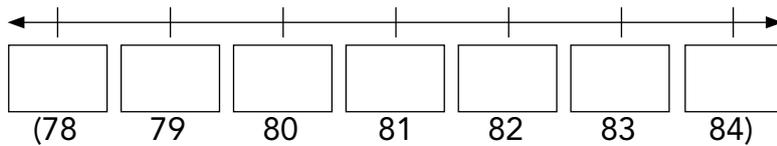
Term 4 Lesson 3: Numbers – place value

Classwork

1. Write these numbers using digits:

- a) 8 tens and 0 units. (80)
- b) 8 tens and 4 units. (84)
- c) 8 tens and 1 unit. (81)
- d) 7 tens and 9 units. (79)
- e) 8 tens and 2 units. (82)
- f) three units and 8 tens. (83)

2. Fill in these numbers on the number line from the smallest to the biggest: 80, 84, 81, 79, 82, 83.



3. Draw Unifix blocks to show 94. (9 tens and 4 units.)

4. Write the number name for 94. (Ninety-four.)

5. Give two numbers that are smaller than 94, but bigger than 88. (Any two of the following: 89/90/91/92/93.)

Homework

1. Write the number name for 71. (Seventy-one.)

2. Draw Unifix blocks to show 29. (2 tens and 9 units.)

3. Give two numbers that are smaller than 61, but bigger than 54.
(Any two of the following: 60, 59, 58, 57, 56, 55)

LESSON 4: NUMBERS – PLACE VALUE

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.3 Number symbols and number names, 1.4 Describe, order and compare numbers, 1.5 Place value, 1.6 Problem solving techniques.

Lesson vocabulary: Forwards, backwards, place value, more than, less than, before, after, between, biggest to smallest, smallest to biggest, identify, recognise, describe, compare, order, breaking down, building up.

Prior knowledge: Learners should have been taught how to:

- Identify, recognise and read number symbols **1** to **100** and names to 120.
- Describe, compare and order up to 20 objects and numbers to 20.
- Recognise the place value of numbers 11 to 19.
- Use concrete apparatus, pictures and number lines when solving problems.

Concepts:

- Identify, recognise, read and write number symbols **0** to **200** and number names to 100.
- Describe, compare and order numbers to 99.
- Recognise place value of numbers 11 to 99.
- Use apparatus like counters, number lines and breaking down and building up of numbers when solving problems.

Resources: Whiteboards/scrap paper, base ten blocks (see *Printable Resources* Term 1).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 100 (pp. 78 and 79).

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

Remediation: Ask the learners to use base ten blocks to show these numbers: 60, 100. Ask questions: *How many 10s make 50? How many 10s make 100? How can we make 150/200? Revisit 10 units = 1 ten. Ask learners to show you 51, 102 etc. using base ten blocks.*

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 2s from any multiple between 0 and 200, e.g. 144, 146, 148...

1.2 Mental mathematics activity (10 minutes)

	What is 1 more than:	Answer
1.	24?	25
2.	45?	46
3.	12?	13
4.	99?	100
5.	62?	63

	What is 1 more than:	Answer
6.	79?	80
7.	40?	41
8.	25?	26
9.	63?	64
10.	0?	1

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

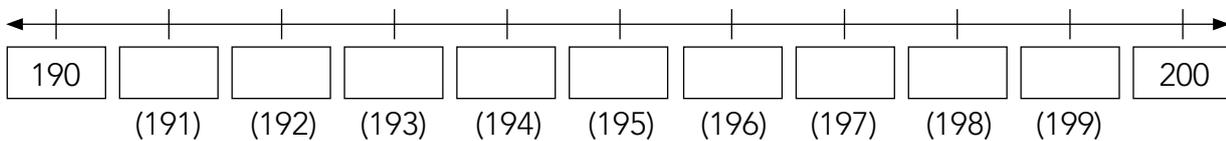
Activity 2 builds learners recognition of numbers up to 200. This is required by CAPS although discussion of place value of 3-digit numbers is not dealt with until Grade 3. Use Activity 2 to develop learners counting skills and number recognition in the higher number range. If they do ask questions about the place value of the 3-digit numbers, you could tell them the third place is the hundreds place. You should assess how much information will be useful to the class and not overload them at this stage.

Activity 1: Whole class activity

- Learners should work on their whiteboards/scrap paper.
- Give each learner a number between 90 and 99, e.g. 94.
- Ask them to write the number and the number name on their whiteboards/scrap paper, e.g. 94/ninety-four.
- Ask a learner to build a display of their number, using base ten blocks, in front of the class.
- Ask the learners to write a number sentence (about their number) using tens and units on their whiteboards/scrap paper:
 - e.g. $90 + 4 = 94$
- Repeat this with a different number between 80 and 89.

Activity 2: Whole class activity

- Draw a 190–200 number line on the board.



- Fill in the 190 and the 200.
- Ask a learner to come to the board and fill in one of the missing numbers.
- Ask learners to come to the board individually and fill in the next missing number until the number line is complete.
- Ask the following questions:
 - Which number is one less than 193? (192)
 - Which number comes after 190? (191)
 - Which number is between 195 and 197? (196)
 - Which number is 2 less than 200? (198)
 - Which number 5 more than 192? (197)
 - Which number is the biggest number on the number line? (200)
 - Etc.

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

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

6. Reflection on lesson

Term 4 Lesson 4: Numbers – place value

Classwork

1. Arrange these numbers from the smallest to the biggest: 12, 22, 21, 20. (12, 20, 21, 22)
2. Arrange these numbers from the biggest to the smallest: 81, 18, 82, 28. (82, 81, 28, 18)
3. Fill in the missing numbers:
 - a) $40 + 8 = \underline{\quad}$ (48)
 - b) $80 + \underline{\quad} = 89$ (9)
 - c) $\underline{\quad} + 5 = 95$ (90)
4. Use these numbers to make your own sums: 97, 68, 85, 90 (remember to show the tens and units).
(Answers will vary. E.g. $90 + 7 = 97$, $60 + 8 = 68$, $80 + 5 = 85$, $90 + 0 = 90$, 9 tens + 7 units.)

Homework

1. Fill in the missing numbers:
 - a) $60 + 7 = \underline{\quad}$ (67)
 - b) $40 + \underline{\quad} = 48$ (8)
 - c) $\underline{\quad} + 3 = 33$ (30)
2. Arrange these numbers from the smallest to the biggest: 89, 99, 98, 78. (78, 89, 98, 99)
3. Arrange these numbers from the biggest to the smallest: 67, 76, 77, 65. (77, 76, 67, 65)

LESSON 5: ORDINAL NUMBERS

Teacher's notes

CAPS topics: 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, describe, compare, whole numbers, smaller than, greater than, more than, number symbol, number name, ordinal number, order, place, position, first, last, second, third, ... twentieth, 1st, 2nd, 3rd, ... 20th.

Prior knowledge: Learners should have been taught how to:

- Describe, compare and order up to 20 objects and numbers to 20.
- Recognise the place value of numbers 11 to 19.

Concepts:

- Identify, recognise, read and write number symbols **0** to **200** and number names to 100.
- Describe, compare and order numbers to 99.
- Use ordinal numbers to show order, place and position, including abbreviated form up to 20th.

Resources: 1–100 number grid (*Printable Resources* Term 1), ordinal number cards (*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: Match the letters of the alphabet from a–t to the ordinal numbers that show their order in the alphabet. Use the ordinal number cards. Discuss the way in which the ordinal numbers are named and written. Give learners time to match the cards themselves and speak about the ordinal numbers.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 10s from any given number between 0 and 600, e.g. 255, 265, 275 ...

1.2 Mental mathematics activity (10 minutes)

	What is 1 more than:	Answer
1.	0?	1
2.	65?	66
3.	17?	18
4.	89?	90
5.	67?	68

	What is 1 more than:	Answer
6.	69?	70
7.	50?	51
8.	24?	25
9.	33?	34
10.	19?	20

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

In this lesson you focus on ordinal numbers in the context of numbers from 0–99. In Grade 2, the concept of ordinal numbers is touched on in the third and fourth terms and learners are expected to be able to use ordinal numbers up to the 20th position. You could consolidate this knowledge by using ordinal numbers whenever it is appropriate in other contexts. For example, talk about the order of learners coming in to class: *You are the first in class today, you are the fifth, the last, etc.*

Activity 1: Whole class activity

- Revise ordinal numbers in numeric form 1st – 20th.
- Keep the word name cards and the numeric symbol cards separate. Shuffle the ordinal number cards.
- Paste the word name cards randomly on the board.
- Ask learners to come to the front to help sort the ordinal number name cards into the correct order.
- When the name cards have all been sorted, shuffle the ordinal number symbol cards and place them on your desk.
- Call one learner at a time to come and pick up an ordinal number symbol card from your desk. They should then match it to the correct name card on the board.

Activity 2: Whole class activity

Use a 1–100 number grid to answer the following questions.

Learners answer the questions verbally and you record the answers (as symbols) on the board to reinforce the way in which ordinal numbers are written.

- *What is the first number? (1)*
- *What is the last number? (100)*
- *What is the seventh number on the grid? (7)*
- *What is the seventeenth number? (17)*
- *What is the fifth number after 10? (15)*
- *What is the fifteenth number after 10? (25)*
- *8 is the ___ number? (8th/eighth)*
- Etc.

Activity 3: Whole class activity

- Draw this table on the chalkboard and complete it with the learners using the 1–100 number grid.
- Write only the entries that are not bracketed – those in brackets you will complete together with the class.

For all these questions count from 30		
In each case give the position of the number in relation to the number 30		
Number	Ordinal number	Numeric form
(32)	second	(2 nd)
(36)	(sixth)	6 th
38	(eighth)	(8 th)
(40)	(tenth)	10 th
(47)	seventeenth	(17 th)

- If there is time, choose another number as a starting point and discuss the position of other numbers in relation to the new starting point.
- Work through as many examples as you have time to do, allowing as many as possible learners to respond in the whole class discussion.

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

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

6. Reflection on lesson

Term 4 Lesson 5: Ordinal numbers

Classwork

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

1. Circle the twelfth number. (12)
2. 100 is the ____ (last) number.
3. 15 is the ____ (15th) number.
4. 25 is the ____ number after 20. (5th)
5. 47 is the ____ number after 40. (7th)
6. 73 is the ____ number after 70. (3rd)

Homework

Note that when the number line starts at 20, the first number on the number line is 20 and the 2nd number is 21, and so on. Go over this with learners if necessary as it might be a bit confusing.)

Draw a 20–30 number line and show the following:

1. Circle the first number. (20)
2. Circle the 2nd number. (21)
3. Circle the 10th number. (29)
4. Circle the last number. (30)

WEEK 2

LESSON 6: 2-D SHAPES

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 3.3 2-D shapes.

Lesson vocabulary: Forwards, backwards, 2-D shapes, circles, rectangles, triangles, squares, shape, size, round sides, straight sides, less, sort, compare, recognise, identify, describe, sort, compare, smallest, biggest, quarter.

Prior knowledge: Learners should have been taught how to:

- Recognise and name 2-D shapes: circles, triangles and squares.
- Describe, sort and compare 2-D shapes in terms of: size, colour, straight sides and round sides.

Concepts:

- Recognise and name 2-D shapes: circles, triangles, squares and rectangles.
- Describe, sort and compare 2-D shapes in terms of: size, shape, straight sides and round sides.

Resources: Whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 99 (pp. 76 and 77).

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

Remediation: Show the learners a circle, triangle, square and rectangle. You can use objects in your classroom, e.g. the cover of a book or a page in their Maths book or the face of a watch. Ask them to identify the shapes with round edges and straight sides. They can trace the outside edges with their fingers. Ask them to draw a circle, triangle, square and rectangle.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 2s from any multiple between 0 and 200, e.g. 188, 190, 192...

1.2 Mental mathematics activity (10 minutes)

	What is 1 less than:	Answer
1.	15?	14
2.	56?	55
3.	42?	41
4.	30?	29
5.	12?	11

	What is 1 less than:	Answer
6.	1?	0
7.	100?	99
8.	65?	64
9.	62?	61
10.	55?	54

2. Correction/reflection on homework (15 minutes)

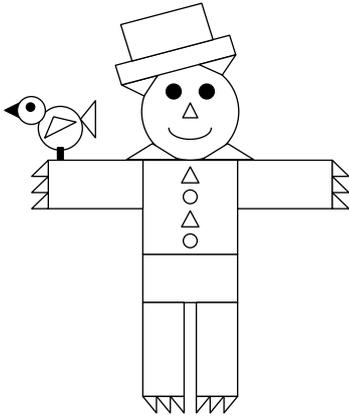
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

This is the first of two lessons on 2-D shapes for Term 4. Make sure that you give learners plenty of practice using the mathematical terminology of 2-D shapes in these two lessons so that they will remember the shape names and their characteristics for Grade 3. Remember to refer to the Jika iMfundo bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of the mathematical terminology.

Activity 1: Whole class activity

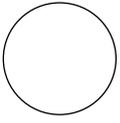
- Draw this picture or a similar one on the board, made up of many different 2-D shapes that the learners should be able to recognise.



- Ask the learners to identify and name all the different shapes they can see. (Rectangles, triangles, circles.)
- When identifying the shapes, they should use sentences like: The hat is made from two rectangles, etc.

Activity 2: Whole class activity

- Learners should work on their whiteboards/scrap paper. Ask them to draw lines to divide their whiteboards/scrap paper into four equal parts/quarters.
- Draw an example of a grid on the board.
- Write the words circle, triangle, rectangle and square on the board.
- Ask the learners to copy the words and to draw the shapes, each one in its own block.

Circle 	Triangle 	Sqaure 	Rectangle 
---	---	---	---

- Ask them to draw a similar shape but smaller in size next to each of the shapes. Ask them to colour the shape with round sides.
- Ask these questions:
 - *What is the difference between a circle and a triangle?*
(A circle has round sides and a triangle has straight sides.)
 - *What is the same between a triangle and a rectangle?* (Both these shapes have straight sides.)
 - *What is the difference between a triangle and a rectangle?*
(A triangle has 3 sides and a rectangle has 4 sides.)

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

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

6. Reflection on lesson

Term 4 Lesson 6: 2-D shapes

Note that the word grid activity in this lesson is in English. Teachers could adapt this and make a grid to include the isiZulu shape names if they wish to. Learners do also need to know the shape names in English and so this lesson gives them the opportunity to learn them.

Classwork

1. Find the following words in the word search and colour each word in a different colour:
circle, triangle, square, rectangle.

i	i	t	h	a	p	m	l	y	z
d	e	r	t	r	i	r	g	z	m
u	t	i	v	e	i	a	t	b	p
l	n	a	a	c	i	r	c	l	e
f	k	n	x	t	i	z	t	q	s
g	d	g	z	a	w	d	k	l	q
y	d	l	n	n	p	j	f	d	u
f	y	e	e	g	a	c	t	q	a
c	i	r	c	l	e	r		c	r
e	a	j	a	e	a	j	r	l	e

2. Draw and label the shapes that you have identified in the word search.
(Learners should draw each of the shapes.)
3. What is the difference between a square and a triangle?
(A square has four sides of equal length and a triangle has three sides.)
4. What is the difference between a circle and a square? (A circle has a round or curved side and a square has straight sides. A circle has one side and a square has four sides.)
5. Draw three squares of different size, from smallest to biggest.
(Answers will vary. Check they are drawn in the correct order.)
6. Draw three circles of different size, from smallest to biggest.
(Answers will vary. Check they are drawn in the correct order.)

Homework

(Answers will vary. Check they are drawn in the correct order.)

1. Draw three triangles of different size, from smallest to biggest.
2. Draw three rectangles of different size, from smallest to biggest.

LESSON 7: 2-D SHAPES

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 3.3 2-D shapes.

Lesson vocabulary: Forwards, backwards, describe, sort, compare, 2-D shapes, circles, rectangles, triangles, squares, shape, size, round sides, straight sides, less than, more than, recognise, name, identify.

Prior knowledge: Learners should have been taught how to:

- Recognise and name 2-D shapes: circles, triangles and squares.
- Describe, sort and compare 2-D shapes in terms of: size, colour, straight sides and round sides.

Concepts:

- Recognise and name 2-D shapes: circles, triangles, squares and rectangles.
- Describe, sort and compare 2-D shapes in terms of: size, colour, shape, straight sides and round sides.

Resources: Scrap paper, old magazines, shapes (circle, triangle, square and rectangle) for remediation (see *Printable Resources Term 2*).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 103 (pp. 84 and 85).

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

Remediation: Show the learners a circle, triangle, square and rectangle. Ask them to identify the shapes with round edges and straight sides. They can trace the outside edges with their fingers. Ask them to identify one object of each shape in the classroom.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 125, 130, 135...

1.2 Mental mathematics activity (10 minutes)

	What is 1 less than:	Answer
1.	100?	99
2.	91?	90
3.	45?	44
4.	12?	11
5.	3?	2

	What is 1 more than:	Answer
6.	99?	100
7.	88?	89
8.	52?	53
9.	61?	62
10.	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)

In this lesson, if you don't have old magazines or newspapers to cut from, the learners could draw objects instead.

Activity 1: Learners work in groups

- Give each pair of learners an A4 sheet of scrap paper (recycled) and some pages from magazines.
- Show the learners how to fold the A4 paper into four quarters.
- Write the names of the shapes on the board for them to copy onto their folded paper.
One name per quarter: circle, rectangle, square and triangle, as in the previous lesson.
- Ask them to cut pictures from their magazine pages of objects that show the four shapes that they have written on their A4 paper.
- They can paste the pictures into the different quarters of the sheet of paper.
- Learners may also draw objects that show the four shapes.
- They need to find as many pictures as possible and/or include as many drawings as possible.

Activity 2: Whole class activity

- Each pair gets a chance to go to the front of the class to show and explain the pictures to the rest of the class.
- They have to include the following in their explanations:
 - Shape
 - Size
 - Colour
 - Sides – straight or round.

(One object may include several shapes or maybe just one of the shapes learners are looking for).

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

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

6. Reflection on lesson

Term 4 Lesson 7: 2-D shapes

Classwork

(Answers will vary. Check drawings are according to the question specifications.)

1. Draw a house using the following shapes:
 - a) 2 circles.
 - b) 4 rectangles.
 - c) 1 triangle.
 - d) 2 squares.
2. Colour the shapes in the house in the following way:
 - a) One red circle.
 - b) One green rectangle.
 - c) One yellow triangle.
 - d) One blue square.

Homework

(Answers will vary. Check drawings are according to the question specifications.)

1. Draw a picture using different shapes and colour it in any way you choose.
2. Write about how you coloured your shapes.

LESSON 8: SYMMETRY

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 3.4 Symmetry.

Lesson vocabulary: Forwards, backwards, line of symmetry, symmetry, 2-D geometrical shapes, non-geometrical shapes, horizontal, vertical, less than, most, least, square, triangle, rectangle, circle.

Prior knowledge: Learners should have been taught how to:

- Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes.

Concepts:

- Recognise and draw line of symmetry in 2-D geometrical and non-geometrical shapes.

Resources: Whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 127 (pp. 134 and 135), Worksheet 128 (pp. 136 and 137).

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

Remediation: Ask the learners to draw a picture of a square on their whiteboards/scrap paper. Discuss the properties of symmetry. Now let them draw a line of symmetry. Let them draw any other picture which is suitable, e.g. a t-shirt or a pair of shorts, and show the line of symmetry.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 95, 100, 105...

1.2 Mental mathematics activity (10 minutes)

	What is 2 less than:	Answer
1.	100?	98
2.	50?	48
3.	12?	10
4.	40?	38
5.	45?	43

	What is 2 less than:	Answer
6.	13?	11
7.	24?	22
8.	35?	33
9.	38?	36
10.	66?	64

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

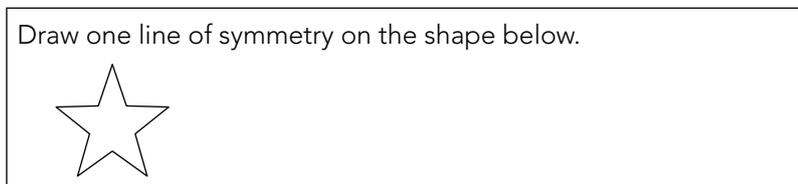
- Draw the following shapes on the board:



- Ask the learners to copy these shapes on their whiteboards/scrap paper.
- Ask them to draw lines of symmetry for their shapes. (They can use horizontal lines and vertical lines.)
- Allow the learners to compare their pictures with one another and discuss their different answers.
- Discuss with the whole class:
 - For which shape can we use a vertical line to show a line of symmetry? (All of the shapes.)
 - For which shape can we use a horizontal line to show the line of symmetry? (All of the shapes BUT NOT the triangle.)
 - For which shape can we use a sloping line to show a line of symmetry? (The triangle and the circle.)
 - Which shapes have more than one line of symmetry? (All of the shapes.)
 - Which shape has the MOST lines of symmetry? (The circle.)
 - Which shape has the LEAST lines of symmetry? (The rectangle – it has 2 lines of symmetry.)
 - Which shapes has 4 lines of symmetry? (The square.)
 - Which shapes has 3 lines of symmetry? (The triangle.)
 - Any other observations? Discuss. (Have an open discussion – keep it focused on shapes and symmetry.)

Activity 2: Whole class activity

- This question is from the 2013 ANA. Write it on the board and ask learners to draw the shape and the line of symmetry. (A vertical line can be used.)



- Were the learners able to answer the question?
Go over more examples (draw more shapes on the board) if necessary to consolidate the concept of symmetry.

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

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

6. Reflection on lesson

Term 4 Lesson 8: Symmetry

Classwork

1. Copy the following table into your book:

Symmetrical objects	Non-symmetrical objects
(circle)	(shoe)
(triangle)	(banana)
(square)	(knife)
(rectangle)	(car)

- a) Draw the following objects in the correct column, using symmetry to make your choices: shoe, circle, banana, triangle, square, rectangle, knife, car.
(The answers in brackets in the table are the solutions. Shoes and cars are virtually symmetrical but they may have scratches or laces, for example, positioned in such a way that perfect symmetry is not possible in reality.)
- b) Draw the lines of symmetry in on the objects in the column.
2. Write the letters B, H and M. Draw in the lines of symmetry. (The letters B and H have a horizontal line of symmetry though the middle of the letter. The letter M has a vertical line of symmetry through the centre.)

Homework

- Write your name in capital letters. (E.g. NORMA)
- Which letters in your name are symmetrical? (E.g. O, M, A)
- Draw the letters which you think are symmetrical and draw in the lines of symmetry for these letters. (E.g. O has 2 lines of symmetry – vertical and horizontal; M and A have a vertical line of symmetry.)

LESSON 9: ADDITION – ROUNDING OFF

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, addition, symbols, rounding off, nearest ten, more than, less than, number line, building up, breaking down.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use techniques like concrete apparatus, drawing pictures, building up and breaking down of numbers and number lines.
- Add to 20, subtract from 20.
- Use appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition, with answers up to 99.
- Use concrete apparatus such as number lines and techniques such as building up and breaking down of numbers.
- Add up to 99.
- Use appropriate symbols (+, -, =, □).

Resources: Whiteboards/scrap paper, base ten blocks (see *Printable Resources* Term 1).

DBE workbook activities relevant to this lesson:

- Worksheet 77 (pp. 26, 27).

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

Remediation: Give the learners base ten blocks to show: $47 + 18$. Count out 47 and 18. Change the 18 to 20 and remember to take away 2 at the end. Add the 47 and 20. Take the 2 away. Repeat with $29 + 19 = \underline{\quad}$ and $29 + 10 = \underline{\quad}$.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 105, 100, 95...

1.2 Mental mathematics activity (10 minutes)

	What is 3 less than:	Answer
1.	100?	97
2.	45?	42
3.	12?	9
4.	30?	27
5.	42?	39

	What is 3 more than:	Answer
6.	15?	18
7.	25?	28
8.	36?	39
9.	12?	15
10.	40?	43

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

This is the first of five lessons that consolidate learners understanding of addition and subtraction. Learners are shown a few different strategies to use when adding and subtracting, such as rounding, building up and breaking down, and using number lines. You should continue to encourage learners to record accurate working when they add and subtract. They can use any method to record their working which is mathematically correct.

The first part of the lesson consolidates learners understanding of rounding off and Activity 3 introduces the use of rounding off when adding. Remember to refer to the *Jika iMfundo* bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of rounding off.

Activity 1: Whole class activity

- Draw a picture of a learner on a road between a school and a shop. The learner must be closer to the shop.
- Ask: *If it starts to rain hard, will you run to the school or to the shop?*
- Discuss answers and explain why the choice would probably be to run to the closest place.
- This discussion should be brief and is used by way of introduction to the next activity, which is about rounding off.

Activity 2: Whole class activity

- Draw a 0–10 number line on the board.
- Circle the 0 and the 10 in colour.
- Ask: *Is the 8 closer to the 10 or the 0?* (10)
- Plot the answer on the number line and discuss the answer. Relate the discussion to the story about the school and the shop.
- Draw a 10–20 number line on the board.
- Circle the 10 and 20 in colour.
- Ask: *Is the 17 closer to the 10 or the 20?* (20)
- Plot the answer on the number line and discuss the answer.
- Give each learner a slate/whiteboard.
- Learners should work on their whiteboards/scrap paper.
- Ask the learners to draw a 10–20, a 20–30, a 30–40, and a 40–50 number line on their boards.
- Ask lots of questions like the following:
 - *Is 16 closer to 10 or 20?* (20)
 - *Is 29 closer to 20 or 30?* (30)
 - *Is 37 closer to 30 or 40?* (40)
 - *Is 48 closer to 40 or 50?* (50)
- Each time ask the learners why they chose that answer and discuss their choices. Include the word rounding off in your discussion so that learners become aware of the term.

Activity 3: Whole class activity

- Do the following on the board.
- Explain that they are going to do an addition sum, where one of the numbers will change to the nearest 10.
- Write $58 + 19 = \square$ on the board.
- The sum can be written as: $58 + 19 = 58 + 20 - 1$ (The 19 has been rounded off to the closest 10.)
 $58 + 20 \rightarrow 78 - 1 = 77$
- Do this example as well: $52 + 19 = \square$
 $50 + 19 + 2 = \square$ (52 has been rounded off to the closest 10.)
 $69 + 2 = \square$
- There may be different ways of rounding that could be used. Working must be correct – it can differ from the way you might do it.
- Work through other examples if there is time.

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

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

6. Reflection on lesson

Term 4 Lesson 9: Addition – rounding off

Classwork

- Between which two tens are the following numbers? E.g. 37 is between 30 and 40.
 - 65 (60 and 70)
 - 55 (50 and 60)
 - 48 (40 and 50)
- Which ten is closest to this number? E.g. 56 is closest to 60.
 - 72 (70)
 - 29 (30)
 - 87 (90)
- What should I add to or subtract from this number to get to the closest 10? E.g. $38 + 2 = 40$
 - 49 ($49 + 1 = 50$. I must add 1.)
 - 65 ($65 + 5 = 70$. I must add 5.)
 - 53 ($53 - 3 = 50$. I must add 3.)
- Calculate by counting up or down to the nearest ten: $68 + 19 = \underline{\quad}$. ($68 + 20 - 1$ OR $70 - 2 + 19$)
- Noluthando had 25 sweets. Silo gave her 18 sweets. How many sweets does she have now?
Use rounding off to calculate the answer. ($25 + 20 - 2/30 + 18 - 5/20 + 18 + 5$)

Homework

- Between which two tens are the following numbers? E.g. 37 = 30 and 40.
 - 76 (70 and 80.)
 - 89 (80 and 90.)
- Which ten is closest to this number? E.g. 56 is closest to 60.
 - 91 (90)
 - 42 (40)
- Ntombi had 53 sweets. She got 32 sweets from Silo. How many sweets does she have now?
Use rounding off to the nearest 10 to calculate. ($53 + 30 + 2/50 + 32 + 3$)

LESSON 10: ADDITION – BREAKING DOWN NUMBERS

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, techniques, addition, breaking down, calculations, two-digit numbers, more than, building up, pair, tens, units.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use concrete apparatus like number lines, drawing pictures, use techniques like building up and breaking down of numbers.
- Add to 20, subtract from 20.
- Use appropriate symbols (+, −, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 99.
- Use concrete apparatus and techniques like building up and breaking down of numbers.
- Add up to 99.
- Use appropriate symbols (+, −, =, □).

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

DBE workbook activities relevant to this lesson:

- DBE Worksheet 101 (pp. 80 and 81).

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

Remediation: Recap Activities 2 and 3 using base ten blocks. Make sure you discuss and show each step. Make up some other similar questions if the learners still need help with this method of breaking down when adding.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 70, 75, 80...

1.2 Mental mathematics activity (10 minutes)

	What is 3 more than:	Answer
1.	77?	80
2.	66?	69
3.	52?	55
4.	64?	67
5.	12?	15

	What is 3 more than:	Answer
6.	43?	46
7.	20?	23
8.	38?	41
9.	89?	92
10.	75?	78

2. Correction/reflection on homework (15 minutes)

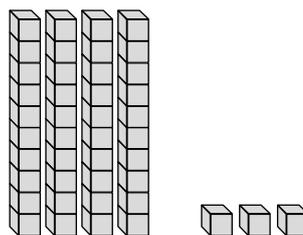
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

In this lesson (and the next two lessons) the strategy of breaking down numbers is used. Encourage learners to speak about their working using the language of place value (tens and units) as this links closely to all numeric calculation strategies they might use – particularly that of breaking down numbers.

Activity 1: Whole class activity

- Write 43 on the board.
- Show the learners 43 (4 tens and 3 units) with base ten blocks.
- Show the learners 43 using flard cards.



Activity 2: Whole class activity

- Do these examples on the board.
- Say: *Breaking down a number into smaller parts makes calculation easier.*
- *The strategy we are going to try now is to break down numbers into tens and ones/units to add them.*
- *First we will try to add two-digit numbers by breaking down both numbers.*
- NOTE that the brackets in the explanation are there to show the learners how the numbers are grouped. This is the correct way of showing particular grouping of numbers in maths.
- Explain the grouping (in pairs) here so that the learners can see that it is helping them to see how the numbers are broken down into tens and units (Step 1) and then grouped according to tens and units (Step 2).
 $43 + 36 = \square$
 $43 + 36 = (40 + 3) + (30 + 6)$ (Break down the numbers into tens and units.)
 $= (40 + 30) + (3 + 6)$ (Pair the numbers to add the tens and units.)
 $= 70 + 9$
 $= 79$
- Do some more examples using breaking down to add 2-digit numbers where regrouping is not needed, for example:
 - $33 + 45 = (78)$
 - $51 + 24 = (75)$
 - $37 + 22 = (59)$ (etc.)

Activity 3: Whole class activity

- Do this example on the board.
- Adding two-digit numbers by breaking down both numbers.
- Once again explain the use of brackets as you explain the working in the example.
 $46 + 28 = \square$
 $46 + 28 = (40 + 6) + (20 + 8)$ (Break down the numbers into tens and units.)
 $= (40 + 20) + (6 + 8)$ (Pair the numbers to add the tens and units.)
 $= 60 + 14$
 $= 74$
- Do some more examples using breaking down to add 2-digit numbers where regrouping is needed, for example:
 - $38 + 45 = (83)$
 - $56 + 29 = (85)$
 - $37 + 27 = (64)$ (etc.)

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

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

6. Reflection on lesson

Term 4 Lesson 10: Addition – breaking down numbers

Classwork

Add using the breaking down strategy:

1. $24 + 17 = \underline{\quad}$ (41)

2. $36 + 48 = \underline{\quad}$ (84)

3. $57 + 21 = \underline{\quad}$ (78)

4. $61 + 32 = \underline{\quad}$ (93)

Homework

Add using the breaking down strategy:

1. $33 + 8 = \underline{\quad}$ (41)

2. $25 + 37 = \underline{\quad}$ (62)

3. $49 + 19 = \underline{\quad}$ (68)

4. $74 + 17 = \underline{\quad}$ (91)

WEEK 3

LESSON 11: SUBTRACTION – BREAKING DOWN NUMBERS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.13 Addition and subtraction, 1.5 Place value, 1.12 Techniques (methods or strategies).

Lesson vocabulary: Forwards, backwards, addition, subtraction, breaking down, spider diagram, less than, building up, pair, tens, units, subtract, input, output, rule.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use concrete apparatus, e.g. number lines, drawing pictures and techniques like building up and breaking down of numbers.
- Add to 20, subtract from 20.
- Use appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 99.
- Use techniques like concrete apparatus, building up and breaking down of numbers.
- Add up to 99, subtract from 99.
- Use appropriate symbols +, -, =, □.

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

DBE workbook activities relevant to this lesson:

- DBE Worksheet 102 (pp. 82 and 83).

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

Remediation: Recap Activities 1, 2 and 3 using base ten blocks. You may need to use the blocks to show the learners how the numbers are broken down. Make sure you discuss and show each step. Make up other similar questions for the learners if they need more practice with this method. Make sure they can explain to you what they have to do in each step.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 200, 195, 190...

1.2 Mental mathematics activity (10 minutes)

	What is 3 less than:	Answer
1.	65?	62
2.	15?	12
3.	78?	75
4.	20?	17
5.	52?	49

	What is 3 less than:	Answer
6.	35?	32
7.	59?	56
8.	90?	87
9.	100?	97
10.	27?	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 breaking down of numbers in subtraction of 2-digit numbers is the focus. Remember to refer to the Jika iMfundo bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of breaking down.

Activity 1: Whole class activity

- Do this example on the board.
- It is an example of subtracting by breaking down both numbers.
- Work through each step and explain what you do as you go through the steps.
- Remember to explain how the brackets are being used to keep the correct pairs of numbers together.
- Also explain carefully to the class that we have to subtract the full second number, i.e. the tens and the units. *Learners need to be very careful when reorganising the numbers into tens and units when subtracting – watch this step in the working – as the signs could be confusing.*

$$46 - 33 = \square$$

$$46 - 33 = (40 + 6) - (30 + 3) \text{ (Break down the numbers into tens and units.)}$$

Look carefully at how the signs are written in the next step when we regroup the tens and units:

$$= (40 - 30) + (6 - 3) \text{ (*Pair the numbers to subtract the tens and the units.)}$$

$$= 10 + 3$$

$$= 13$$

Activity 2: Whole class activity

- Do this example on the board. (Subtracting breaking down both numbers.)

Look carefully again at the second step in the working, when we regroup the tens and units:

$$87 - 56 = \square$$

$$87 - 56 = (80 + 7) - (50 + 6) \text{ (Break down the numbers into tens and units.)}$$

$$= (80 - 50) + (7 - 6) \text{ (*Pair the numbers to subtract the tens and the units.)}$$

$$= 30 + 1$$

$$= 31$$

Activity 3: Whole class activity

- Do this example on the board. (Subtracting by breaking down both numbers.)
- You could ask certain learners to come to the board and solve the problem at each step since this is the third worked example you are doing.
- Allow the class to discuss the steps in the working to show their understanding of the method before you go on to the individual class work activity.

$$78 - 43 = \square$$

$$78 - 43 = (70 + 8) - (40 + 3) \text{ (Break down the numbers into tens and units.)}$$

$$= (70 - 40) + (8 - 3) \text{ (*Pair the numbers to subtract the tens and the units.)}$$

$$= 30 + 5$$

$$= 35$$

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

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

6. Reflection on lesson

Term 4 Lesson 11: Subtraction – breaking down numbers

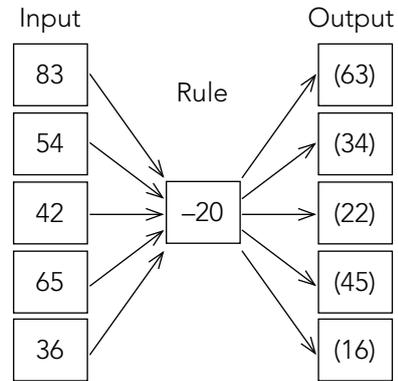
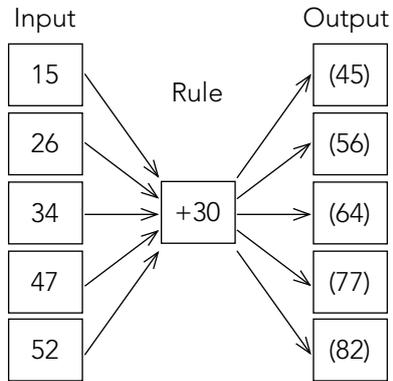
Classwork

1. Calculate by breaking down both numbers:

a) $56 - 23 = \underline{\quad}$ (33)

b) $87 - 34 = \underline{\quad}$ (53)

2. Complete the spider diagrams:



Homework

1. Calculate by breaking down both numbers:

a) $49 - 36 = \underline{\quad}$ (13)

b) $75 - 24 = \underline{\quad}$ (51)

LESSON 12: ADDITION AND SUBTRACTION

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.13 Addition and subtraction, 1.6 Problem solving, 1.12 Techniques (methods or strategies).

Lesson vocabulary: Forwards, backwards, number sentence, addition facts, subtraction facts, more than, less than, building up, breaking down, pair, tens, units.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use techniques like concrete apparatus, drawing pictures, building up and breaking down of numbers and number lines.
- Add to 20, subtract from 20; Use appropriate symbols (+, -, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 99.
- Use concrete apparatus and techniques like building up and breaking down of numbers.
- Add up to 99, subtract from 99.
- Use appropriate symbols (+, -, =, □).

Resources: Whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 104 (pp. 86 and 87), Worksheet 105 (pp. 88 and 89).

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

Remediation: Do the following examples with your learners. Know that □ stands for an unknown number. $57 - 34 = \square$, $80 - 30 = \square$, $62 - \square = 48$, $13 - 6 = 15 - \square$, $\square - 18 = 24$. Say and write corresponding subtraction facts to a given addition fact and vice versa. For example: $73 + 17 = 90$ implies that $90 - 17 = 73$. Make use of base ten blocks.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 10s from any multiple between 0 and 200, e.g. 110, 120, 130...

1.2 Mental mathematics activity (10 minutes)

	What is 3 less than:	Answer
1.	45?	42
2.	100?	97
3.	36?	33
4.	49?	46
5.	78?	75

	What is 3 more than:	Answer
6.	12?	15
7.	70?	73
8.	85?	88
9.	50?	53
10.	89?	92

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 revise the method of breaking down both numbers when adding and subtracting. When pairing the numbers to regroup the tens and unit, remind learners to work very carefully with the signs.

Activity 1: Whole class activity

- Do the following on the board with your learners. In the first two examples shown, there is no grouping after adding/subtracting.
- It is important to go through each step carefully to revise how the numbers are broken into tens and units to simplify the calculation.
- Work through the following two examples:

$$43 + 36 = \square$$

$$\begin{aligned}43 + 36 &= (40 + 3) + (30 + 6) \text{ (Break down the numbers into tens and units.)} \\ &= (40 + 30) + (3 + 6) \text{ (*Pair the numbers to add the tens and units.)} \\ &= 70 + 9 \\ &= 79\end{aligned}$$

$$46 - 33 = \square$$

$$\begin{aligned}46 - 33 &= (40 + 6) - (30 + 3) \text{ (Break down the numbers into tens and units.)} \\ &= (40 - 30) + (6 - 3) \text{ (*Pair the numbers to subtract the tens and the units.)} \\ &= 10 + 3 \\ &= 13\end{aligned}$$

Activity 2: Whole class activity

- In the next two examples shown, it is necessary to re-group in order to complete the operations.
- Learners complete these on their whiteboards/scrap paper using the method from Activity 1.

$$54 + 17 = \square$$

$$\begin{aligned}54 + 17 &= (50 + 4) + (10 + 7) \text{ (Break down the numbers into tens and units.)} \\ &= (50 + 10) + (4 + 7) \text{ (Pair the numbers to add the tens and units.)} \\ &= 60 + 11 \text{ (A new group of ten is formed which is added to the tens.)} \\ &= 71\end{aligned}$$

$$75 - 48 = \square$$

$$\begin{aligned}75 - 48 &= (70 + 5) - (40 + 8) \text{ (Break down the numbers into tens and units.)} \\ &= (70 - 40) + (5 - 8) \text{ (Pair the numbers to subtract the tens and the units.)} \\ &= (30) + (5 - 8) \text{ (Subtract the tens.)} \\ &= (20 + 10) + (5 - 8) \text{ (Break down the tens to enable subtraction in the units place.)} \\ &= 20 + (15 - 8) \\ &= 20 + 7 \\ &= 27\end{aligned}$$

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

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

6. Reflection on lesson

Term 4 Lesson 12: Addition – Addition and subtraction

Classwork

- Use the breaking down strategy to calculate:
 - $29 + 12 = \underline{\quad}$ (41)
 - $53 + 42 = \underline{\quad}$ (95)
 - $49 - 19 = \underline{\quad}$ (30)
 - $74 - 46 = \underline{\quad}$ (28)
- Joe has 54 marbles and Steve has 34 marbles. How many marbles do they have altogether? (88 marbles.)
- Alfred takes 32 seconds to eat his bread and Ben takes 39 seconds. How long do they take altogether? (71 seconds.)
- Kabelo has 45 jelly sweets and Josie has 39. How many jelly sweets do they have altogether? (84 jelly sweets.)

Homework

- Use the breaking down strategy to calculate:
 - $14 + 12 = \underline{\quad}$ (16)
 - $67 + 32 = \underline{\quad}$ (99)
 - $75 - 43 = \underline{\quad}$ (32)
 - $54 - 31 = \underline{\quad}$ (23)

LESSON 13: ADDITION AND SUBTRACTION – DOUBLING AND HALVING

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.13 Addition and subtraction, 1.6 Problem solving, 1.12 Techniques (methods or strategies).

Lesson vocabulary: Forwards, backwards, doubling, halving, doubles, near doubles, halves, building up, breaking down, add, subtract, addition, subtraction, calculate, symbols.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use techniques like concrete apparatus, drawing pictures, building up and breaking down of numbers, doubling and halving and number lines.
- Add to 20, subtract from 20.
- Use appropriate symbols (+, −, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving addition and subtraction with answers up to 99.
- Use concrete apparatus, doubling and halving and building up and breaking down of numbers.
- Add up to 99.
- Use appropriate symbols (+, −, =, □).

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

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: Do the following activities using base ten blocks. You may need to revise the concept of halving with the learners. Use halving to break down a number. $44 + 12 = \square = 44 + 6 + 6 = 56$. Identify near doubles: $14 + 15 = \text{double } 14 + 1$.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 10s from any multiple between 0 and 200, e.g. 110, 100, 90...

1.2 Mental mathematics activity (10 minutes)

	Double these numbers:	Answer
1.	25	50
2.	45	90
3.	50	100
4.	38	76
5.	24	48

	Halve these numbers:	Answer
6.	20	10
7.	40	20
8.	22	11
9.	28	14
10.	52	26

2. Correction/reflection on homework (15 minutes)

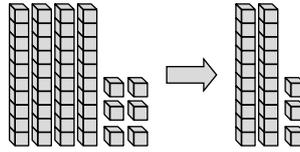
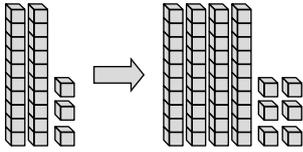
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

In this lesson the strategy of using double or halves is used. Base ten blocks are used to allow concrete representations to help learners who might benefit from these concrete representations of numbers.

Activity 1: Whole class activity

- Revise doubling and halving with the learners.
- Draw the following on the board/use base ten blocks:
- Double 23 is 46
- Half of 46 is 23



Activity 2: Whole class activity

Adding using doubles.

- Do this example on the board: Use halving to break down a number.
- $69 + 12$ (We need to add 12.)
 $= 69 + (6 + 6)$ (We break down the 12 into two halves – $6 + 6$. to make it easier to add mentally.)
 $= 69 + 6 + 6 = 75 + 6 = 81$ (We add the smaller numbers, i.e. 6 and 6, one at a time. This could be done mentally – encourage learners to do so.)
- Do at least two more examples in the same way, e.g.
 - $55 + 18$ ($55 + 9 + 9 = 64 + 9 = 73$)
 - $47 + 16$ ($47 + 8 + 8 = 55 + 8 = 63$)

Activity 3: Whole class activity

Subtracting using doubles.

- Do this example on the board: Identify near doubles when subtracting. $78 - 16 =$
- Explain that if we break down 16 into $8 + 8$ we can simplify the subtraction:
 - $78 - 16 = 78 - (8 + 8) = 78 - 8 - 8 = 70 - 8 = 62$
- Do at least two more examples to consolidate this strategy:
 - $62 - 4 = (62 - 2 - 2 = 60 - 2 = 58)$
 - $47 - 14 = (47 - 7 - 7 = 40 - 7 = 33)$

Activity 4: Whole class activity

Identifying near doubles.

- Do this example on the board: $34 + 35$
- Ask: *What do you notice about the numbers?* (They are near doubles.)
- We can rewrite this question so that we see the double – either as double 34 plus 1 or double 35 minus 1.
 - $34 + 34 + 1$
 - $35 + 35 - 1$
- There may be different ways of recording the working – check that working is always mathematically correct, e.g.
 - $34 + (30 + 4) + 1 = 34 + 30 + 4 + 1 = 64 + 4 + 1 = 69$
- Do at least two more examples in the same way (using near doubles), e.g.
 - $56 + 57 = (56 + 56 + 1 = 113)$
 - $81 + 82 = (81 + 81 + 1 = 163)$

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

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

6. Reflection on lesson

Term 4 Lesson 13: Addition and subtraction – doubling and halving

Classwork

(NOTE. Remember that learners could use a breaking down method to find these solutions, for example, half of 26 is half of $20 + 6$ so it is $10 + 3$ which is 13.)

- What is half of:
 - 26 ____ (13)
 - 90 ____ (45)
 - 164 ____ (82)
- Calculate using doubles to add:
 - $7 + 8 =$ ____ (7 and 8 are near doubles. Double $7 + 1 = 15$)
 - $12 + 13 =$ ____ (12 and 13 are near doubles. Double $12 + 1 = 25$)
 - $35 + 36 =$ ____ (35 and 36 are near doubles. $35 + 35 + 1 = 70 + 1 = 71$)
 - $72 + 16 =$ ____ (Break down 16 into halves to simplify the addition. e.g. $72 + 8 + 8 = 72 + 8 + 8 = 80 + 8 = 88$)
- Calculate using doubles to subtract:
 - $54 - 8 =$ ____ (Break down 8 into halves to simplify the subtraction. $54 - 4 - 4 = 50 - 4 = 46$)
 - $76 - 12 =$ ____ (Break down 12 into halves to simplify the subtraction. $76 - 6 - 6 = 70 - 6 = 64$)

Homework

- What is half of:
 - 34 ____ (17)
 - 80 ____ (40)
 - 112 ____ (56)
- Calculate using doubles to add:
 - $8 + 9 =$ ____ (Double $8 + 1 = 17$)
 - $22 + 23 =$ ____ (Double $22 + 1 = 45$)
 - $55 + 56 =$ ____ ($55 + 55 + 1 = 110 + 1 = 111$)
- Calculate using doubles to subtract:
 - $42 - 4 =$ ____ ($42 - 2 - 2 = 40 - 2 = 38$)
 - $35 - 10 =$ ____ ($35 - 5 - 5 = 30 - 5 = 25$)

LESSON 14: MONEY

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, money, rands, cents, totals, change, amount, calculate, more than, coins, notes, biggest, smallest.

Prior knowledge: Learners should have been taught how to:

- Recognise and identify the South African currency – coins: 10c, 20c, 50c, R1, R2, R5; 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 currency – coins: 10c, 20c, 50c, R1, R2, R5; notes: R10, R20, R50.
- Solve money problems involving totals and change in cents up to 90c and rands to R99.

Resources: Whiteboards/scrap paper, cut-out money (see *Printable Resources Term 1*), marked priced items, e.g. lunchbox R9,50; pencil R0,75).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 108 (pp. 94 and 95).

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

Remediation: Give learners items with prices on, e.g. R55, R12, R1,20, R20,50. Ask the learners which notes and or coins they will use to pay for these items?

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 10s from any multiple between 0 and 200, e.g. 125, 135, 145...

1.2 Mental mathematics activity (10 minutes)

	Which is more:	Answer
1.	51 or 15?	51
2.	12 or 21?	21
3.	100 or 10?	100
4.	75 or 57?	75
5.	30 or 50?	50

	Which is more:	Answer
6.	78 or 87?	87
7.	98 or 89?	98
8.	55 or 45?	55
9.	25 or 52?	52
10.	56 or 65?	65

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

In the first activity of this lesson, learners work with monetary amounts to find totals of their own. This prepares them for the operational work in the next lesson on word problems with money. You can give the learners printed money to help them do their calculations in these activities. This will also enable them to familiarise themselves with the SA money (coins and notes).

Activity 1: Learners work in groups

- Draw a money box on the board.
- Learners should work on their whiteboards/scrap paper.
- Write different amounts of money inside the money box.
- Examples to use: R10,50, R25, 130c, etc.
- Each group of learners chooses a different amount of money to 'put into the money box'.
- Ask the learners to write up (or draw) different ways to make up the amount of money shown on their whiteboards/scrap paper. Then hold it up for you to check.
- If the answer is wrong, give them another chance to calculate the amount.
- Remember that there will be different combinations possible and look out for all of the correct combinations.

Activity 2: Learners work in groups

- Give the learners the cut-out money to use for this activity.
- Write different amounts on the board.
- Examples to use: R14,10, 110c, R55, R87,50, 30c, etc.
- Learners use their cut-out money to display the given amount on their desks.
- Ask the learners questions each time:
 - Which note that you've used was the biggest/smallest?
 - Which coin was the biggest/smallest?
 - How many notes/coins did you use?
 - Can you use any other coins/notes to make up the same amount?
 - Etc.

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

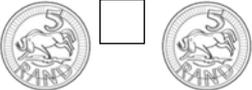
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

Term 4 Lesson 14: Addition and subtraction

Classwork

1. Tick the coins and notes that will give you the following: (Multiple answers.)

2. Draw the following amounts using coins and notes: (Multiple answers.)

- R21,20
- R37,30

Homework

- Draw the following amounts using coins and notes: (Multiple answers.)
 - R11,20
 - R46,50

LESSON 15: MONEY – WORD PROBLEMS

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, problem solving, change, costs, between, currency, rands, cents, notes, coins, total.

Prior knowledge: Learners should have been taught how to:

- Recognise and identify the South African currency – coins: 10c, 20c, 50c, R1, R2, R5; 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 currency – coins: 10c, 20c, 50c, R1, R2, R5; notes: R10, R20, R50.
- Solve money problems involving totals and change in cents up to 90c and rands to R99.

Resources: Money cut-outs (see *Printable Resources* Term 1), money problem card (see *Printable Resources*), A4 paper per group.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 109 (pp. 96 and 97).

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

Remediation: Let the learners use their cut-out money. Discuss the relationship between cents and rands. Ask them to show you two amounts using their cut-outs. Let them make their own problem using their own amounts. They must then work out the answer.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 10s from any multiple between 0 and 200, e.g. 200, 190, 180...

1.2 Mental mathematics activity (10 minutes)

	Give the number/s between:	Answer
1.	56 and 58	57
2.	91 and 95	92, 93, 94
3.	25 and 27	26
4.	40 and 43	41, 42
5.	35 and 38	36, 37

	Give the number/s between:	Answer
6.	12 and 14	13
7.	50 and 53	51, 52
8.	98 and 100	99
9.	89 and 91	90
10.	24 and 27	25, 26

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 money problem to solve.
- These problems should be numbered and written on a piece of paper to ensure the other groups don't see or hear their problem. (See examples of problems below. Make up other similar word problems for the class using learners names if you think this would motivate learners.)
- Learners may use their money cut-outs to help them solve the problem.
- They should number and write the answers to each problem on a piece of paper.
- Swap the problems amongst the groups.

Examples of problems:

1. I have R50,00. I go to the shop to buy a cake. The cake costs R29,00. How much change will I get? (R11,00)
2. Thompho wants to buy a jacket. It costs R75,00. If she has R80,00, how much change will she get when she pays? (R5,00)
3. An exercise book costs R3,00.
 - a) How much will 5 exercise books cost? (R15,00)
 - b) How many books can Ntombi buy with R20,00? (6 books.)
4. I have R30,00. I go to the shop to buy bread and milk for R28,50. How much change will I get? (R1,50)
5. I want to buy a hat for R16,20 and a pair of shoes for R78,90. How much money do I need to save to be able to buy these items? (R95,10)
6. A packet of chips costs R1,50.
 - a) How much will 5 packets of chips cost? (R7,50)
 - b) How many packets can I buy with R12,00? (8 packets.)

Activity 2: Whole class activity

- Discuss each problem with the class and allow each group a chance to give and explain their answers.
- If there is a group with a wrong answer, ask one of the other groups with the correct answer to come and do it on the board.
- Discuss the errors in the answers – try to help the learners understand where they went wrong so that they don't make the same errors next time.
- Repeat this with all the problems.
- If there is still time, ask learners to make up more problems that the class can solve together.

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

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

6. Reflection on lesson

Term 4 Lesson 15: Money – word problems

Classwork

1. I have R20,00. I go to the shop to buy bread and milk for R18,50. How much change will I get? (R1,50)
2. I want to buy a hat for R9,00 and a pair of shoes for R85,00. How much money do I need to save to be able to buy these items? (R94,00)
3. A packet of chips costs R3,00.
 - a) How much will 2 packets of chips cost? (R6,00)
 - b) How many packets can I buy with R12,00? (4)
4. My sister has R17,60. I have R25,90. How much more money do I have than my sister? (R8,20)

Homework

A sucker costs 80c. I buy 7 suckers.

1. How much money will I need? (R5,60)
2. I pay with a R10 note. How much change do I get? (R4,40)

WEEK 4

LESSON 16: NUMBER PATTERNS OF 5s AND 10s UP TO 200

Teacher's notes

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

Lesson vocabulary: Number pattern, forwards, backwards, multiple, copy, extend, describe, number sequence, less than, more than, demarcation, number line.

Prior knowledge: Learners should have been taught how to:

- Copy, extend and describe simple number sequences to at least 20.
- Sequence should show counting forwards and backwards in 1s from any number between 1 and 20.

Concepts:

- Copy, extend and describe simple number sequences to at least 200.
- Sequences should show counting forwards and backwards in 5s and 10s from any multiple between 0 and 200.

Resources: Whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- N/A

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

Remediation: Each learner has a whiteboard. Ask learners to draw a number line from 0–10 in ones. You may need to demonstrate it. Discuss the interval markings. Now ask them draw a number line from 0–40 in fives. You may need to demonstrate it. Discuss the interval markings. Compare the two number lines and note the differences.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 99, 102, 105...

1.2 Mental mathematics activity (10 minutes)

	What is 4 more than:	Answer
1.	52?	56
2.	20?	24
3.	65?	69
4.	32?	36
5.	55?	59

	What is 4 less than:	Answer
6.	60?	56
7.	10?	6
8.	59?	55
9.	63?	59
10.	95?	91

2. Correction/reflection on homework (15 minutes)

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

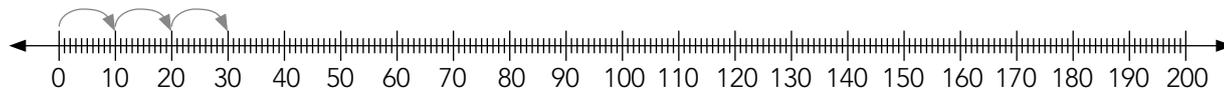
3. Lesson content – concept development (30 minutes)

There are four lessons on number patterns this term. In these lessons you will work with counting patterns (such as the multiples of 2, 3, 4, 5, and 10) but also with counting patterns that are not multiples (such as the pattern made by adding 5s, starting at 11). While you work with the patterns, you must be sure to show learners how they can recognise the rule that generates each pattern. Learners need to be able to recognise the rule for a pattern because they need to use these rules to find missing terms in given sequences and to extend patterns, using the rule.

The number range for patterns is extended to 200, the extent of the range for Grade 2.

Activity 1: Whole class activity

If you do not have a ready-made number line on the wall in your class, draw a 10s number line on the board before the lesson starts. It should go from 0–200 like the one below:



- First take time to count forwards in 5s and 10s, showing the jumps on the number line.
- Count forward from 0 in 10s on the number line showing the hops. Get all of the learners to participate in the counting and you show the jumps/hops by drawing them in above the line while you count.
- The learners have to understand that the hops jump to every 10th number on the number line. (Show how this relates to the demarcations on the number line.)
- Use the same number line to show counting forwards in 5s from 0. (If possible use a different coloured chalk.)
- The learners have to realise that when you count in 5s, the hops jump to every 5th number on the number line. Now rub out the hops, so you can do some other counting.
- After this, count together in 10s, but instead of starting at 0, start at 5.
- Ask: *Can you remember when we count in tens which number do we jump to on the number line?* (The 10th number.)
- Let them find 5 on the number line and then count on to the 10th number from 5. That will be 15. Repeat this until you reach 95.
- Now you could count forwards in 10s, starting at 6. 6 is not a multiple of 5 but we can still count on in 5s from 6. The counting pattern goes 6, 11, 16, 21, 26, etc.
- Rub out the hops whenever you need to, if you are working on the board and want to re-use your number line.
- Once you have done many examples of counting forwards in 5s and 10s, in multiples and also starting at any number on the number line, you can move on to examples where you count backwards.
- Ask them to now count backwards in 10s from 200 to 0.
- While they count you make the jumps/hops on the number line from 200 to 0.
- Repeat this activity, counting forwards and backwards in 5s from 5 to 200, and so on.
- Now choose a number to start on, that is not a multiple of 5, and count backwards. E.g. Count backwards from 109. The counting pattern goes 109, 104, 99, 94, 89, 84, ...
- Also count backwards in jumps of 10, starting at any number in the range 0–200. E.g. Count backwards in 10s starting at 136. The counting pattern goes 136, 126, 116, 106, 96, 86, ...

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

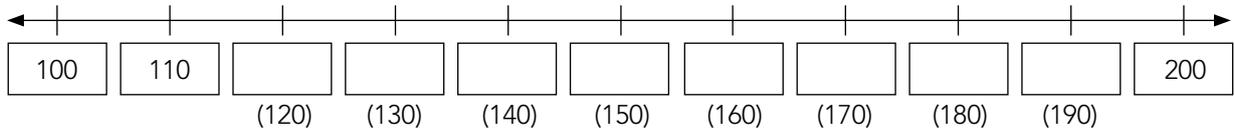
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

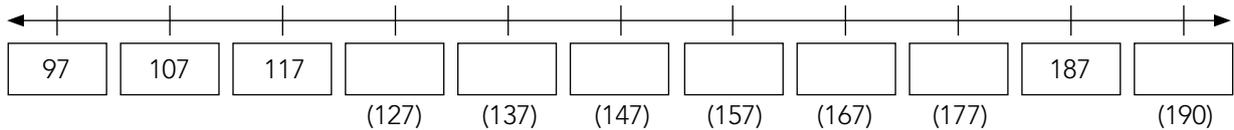
Term 4 Lesson 16: Number patterns 5s and 10s up to 200

Classwork

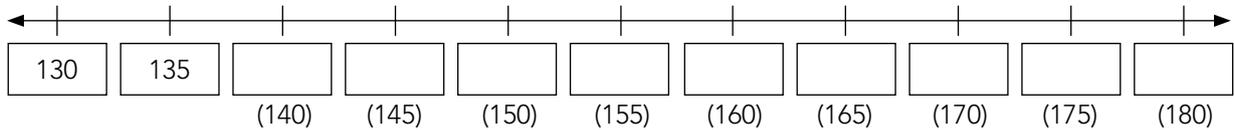
1. Complete the number line counting forwards in 10s:



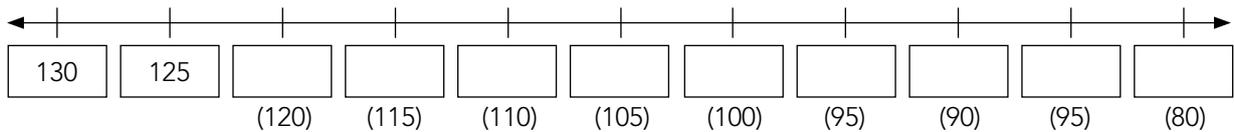
2. Complete the number line counting forwards in 10s:



3. Complete the number line counting forwards in 5s:

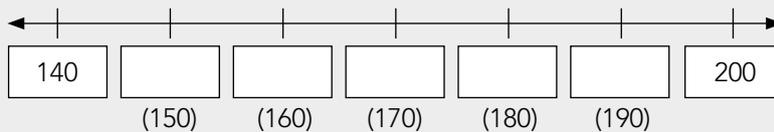


4. Complete the number line counting backwards in 5s:

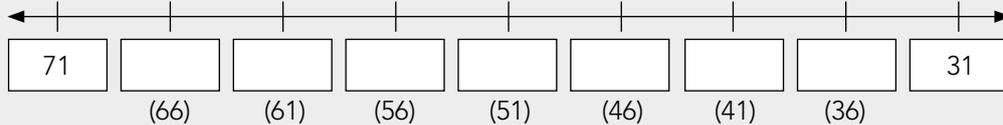


Homework

1. Show the following on the number line: 150, 160, 170, 180, 190



2. Show the following on the number line: 71, 66, 61, 56, 51, 46, 41, 36



LESSON 17: NUMBER PATTERNS OF 2s UP TO 200

Teacher's notes

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

Lesson vocabulary: Number pattern, forwards, backwards, multiple, copy, extend, describe, number sequence, more than, less than, odd number, even number, twos, number line, increasing, decreasing.

Prior knowledge: Learners should have been taught how to:

- Copy, extend and describe simple number sequences to at least 20.
- Sequences should show counting forwards and backwards in 2s from any number between 2 and 100.

Concepts:

- Copy, extend and describe simple number sequences to at least 200.
- Sequences should show counting forwards and backwards in 2s from any multiple of 2 between 0 and 200.

Resources: Whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 112 (pp. 102 and 103).

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

Remediation: Give each learner a whiteboard. Ask them to draw a number line from 0–20 on the board in 1s. Ask the learners to draw a square around the numbers 2, 4, 6, 8, 10, 12, 14, 16, 18, and 20. Do they notice a pattern? Discuss the pattern. Repeat with a number line from 90–100.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 103, 106, 109...

1.2 Mental mathematics activity (10 minutes)

	What is 4 more than:	Answer
1.	54?	58
2.	39?	43
3.	21?	25
4.	20?	24
5.	16?	20

	What is 4 less than:	Answer
6.	25?	21
7.	62?	58
8.	44?	40
9.	58?	54
10.	100?	96

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

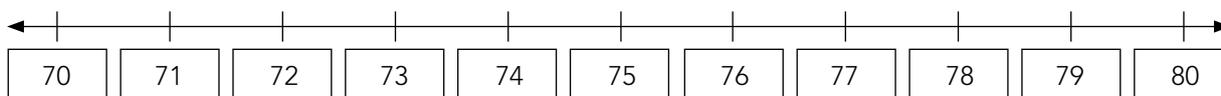
- Draw a number line on the board from 90 to 106.



- Show the learners the pattern of counting on in 2s on the number line using hops.
- The learners have to understand that the hops jump to every 2nd number on the number line.

Activity 2: Whole class activity

- Learners should work on their whiteboards/scrap paper.
- Draw a 70–80 number line (labelled in 1s) on the board and learners copy it onto their whiteboards/scrap paper.



- Say: *Let's count on in 2s, starting at 70.*
- Discuss how the jumps go when you count in 2s. (You land on every 2nd number.)
- While they count on in twos they have to make hops on the number line.
- Count together: 70, 72, 74, 76, 78, 80.
- Tell them that these numbers are *even numbers*. If a number has a 2, 4, 6, 8 or 0 at the end, we call it an even number.
- Let them now circle 71 on the number line and then count on in twos again, starting at 71.
- Count together: 71, 73, 75, 77, 79.
- Tell the learners, that these are *odd numbers*. If a number has a 1, 3, 5, 7 or 9 at the end it is an odd number. It is not a multiple of 2. But you can count in 2s, on the odd numbers.
- Draw another number line, with a different interval (e.g. 110–120 or 190–200) and use it to show counts in 2s. Discuss the patterns until you think the learners are ready to go onto the individual classwork activity.

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

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

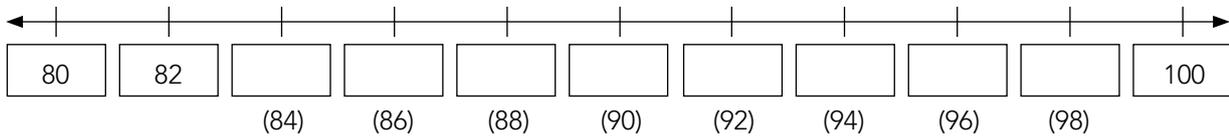
6. Reflection on lesson

Term 4 Lesson 17: Number patterns 2s up to 200

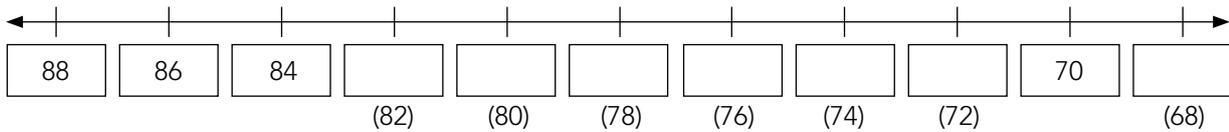
Notice that in this activity there are patterns counting up and counting down. Learners need to be able to recognise both increasing and decreasing patterns.

Classwork

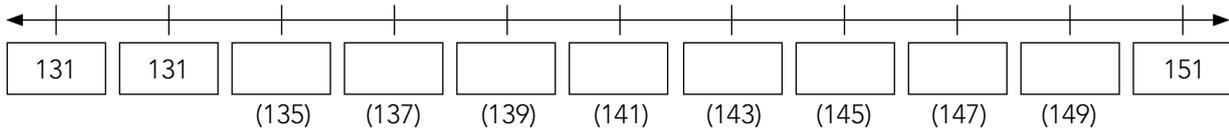
1. Complete the 2s number line (even numbers):



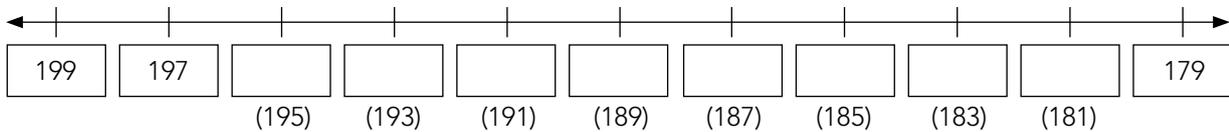
2. Complete the 2s number line (even numbers):



3. Complete the number line (odd numbers):

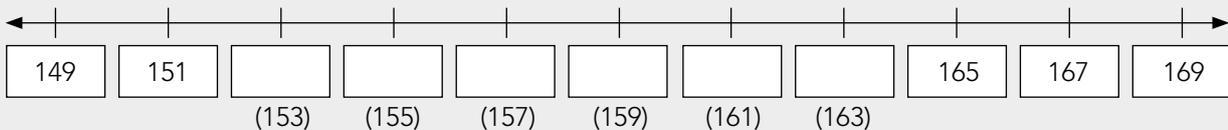


4. Complete the number line (odd numbers):

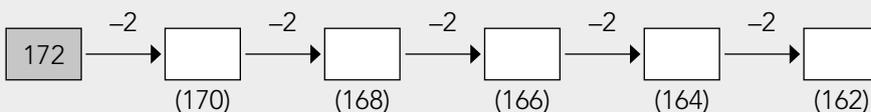
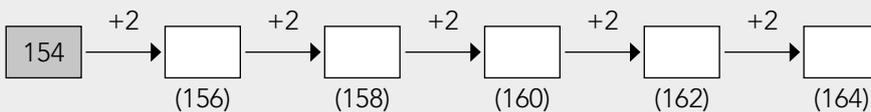


Homework

1. Show the following on the number line: 153, 155, 157, 159, 161, 163



2. Complete the following:



LESSON 18: NUMBER PATTERNS OF 3s UP TO 200

Teacher's notes

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

Lesson vocabulary: Number patterns, forwards, backwards, multiple, copy, extend, describe, sequences, more than, less than, number line, threes, increasing, decreasing.

Prior knowledge: Learners should have been taught how to:

- Copy, extend and describe simple number sequences to at least 20.
- Sequences should show counting forwards and backwards in 1s from any number between 1 and 100.

Concepts:

- Copy, extend and describe simple number sequences to at least 200.
- Sequences should show counting forwards and backwards in 3s from any multiple of 3 between 0 and 200.

Resources: 1–200 number grid (see *Printable Resources* Term 3).

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 number grid. Count from 0–3, 3–6, 6–9, 9–12; then 30–33, 67–70, and so on. Discuss how we are counting in 3s. Using the number grid, count backwards from 15 to 0 in 3s. Discuss patterns of 3.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 200, 197, 194...

1.2 Mental mathematics activity (10 minutes)

	What is 5 more than:	Answer
1.	25?	30
2.	56?	61
3.	59?	64
4.	10?	15
5.	35?	40

	What is 5 less than:	Answer
6.	30?	25
7.	46?	41
8.	78?	73
9.	99?	94
10.	100?	95

2. Correction/reflection on homework (15 minutes)

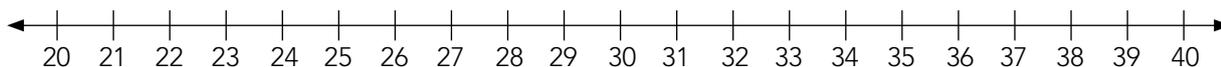
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

In this lesson the counts are in 3s. Remember to work with many different examples of patterns in the range 0–200 and work with both increasing and decreasing patterns.

Activity 1: Whole class activity

- Before the lesson draw a number line on the board from 20 to 40.



- Show the learners counting on in 3s on the number line, starting at 21, using hops.
- The learners have to understand that the hops jump to every 3rd number on the number line.
- Allow many different learners to participate in the activity, coming to the board to show counting in 3s starting at different points on the number line.
- Do examples of counting forwards and backwards.
- Forwards:
 - Start some of the counts on multiples of 3 (e.g. start on 21, or 30, etc.).
 - Start some of the counts numbers that are NOT on multiples of 3 (e.g. start on 26, or 31, etc.).
- Backwards:
 - Start some of the counts on multiples of 3 (e.g. start on 39, etc.).
 - Start some of the counts numbers that are NOT on multiples of 3 (e.g. start on 40, etc.).

Activity 2: Learners work in groups

- Give each group of learners a 200 number grid.
- You may use your 200 number grid to demonstrate.
- Ask the learners to count forwards in 3s from 103 to 147.
- Work together to locate 103 on the board and carefully count up in 3s from there to 147.
- While they count, make hops on the board.
- Ask them to now count backwards in 3s from 147 to 103.
- While they count you make the hops on your board and, if necessary, show them what you have done.
- Remember to start from some numbers that are multiples of 3 (e.g. 33, 66, etc.) and some numbers that are NOT multiples of 3 (e.g. 20, 50, etc.).
- Remind learners: *Multiples of 3 can be divided by 3 exactly, with no remainder.*
- Repeat this activity, counting forwards and backwards from other starting points on the board.

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

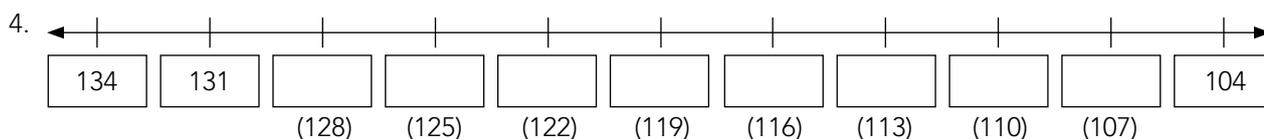
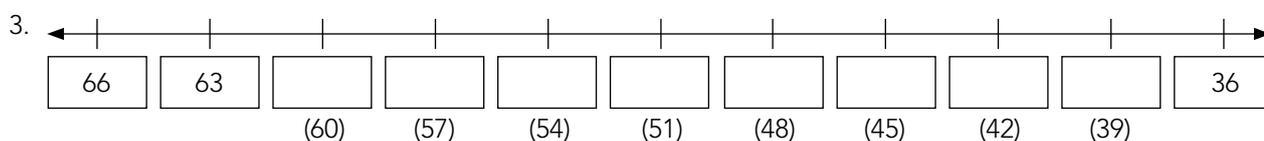
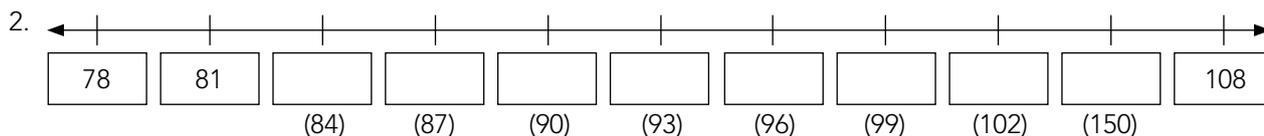
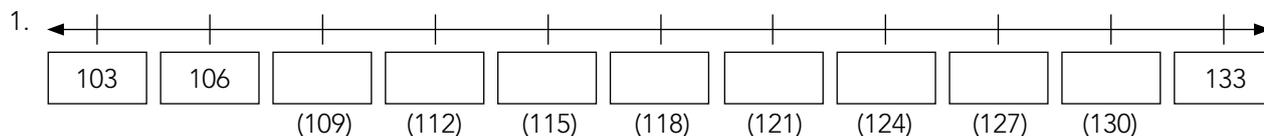
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

Term 4 Lesson 18: Number patterns of 3s up to 200

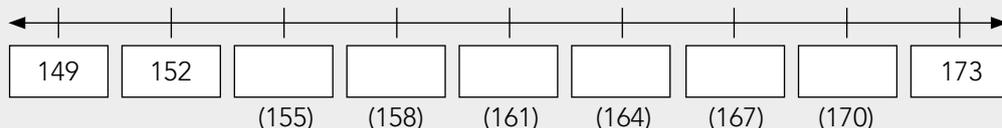
Classwork

Complete the number lines:

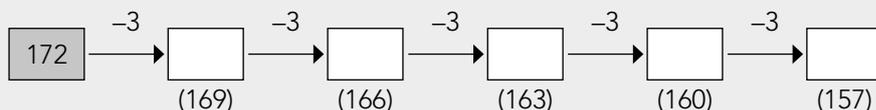
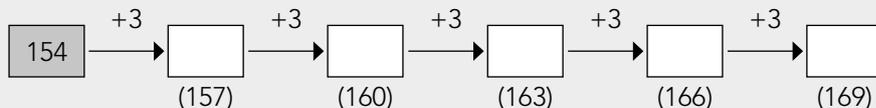


Homework

1. Show the following on the number line: 155, 158, 161, 164, 167, 170



2. Complete the following:



LESSON 19: NUMBER PATTERNS OF 4s UP TO 200

Teacher's notes

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

Lesson vocabulary: Number pattern, forwards, backwards, multiple, copy, extend, describe, number sequence, more than, less than, fours, number line, increasing, decreasing.

Prior knowledge: Learners should have been taught how to:

- Copy, extend and describe simple number sequences to at least 20.
- Sequences should show counting forwards and backwards in 1s from any number between 1 and 100.

Concepts:

- Copy, extend and describe simple number sequences to at least 200.
- Sequences should show counting forwards and backwards in 4s from any multiple of 4 between 0 and 200.

Resources: 1–200 number grid (see *Printable Resources* Term 3).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 117 (pp. 114 and 115).

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

Remediation: Ask learners to draw a number line from 0–48 in ones on their whiteboard. Ask them to circle 4, 8, 12, and 16. Discuss the pattern with the learners. Let them continue the pattern until 48.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 100, 96, 92...

1.2 Mental mathematics activity (10 minutes)

	What is 10 more than:	Answer
1.	90	100
2.	89	99
3.	54	64
4.	50	60
5.	31	41

	What is 10 less than:	Answer
6.	100	90
7.	15	5
8.	25	15
9.	90	80
10.	36	26

2. Correction/reflection on homework (15 minutes)

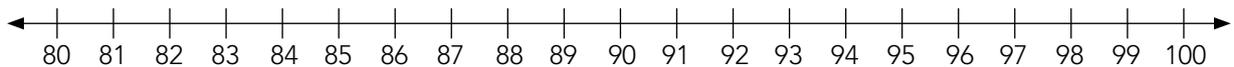
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

In this lesson the counts are in 4s. Remember to work with many different examples of patterns in the range 0–200 and work with both increasing and decreasing patterns.

Activity 1: Whole class activity

- Before the lesson draw a number line on the board from 80 to 100.



- Show the learners counting in 4s on the number line using hops, starting at 80.
- The learners have to understand that the hops jump to every 4th number on the number line.
- Allow many different learners to participate in the activity, coming to the board to show counting in 4s starting at different points on the number line.
- Do examples of counting forwards and backwards.
- Forwards:
 - Start some of the counts on multiples of 4 (e.g. start on 88, etc.).
 - Start some of the counts numbers that are NOT on multiples of 4 (e.g. start on 83 etc.).
- Backwards:
 - Start some of the counts on multiples of 4 (e.g. start on 100, etc.).
 - Start some of the counts numbers that are NOT on multiples of 4 (e.g. start on 99 etc.).

Activity 2: Whole class activity

- Give each group of learners a 200 number grid.
- You may use your 200 number grid to demonstrate.
- Ask: *Can you remember when we count in fours which number do we jump to?* (You jump to the next number that is 4 counts away. You may refer to the number line on the board to show what you mean.)
- Show the hops as you count in 4s. The 200 number grid gives you a big number range in which to choose starting points for the counting sequences.
- You choose a starting number, such as 120, and count forwards in 4s from there to 160.
- Now let the learners choose which number to start from, and show how to count on in 4s from there.
- Do this for a few different numbers, counting forwards from some and backwards from some.
- Remember to start from some numbers that are multiples of 4 (e.g. 44, 100, etc.) and some numbers that are NOT multiples of 4 (e.g. 50, 101, etc.).
- Remind learners: *Multiples of 4 can be divided by 4 exactly, with no remainder.*
- Remember to count both backwards and forwards.

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

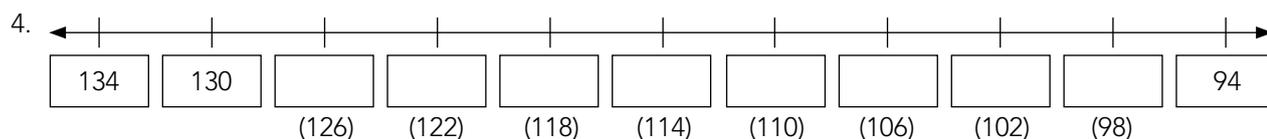
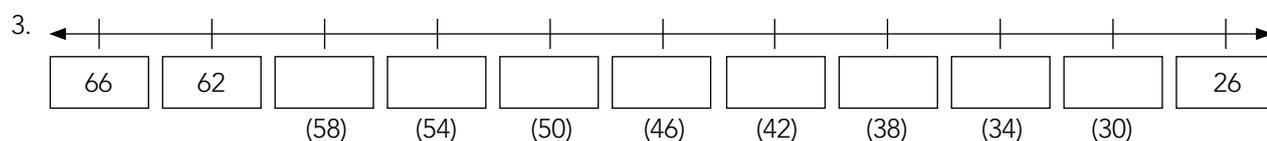
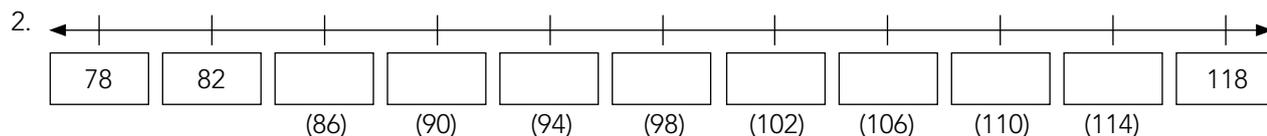
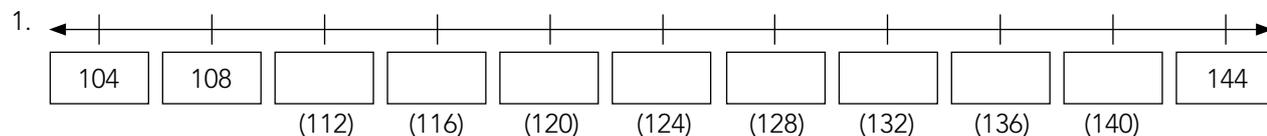
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

Term 4 Lesson 19: Number patterns of 4s up to 200

Classwork

Complete the number lines:



Homework

1. Count up in 4s from the following numbers:

a) 90, __, __, __, __. (94, 98, 102, 106)

b) 59, __, __, __, __. (63, 67, 71, 75)

2. Count down in 4s from the following numbers:

a) 77, __, __, __, __. (73, 69, 65, 61)

b) 101, __, __, __, __. (97, 93, 89, 85)

LESSON 20: LENGTH

Teacher's notes

CAPS topics: 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 4.2 Length.

Lesson vocabulary: Forwards, backwards, length, measure, measurement, metre stick, metre, compare, hand span, paces, standard measure, non-standard measure, estimate, order, height, width, unit.

Prior knowledge: Learners should have been taught how to:

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

Concepts:

- Estimate, measure, compare, order and record length using metres as the standard unit of length.

Resources: Objects in the classroom, metre stick.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 119 (pp. 118 and 119).

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

Remediation: Learners trace their hands on a piece of paper and cut it out. Use cut-out hand spans to measure various objects in the class, e.g. the window, teacher's desk, length of the carpet. Remind the learners that it is important to remember that we always use the same hand when measuring the length of an object. After each object discuss how hands are not the same size and therefore we get different answers. Explain the importance of metres as a standard unit of measurement using the metre stick as a visual aid.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 173, 170, 167...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$12 + 6 =$	18
2.	$10 + 8 =$	18
3.	$15 + 2 =$	17
4.	$2 + 18 =$	20
5.	$11 + 3 =$	14

	Calculate:	Answer
6.	$0 + 30 =$	30
7.	$12 + 4 =$	16
8.	$13 + 5 =$	18
9.	$16 + 4 =$	20
10.	$5 + 10 =$	15

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

There is one lesson this term on the topic of length. In this lesson standard units are used. The first activity consolidates the concept of length using a non-standard unit of measurement. The second activity introduces the metre (m) as a standard unit of length. After these two whole class activities learners work in groups to consolidate this learning. Learners should be able to read measurement given in metres and understand approximately what they represent. Remember to refer to the Jika iMfundo bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of the mathematical terminology of length.

Activity 1: Whole class activity

Revise measuring the length of objects using hand spans.

- Ask the learners to measure the length of their desks, using their hands.
- Give each learner a chance to give their measurement.
- Ask the learners why all the measurements are not the same.
(Because everyone in the class does not have hands that are the same size.)
- Explain to them that when we use hands or feet, etc. we call it a non-standard measure because the sizes of the measuring units differ.

Activity 2: Whole class activity

- Use a metre stick for this activity.
- Show the metre stick to the learners and tell them that this stick is one metre long.
- When we use this stick to measure the lengths of objects we will get an accurate measurement. It is a standard measure.
- Explain: *When we use a standard measuring instrument, we will all get the same answer for the measurement. This is what we need.*
- Use the metre stick to measure the lengths of different objects in the classroom, e.g. height of door, length of desk.
- Some of the learners may be asked to come and help you.

Activity 3: Learners work in groups

- Choose an object in the class to measure, e.g. your table, the board or a book bag.
- First get three to four learners to measure the length/height/width/etc., using hand spans.
- Write all the measurements on the board.
- Discuss the measurements.
- Ask: *Are they the same/different/why?*
- Now get three or four learners to measure length/height/width/etc. of the same object, using the metre stick.
- Compare all the different readings.
- Ask: *Are they the same/different/why?*
- Ask: *Which measurement is the most accurate? (The metre stick.)*
- If time allows you can measure other objects in the class in the same way, but this time use paces and the metre stick.

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

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

6. Reflection on lesson

Term 4 Lesson 20: Length

Classwork

1. Copy the following table into your maths book:

Length less than 1 m	Length more than 1 m
(Lunchbox)	(Flagpole)
(Sharpener)	(Telephone pole)
(Cell phone)	(Tree)
(Pencil)	(Fridge)
	(School fence)

Write the following items under the correct heading in the table:
pencil, tree, cell phone, telephone pole, lunchbox, sharpener, flagpole, fridge, school fence.

2. Nomsa's brother is 1m tall, Jabu's brother is 2 m tall. Whose brother is taller? (Jabu's brother)
3. How many metres in length do you think these objects are:
- A car?
 - A playing field? (Answers may vary but must be reasonable.)

Homework

Look around at home. Write down 5 objects that are less than 1 m and 5 objects more than 1 m in length.

(Answers will vary.)

WEEK 5

LESSON 21: TIME

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 4.1 Time.

Lesson vocabulary: Forwards, backwards, time, minutes, hours, half an hour, quarter of an hour, three quarters of an hour, halve, double, analogue clock, length of time, more than, less than, same as.

Prior knowledge: Learners should have been taught how to:

- Talk about the passing of time.
- Telling the time: use language to say when something happens, e.g. morning, afternoon, night, early, late, the days of the week and months of the year.

Concepts:

- Tell 12-hour time in hours, half hours and quarter hours on analogue clocks.
- Use clocks to calculate length of time in hours or half hours.

Resources: Analogue clock (see *Printable Resources* Term 2).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 116a (pp. 110 and 111).

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

Remediation: Draw clocks on the board and ask the learners to read the time on these clocks. Ask learners questions such as: *Is an hour more or less than a quarter of an hour? Is a quarter of an hour more, less or the same as 15 minutes?*

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Ask the learners to start at 132, count on in 3s to 198.

1.2 Mental mathematics activity (10 minutes)

	Double:	Answer
1.	25	50
2.	30	60
3.	12	24
4.	50	100
5.	33	66

	Halve:	Answer
6.	66	33
7.	100	50
8.	12	6
9.	50	25
10.	80	40

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

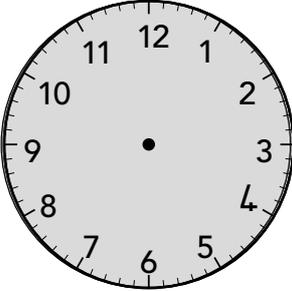
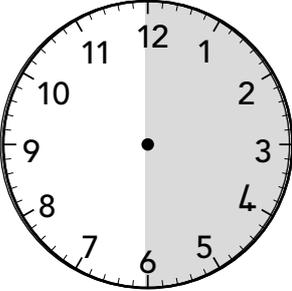
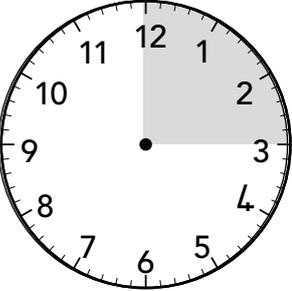
There are two lessons on time this term. Learners will continue to consolidate their knowledge of telling the time and calculating time passed. In this lesson analogue clocks and digital clocks are used.

Activity 1: Whole class activity

- Draw clocks on the board or on chart paper showing the following times before the lesson: 7 o'clock, quarter past 7, half past 7, quarter to 8 and 8 o'clock.
- Ask the learners the following questions:
 - What time does each clock on the board show?
(7 o'clock, quarter past 7, half past 7, quarter to 8, 8 o'clock.)
 - How long is it from 7 o'clock to 8 o'clock? (An hour.)
 - How long is it from quarter past 7 to quarter to 8? (Half an hour.)
 - How long is it from 7 o'clock to quarter to 8? (Three quarters of an hour/45 minutes.)

Activity 2: Whole class activity

- Draw these diagrams of clocks onto the board before the lesson.
- Discuss these times with the learners. Ask for different answers.
- Write the notes as you discuss the drawings with the learners.

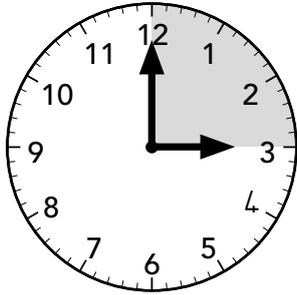
One hour	Half an hour	Quarter of an hour
		
I can ___ in an hour. ___ takes about an hour to do.	I can ___ in half an hour. ___ takes about half an hour to do.	I can ___ in quarter of an hour. ___ takes about a quarter of an hour to do.

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

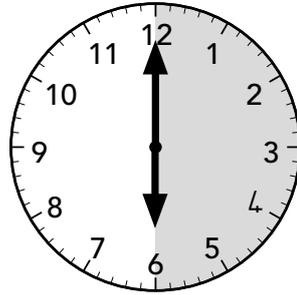
Term 4 Lesson 21: Time

Classwork

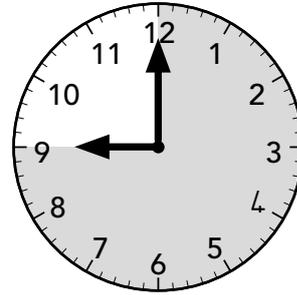
1. Look at the clocks. How many minutes do the shaded parts of the clocks show?



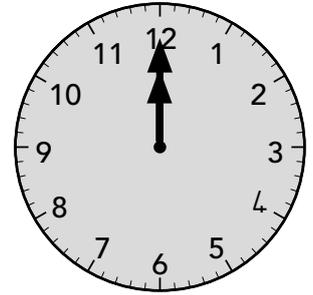
(15 minutes)



(30 minutes)

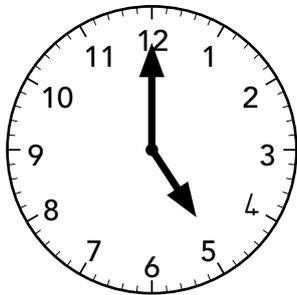


(45 minutes)

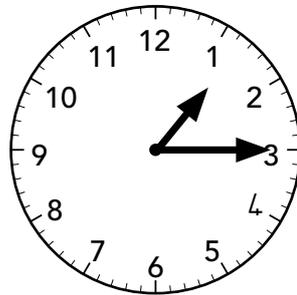


(60 minutes/1 hour)

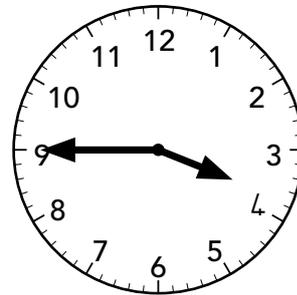
2. What is the time on these clocks?



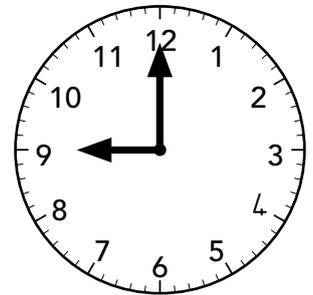
(5 o'clock)



(Quarter past 1)



(Quarter to 4)



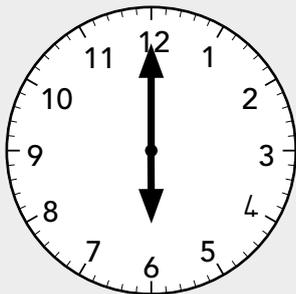
(9 o'clock)

Homework

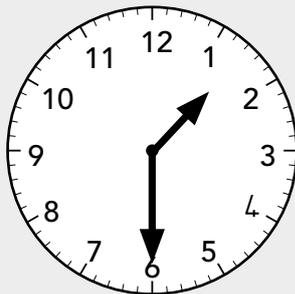
(Answers must show a clock face with the arms positioned in the correct places.)

Draw clocks showing the following times:

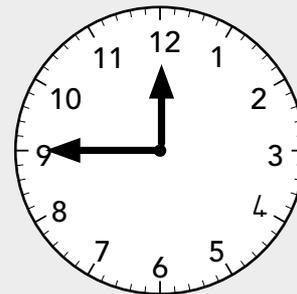
a) Six o'clock.



b) Half past one.



c) Quarter to twelve.



LESSON 22: TIME

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 4.1 Time.

Lesson vocabulary: Forwards, backwards, before, after, past, to.

Prior knowledge: Learners should have been taught how to:

- Talk about the passing of time.
- Tell the time: use language to say when something happens, e.g. morning, afternoon, night, early, late, the days of the week and months of the year.

Concepts:

- Tell 12-hour time in hours, half hours and quarter hours on analogue clocks.
- Use clocks to calculate length of time in hours or half hours.

Resources: Whiteboards/scrap paper, analogue clock (see *Printable Resources* Term 2).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 116b (pp. 112 and 113).

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

Remediation: Give the learners the following times to draw on their whiteboards: 6 o'clock, quarter to 7, half past 6, and 7 o'clock. Ask them to draw the times in order from the earliest to the latest. (6 o'clock, half past 6, quarter to 7, 7 o'clock.)

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Ask the learners to start at 172, count on in 2s to 200.

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$15 + 10 =$	25
2.	$15 - 5 =$	10
3.	$3 + 11 =$	14
4.	$12 - 3 =$	9
5.	$11 + 4 =$	15

	Calculate:	Answer
6.	$10 - 3 =$	7
7.	$12 + 2 =$	14
8.	$15 - 4 =$	11
9.	$15 + 0 =$	15
10.	$12 - 3 =$	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

- Learners should work on their whiteboards/scrap paper. Ask them to draw clocks to show the following times:
 - 15 minutes after 6 o'clock. (Quarter past 6.)
 - 15 minutes before 10 o'clock. (Quarter to 10.)
 - 30 minutes after 11 o'clock. (Half past 11.)
 - 60 minutes after 1 o'clock. (2 o'clock.)
 - 30 minutes before 8 o'clock. (Half past 7.)

Activity 2: Whole class activity

- Ask the learners the following time questions in which learners have to imagine how long it takes to do something:
 - *Which takes longer to do? Counting in 2s to 20 or measuring the length of the classroom with hand spans?* (Counting in 2s to 20. Discuss this since learners might not all agree. Differences in opinion are acceptable for this kind of question because they teach us that time passing is felt in different ways although there is a fixed way of measuring it.)
 - *Which takes shorter to do? Going to the shop or picking up your toys?* (Picking up your toys. Discuss this too as once again learners might not all agree.)
 - *Which month is the shortest month of the year?* (February.)
 - *Which has the most minutes in it? Half an hour or an hour?* (An hour.)
 - *What day was before today?* (Yesterday.)
 - Etc.
 - Ask learners to make up more activities which can be compared according to how long they take to do. Discuss the differences in perceptions – different people take different lengths of time to do things.

Activity 3: Whole class activity

- Work through the following word problems as a whole class.
 - I wake up at 6 o'clock. It takes me 1 hour to get ready for school. What time will I be ready to leave for school? (7 o'clock)
 - School starts at 8 am and finishes at 2 pm. How many hours are the children at school for? (6 hours)
 - The time is 3 pm. I go out to play with my friends. I can play with them for 1 hour and 30 minutes. What time will I need to come back home? (4.30 pm)
- Make up other similar word problems if there is time.

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

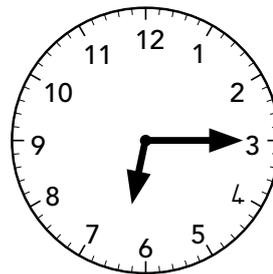
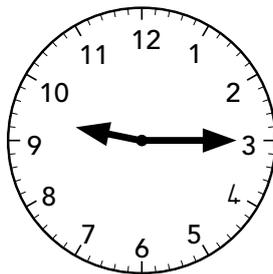
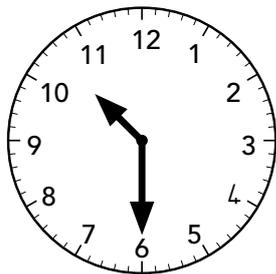
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

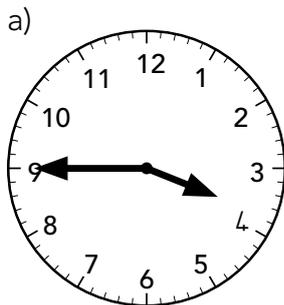
Term 4 Lesson 22: Time

Classwork

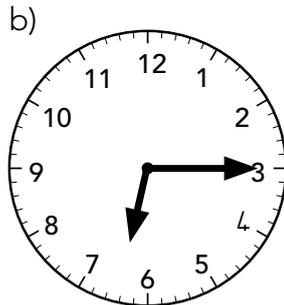
1. Draw pictures of what you can do in: (Answers will vary)
 - a) 15 minutes
 - b) 30 minutes
 - c) 45 minutes
 - d) 60 minutes
2. What is the time? Draw the arms in an analogue clock to show:
 - a) 30 minutes before 11 o'clock. (Draw arms in clock to show 10.30)
 - b) 15 minutes after 9 o'clock. (Draw arms in clock to show 9.15)
 - c) 45 minutes before 7 o'clock. (Draw arms in clock to show 6.15)



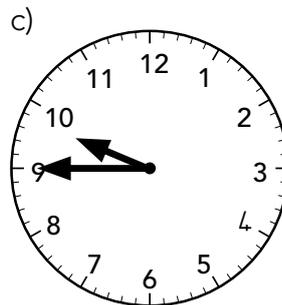
3. What is the time shown on the clocks below?



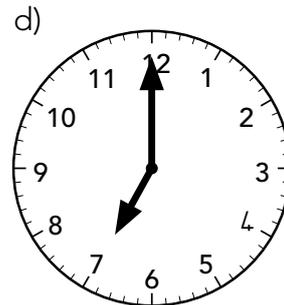
(Quarter to 4)



(Quarter past 6)



(Quarter to 10)



(Seven o'clock)

Homework

Answer the following questions:

- a) Which month has fewer days? November or December? (November.)
- b) What was the date 3 days ago? (Answer will depend on when learners do the exercise.)
- c) In which month is Youth Day in South Africa? (June.)

LESSON 23: REPEATED ADDITION LEADING TO MULTIPLICATION – WORD PROBLEMS

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, word problems, solve, altogether, multiply, multiplication, repeated addition, number sentence.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving repeated addition with answers up to 20.
- Use appropriate symbols (+, −, =, □).

Concepts:

- Solve word problems in context and explain own solutions to problems involving repeated addition and to multiplication with answers up to 50.
- Multiply numbers 1 to 10 by 2, 5, 3 and 4.
- Use appropriate symbols (+, −, =, □).

Resources: Whiteboards/scrap paper, counters.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 114 (pp. 106 and 107), Worksheet 115 (pp. 108 and 109).

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

Remediation: Give each learner 20 counters. Let them pack the counters in groups of four. Count how many there are by counting in fours. Let them write $4 + 4 + 4 + 4 + 4 = 20$. Count the fours in the sum again. *How many groups are there?* (5) *How many in each group?* (4) We write it as $5 \times 4 = 20$. Work through other similar examples.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 124, 128, 132...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$6 + 11 =$	17
2.	$15 - 12 =$	3
3.	$7 + 10 =$	17
4.	$10 - 7 =$	3
5.	$13 + 5 =$	18

	Calculate:	Answer
6.	$12 - 2 =$	10
7.	$15 + 3 =$	18
8.	$13 - 10 =$	3
9.	$2 + 12 =$	14
10.	$16 - 6 =$	10

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

This is the final lesson on multiplication as repeated addition for the year. Many word problems are given to allow learners the opportunity to consolidate their understanding and also their ability to read and interpret (and solve) word problems.

You may allow learners to use counters if they wish to when they do these calculations but encourage them to start doing the calculations mentally as soon as they are able to.

Activity 1: Whole class activity

- Write the following word problem on the board.
- Jonah has 8 bags of potatoes. He has 3 potatoes in each bag. How many potatoes does he have altogether?
- Draw 8 groups of 3 on the board.
- Discuss and solve the problem: $(3 + 3 + 3 + 3 + 3 + 3 + 3 + 3 = 24)$ or $(8 \times 3 = 24)$.

Activity 2: Learners work in groups

- Give the learners some word problems to solve in their groups.
- They can do the solutions using their counters and they should write a multiplication number sentence when they have found the solution.
- Mom has 6 plates. On each plate are 2 cupcakes. How many cupcakes are there altogether? $(6 + 6 = 12)$ or $6 \times 2 = 12)$
- On Monday I ate 5 oranges, on Tuesday I ate 5 oranges, on Wednesday I ate 5 oranges, and on Thursday I ate 5 oranges. How many oranges did I eat altogether this week? $(5 + 5 + 5 + 5 = 20)$ or $4 \times 5 = 20)$
- When groups have finished working through these two examples, ask each group to make up a word problem that leads to repeated addition. When each group has done this, they can share their examples with the whole class.
- Work through more such questions if the learners need to do more examples with you before they do the classwork activity.

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

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

6. Reflection on lesson

Term 4 Lesson 23: Repeated addition leading to multiplication – word problems

Classwork

- Write the following as a repeated addition and then as a multiplication number sentence:
 - 4 groups of 5. ($5 + 5 + 5 + 5 = 20$ and $4 \times 5 = 20$)
 - 4 groups of 3. ($3 + 3 + 3 + 3 = 12$ and $4 \times 3 = 12$)
 - 4 groups of 2. ($2 + 2 + 2 + 2 = 8$ and $4 \times 2 = 8$)
 - 4 groups of 4. ($4 + 4 + 4 + 4 = 16$ and $4 \times 4 = 16$)
- Write a repeated addition number sentence for the following:

Dad took three screws out of his one pocket. He took another three screws from his other pocket. He then took another three screws from his shirt pocket and another three screws from his bag. How many screws does dad have altogether? ($3 + 3 + 3 + 3 = 12$)
- Write a multiplication number sentence for the following:

My teacher likes to send us to the office to show off our good work. This morning she sent 5 groups of 4 children each to the office. How many children did she send altogether? ($5 \times 4 = 20$)

Homework

- Write the following as a repeated addition and then as a multiplication number sentence:
 - 3 groups of 5. ($5 + 5 + 5 = 15$ and $3 \times 5 = 15$)
 - 6 groups of 3. ($3 + 3 + 3 + 3 + 3 + 3 = 18$ and $6 \times 3 = 18$)
- Use a multiplication number sentence to answer this word problem:

I have lots of toy cars. I sorted them into groups with the same colours: 4 red cars, 4 yellow cars, 4 green cars, 4 black cars, 4 orange and 4 white cars. How many toy cars do I have altogether? ($6 \times 4 = 24$)

LESSON 24: GROUPING AND SHARING

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.9 Grouping and sharing leading to division.

Lesson vocabulary: Forwards, backwards, grouping, share, equally, divide, remainder, groups, sharing.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.

Concepts:

- Solve word problems in context and explain own solutions to problems involving equal sharing and grouping up to 50 and with answers that may include remainders.

Resources: Counters, whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 110 (pp. 98 and 99).

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

Remediation: Give each learner 15 counters. Ask them to make three equal groups. They can divide them into the three groups one by one until they have none left. Ask them how many there are in each group. (5) Ask them now how much three groups of five is. (15)

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 56, 59, 62...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$70 - 10 =$	60
2.	$100 - 20 =$	80
3.	$20 - 20 =$	0
4.	$60 - 20 =$	40
5.	$100 - 30 =$	70

	Calculate:	Answer
6.	$50 - 10 =$	40
7.	$70 - 20 =$	50
8.	$30 - 10 =$	20
9.	$60 - 30 =$	30
10.	$100 - 50 =$	50

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

There are two final lessons on division as grouping and sharing this term. In the first lesson the strategies of grouping and sharing are discussed as a whole class (after a brief group work activity in which learners work with counters). In the next lesson, learners will work in groups to consolidate their understanding.

In the lesson today there are no remainders. In the next lesson learners will do questions which involve working with/without remainders.

Activity 1: Learners work in groups

- Give each group of learners 30 counters. Learners should work on their whiteboards/scrap paper.
- Ask the learners to draw three circles on their whiteboards/scrap paper.
- Take your counters and share them equally between the three circles.
- *How many counters are there in each circle?* (10)
- *We say: 30 counters shared among 3 is 10.*
- Take 20 counters and put them into groups of 5.
- *How many groups did you make?* (4)
- *Are there any counters left?* (No)
- *We say: 20 counters divided by 5 is 4.*

Activity 2: Whole class activity

Recap *sharing* with the whole class.

- Write the following on the board. Ask the learners to write their whiteboards/scrap paper. Encourage the learners to use counters if necessary to help them find the answers. They can also draw on their knowledge of multiples to work out the answers.
 - Share 15 equally between 5: ____ . How many does each one get? (3)
 - Share 10 equally between 2: ____ . How many does each one get? (5)
 - Share 30 equally between 6: ____ . How many does each one get? (6)
 - Share 20 equally between 4: ____ . How many does each one get? (5)
- Discuss the answers that the learners give. Emphasise the sharing process – it is about giving out so that everyone gets the same amount. Then you find out how much each one got to get the answer.

Activity 3: Whole class activity

Recap *grouping* with the whole class.

- Write the following on the board. Ask the learners to write their answers on their whiteboards/scrap paper. Encourage the learners to use counters.
 - Group 12 into 2s: ____ . How many groups did you make? (6)
 - Group 30 into 5s: ____ . How many groups did you make? (6)
 - Group 25 into 5s: ____ . How many groups did you make? (5)
 - Group 40 into 10s: ____ . How many groups did you make? (4)
- Discuss the answers that the learners give. Emphasise the grouping process – it is about putting into groups and making each group the same. Then you find out how many groups you made to get the answer.

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

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

6. **Reflection on lesson**

Term 4 Lesson 24: Grouping and sharing

Classwork

- How much is:
 - 4 groups of 3? (12)
 - 8 groups of 2? (16)
 - 10 groups of 5? (50)
- Share 20 equally between 5: Each one gets _____. (4)
- Share 20 equally between 2: Each one gets _____. (10)
- Group 40 into 10s: I make _____ groups. (4)
- Group 36 into 4s: I make _____ groups. (9)

Homework

- How much is:
 - 3 groups of 2? (6)
 - 8 groups of 3? (24)
 - 10 groups of 4? (40)
- Share 30 equally between 5: Each one gets _____. (6)
- Group 50 into 10s: I make _____ groups. (5)

LESSON 25: GROUPING AND SHARING

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.9 Grouping and sharing leading to division.

Lesson vocabulary: Forwards, backwards, grouping, sharing, division, divide, equally, remainder, groups, predict, even number, odd number.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving equal sharing and grouping with whole numbers up to 20 and with answers that may include remainders.

Concepts:

- Solve word problems in context and explain own solutions to problems involving equal sharing and grouping up to 50 and with answers that may include remainders.

Resources: Counters (50 per pair of learners).

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: Mandy has 20 oranges. She shares them out, making 4 groups. How many oranges are there in each group? (5). Use counters to solve this problem.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 88, 84, 80...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$14 + 2 =$	16
2.	$5 + 13 =$	18
3.	$10 + 6 =$	16
4.	$11 + 5 =$	16
5.	$5 + 13 =$	18

	Calculate:	Answer
6.	$20 + 0 =$	20
7.	$13 + 6 =$	19
8.	$5 + 15 =$	20
9.	$10 + 6 =$	16
10.	$12 + 8 =$	20

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

Activity 1: Learners work in groups

- This activity is about sharing and grouping without a remainder.
- Give each group of learners 50 counters.
- Ask the learners to count out 20 counters into a separate pile.
- Ask them to share the counters equally between the two of the group members.
- Ask each pair how many counters each one of them got. (10 each.)
- Also ask if there were any counters left over. (None.)
- We say: *If we share 20 counters equally between 2 people each one gets 10 counters.*
- Continue doing sharing activities. Now use all 50 counters.
- Share the counters equally between two learners in the group.
- *How many counters did each learner get?* (25 each.)
- *Are there any counters left?* (No.)
- We say: *If we share 50 counters equally between 2 people each one gets 25 counters.*
- Do more examples of sharing into 2 groups (without a remainder).
- Each learner should suggest a number to share between two other learners.
- Discuss: *How can we predict that there **will not** be a remainder when we divide by 2?* (The number must be an even number and then there won't be a remainder if we divide by 2.)

Activity 2: Learners work in groups

- This activity is about sharing and grouping with a remainder.
- Count out 33 counters into a separate pile.
- Divide the counters equally between you and your partner.
- *How many counters did each learner get?* (16)
- *How many groups did you make?* (2)
- *Are there any counters left?* (Yes, 1.)
- Do more examples of sharing into 2 groups (with a remainder).
- Each learner should suggest a number to share between two other learners.
- Discuss: *How can we predict that there **will** be a remainder when we divide by 2?* (The number must be an odd number and then there will be a remainder if we divide by 2.)

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

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

6. Reflection on lesson

Term 4 Lesson 25: Grouping and sharing

Classwork

1. Share 20 counters equally between 2 friends.
Each friend gets ___ (10) counters and ___ (0) left over.
2. Share 51 sweets equally between 5 friends.
Each friend gets ___ (10) sweets and ___ (1) left over.
3. Share 15 blocks equally between 4 children.
Each friend gets ___ (3) sweets and ___ (3) left over.
4. I have 50 sweets and I want to put them into groups of 5.
 - a) How many groups can I make? (10)
 - b) Do I have any sweets left over? (No.)
5. I have 30 sweets and I want to put them into groups of 4.
 - a) How many groups can I make? (7)
 - b) Do I have any sweets left over? (Yes, 2 left over.)

Homework

1. I have 48 sweets and I want to put them into groups of 4.
 - a) How many groups can I make? (12)
 - b) Do I have any sweets left over? (No.)
2. I have 25 sweets and I want to share them among 3 children.
 - a) How many sweets will each child get? (8)
 - b) Do I have any sweets left over? (Yes, 1 left over.)

WEEK 6

LESSON 26: DATA

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, data, pictograph, key, most, least, one-to-one correspondence, represent data, calculate, popular (most/least).

Prior knowledge: Learners should have been taught how to:

- Analyse data from representations provided.
- Represent data in pictographs.

Concepts:

- Analyse data from representations provided.
- Represent data in a pictograph with one-to-one correspondence.

Resources: Whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 107 (pp. 92 and 93).

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

Remediation: Use Activity 2. Discuss the information provided. Draw a pictograph with the learners. Discuss which sport is most liked, which is the least liked, etc.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from any multiple between 0 and 200, e.g. 80, 85, 90...160.

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$15 + 7 =$	22
2.	$19 + 4 =$	23
3.	$12 + 10 =$	22
4.	$19 + 6 =$	25
5.	$18 + 8 =$	26

	Calculate:	Answer
6.	$25 - 5 =$	20
7.	$23 - 4 =$	19
8.	$19 - 7 =$	12
9.	$22 - 4 =$	18
10.	$21 - 11 =$	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: Whole class activity

- Read the following information to the learners and draw up a pictograph on the board as a class.
- Mrs Nkosi owns a small bakery. Here is a list of items she sells in a day:
 - White bread – 24 loaves
 - Brown bread – 20 loaves
 - Cupcakes – 32
 - Pies – 28
 - Scones – 23
- Now draw a pictograph to represent this data as a class. Ensure that it is labelled correctly. Make sure there is a key (e.g. Let one cross represent 1 item).
- Ask the learners:
 - *What was the most popular item? (Pies)*
 - *What was the least popular item? (Brown bread)*
 - *How many more cupcakes were sold than scones? ($32 - 23 = 9$)*
 - *Ask other questions about the data represented.*

Activity 2: Learners to work in groups

- Write the following on the board:
Grade 2C's favourite sport: the number of learners that like each sport is the following:
 - 12 – soccer
 - 11 – netball
 - 8 – rugby
 - 4 – hockey
 - 5 – swimming
- In pairs, the learners design a pictograph on their whiteboards/scrap paper. Remind them to label the pictograph and to use a key. (e.g. Let 1 circle represent 2 learners.)
- Discuss the key if 1 circle represents 2 learners. This will prepare learners for the classwork activity where the key is one symbol = 2 trees.
- Ask the learners questions about their pictographs as you move around the class.

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

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

6. Reflection on lesson

Term 4 Lesson 26: Data

Note that in this activity the key shows  = 2 trees. Make sure that learners realise that this means every  stands for 2 trees, and they work correctly with the pictograph.

Classwork

Trees are an important resource. Sam planted trees over 5 weeks. Below is the pictograph of how many trees he planted.

Week	Number of trees
1	
2	
3	
4	
5	

Key:  = 2 trees

Answer these questions:

1. How many trees did Sam plant in week 1? (6 trees.)
2. In which week did Sam plant the most trees? (Week 3.)
3. How many trees did he plant in that week? (14 trees.)
4. In which week did Sam plant the least trees? (Week 5.)
5. How many did he plant in that week? (4 trees.)
6. How many trees did Sam plant in the 5 weeks? (42 trees.)

Homework

Class 2C does a survey about each learner's favourite vegetable. Here are the results:
12 – carrots; 10 – potatoes; 8 – spinach; 4 – cabbage; 6 – tomato.

Draw a pictograph to show the results. Remember to use a key and to label your pictograph.
(Answer will be a pictograph with the correct frequencies shown.)

LESSON 27: FRACTIONS – NAME FRACTION PARTS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.10 Sharing leading to fractions, 1.17 Fractions.

Lesson vocabulary: Forwards, backwards, sharing, fractions, squares and circles, halves, thirds, quarters, fifths, unitary fractions, half, calculate, diagrammatic form, square, divide, rectangle.

Prior knowledge: Learners should have been taught how to:

- Copy, extend and describe simple number sequences to at least 100.
- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions, e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Recognise fractions in diagrammatic form.
- Write fractions as 1 half, 2 thirds.

Concepts:

- Use and name fractions including halves, quarters, thirds and fifths.
- Recognise fractions in diagrammatic form.
- Write fractions such as half, 2 thirds.

Resources: Circles cut from scrap paper (1 per group), fraction circles and fraction squares (see *Printable Resources*).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 122 (pp. 124 and 125).

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

Remediation: Ask the learners to draw a square and a rectangle. Ask them to divide each shape into the following: halves – let the learners point to one half and say one half, thirds – point to one third and say one third, quarters – point to one quarter and say one quarter, fifths – point to one fifth and say one fifth.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 85, 88, 91...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$12 + \underline{\quad} = 20$	8
2.	$15 + \underline{\quad} = 19$	4
3.	$7 + \underline{\quad} = 14$	7
4.	$14 + \underline{\quad} = 18$	4
5.	$17 + \underline{\quad} = 20$	3

	Calculate:	Answer
6.	$1 + \underline{\quad} = 17$	16
7.	$20 + \underline{\quad} = 20$	0
8.	$10 + \underline{\quad} = 17$	7
9.	$15 + \underline{\quad} = 17$	2
10.	$10 + \underline{\quad} = 16$	6

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

There are four lessons on fraction concept this term. They follow on from the lessons on grouping and sharing division since finding fractions involves sharing division – sharing into equal sized parts.

In this lesson learners work with unit wholes and work out fraction parts of the wholes.

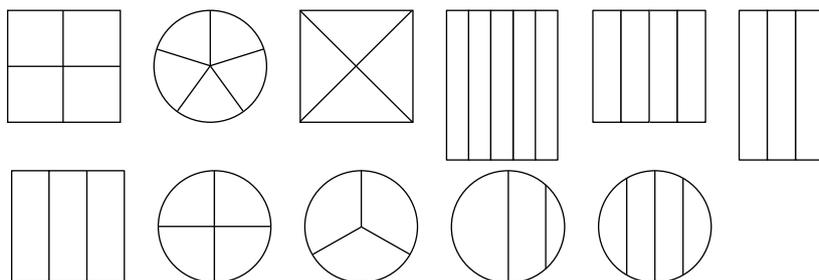
Activity 1: Whole class activity

- Draw a circle on the board and divide it into two equal parts.
- Ask: *What have we done to the circle?* (We have divided it into two equal sized parts.)
- Remind learners: *If a shape is divided into two equal parts we say it is divided into halves.*
- Point to the first half and say one half, point to the second half and say half.
- Discuss naming fraction parts.

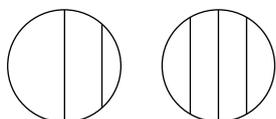
Activity 2: Learners work in groups

Work in groups of four.

- Give each group a copy of the sheet with fraction circles and fraction squares (see *Printable Resources*).



- Find the following fraction parts using the sheet that you have been given.
 - Find a circle with three equal parts.
 - Find a square with three equal parts.
- These shapes are equally divided into three parts. We call them thirds.
 - Find a circle with four equal parts.
 - Find a square with four equal parts.
- These shapes are equally divided into four parts. We call them quarters.
 - Find a circle with five equal parts.
 - Find a square with five equal parts.
- These shapes are equally divided into five parts. We call them fifths.
- Ask the learners to colour one part in each diagram.
- Ask the learners to write the name for the fraction part that they have shaded each time.
- NOTE: When the parts are not equal in size, fraction parts have NOT been shaded!
Discuss this with the learners.
- Discuss which of the shapes have NOT been divided equally.
These are the two that are the problem ones:



- These have not been divided into fraction parts. Discuss as needed with the class to consolidate equal sharing and fraction parts.

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

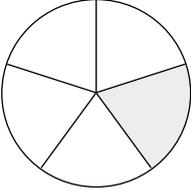
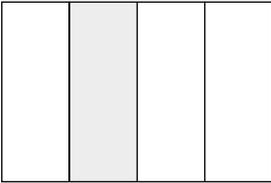
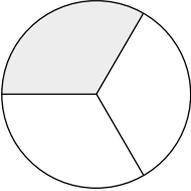
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

Term 4 Lesson 27: Fractions – name fraction parts

Classwork

Match the fraction words and the shapes.

a) 	a) one half
b) 	b) one third
c) 	c) one fifth
d) 	d) one quarter

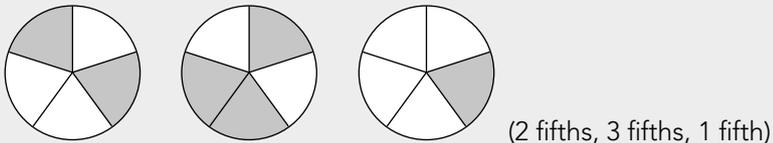
(a-c, b-a, c-d, d-b)

2. Draw the shape and colour the fraction. (Answers will vary.)

- a) A triangle. Colour one third.
- b) A square. Colour one quarter.
- c) A rectangle. Colour one fifth.

Homework

1. What parts of the circle have been shaded?



2. Draw the shape and colour the fraction. (Answers will vary.)

- a) A rectangle. Colour one third.
- b) A circle. Colour one quarter.

LESSON 28: FRACTIONS

Teacher's notes

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

Lesson vocabulary: Forwards, backwards, fractions, half, thirds, quarters, fifths, sixths, smallest, one half, two thirds, biggest, unitary fractions, equal parts, diagrammatic form, divide.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions, e.g. $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}, \frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Recognise fractions in diagrammatic form.
- Write fractions as 1 half, 2 thirds.

Concepts:

- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions, e.g. $\frac{1}{2}, \frac{1}{4}, \frac{1}{3}, \frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Write fractions as half, 2 thirds.

Resources: Shapes drawn on the board, whiteboards/scrap paper.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 123 (pp. 126 and 127).

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

Remediation: Ask learners to draw 6 rectangles. One rectangle is left as it is and the others are divided into: halves, thirds, quarters, fifths and sixths. Ask the learners to shade the parts of each shape and tell you the name of the shaded fraction.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 65, 69, 73...

1.2 Mental mathematics activity (10 minutes)

	Put the numbers in sequence from smallest to biggest:	Answer
1.	45, 40, 38	38, 40, 45
2.	27, 39, 10	10, 27, 39
3.	12, 38, 59	12, 38, 59
4.	56, 65, 45	45, 56, 65
5.	78, 80, 98	78, 80, 98

	Put the numbers in sequence from smallest to biggest:	Answer
6.	15, 25, 5	5, 15, 25
7.	45, 78, 60	45, 60, 78
8.	12, 10, 1	1, 10, 12
9.	13, 56, 89	13, 56, 89
10.	100, 89, 98	89, 98, 100

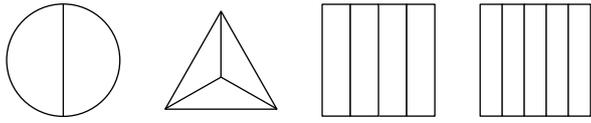
2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

Activity 1: Whole class activity

Before the lesson, draw the following shapes on the board)



Give the explanations to the learners and ask them questions such as:

- *What do we call each part of a shape that is divided into 4 equal parts? (Quarters.)*
- *When a shape is divided into two equal parts, it is called ____ . (Halving.)*
- *Each part of two equal sized parts is called one ____ . (Half.)*
- *When a shape is divided into three equal parts, each part is called ____ ? (A third.)*
- *When a shape is divided into four equal parts, each part is called ____ ? (A quarter.)*
- *When a shape is divided into five equal parts, each part is called ____ ? (A fifth.)*

Listen to your learner's responses to make sure that they are able to identify and speak about the fraction parts into which the different shapes have been divided.

Activity 2: Whole class activity

- Ask the learners to copy the shapes from the board onto their whiteboards/scrap paper.
- Ask them to shade the following on their shapes: one half, two thirds, three quarters and four fifths.
- After each fraction let them show you which parts they have shaded by holding up their whiteboards/scrap paper. Use this as an opportunity to check that each learner is able to shade unitary fraction parts correctly (e.g. 1 half, 1 quarter, 1 third, etc.).
- Ask: *If I want to shade 3 fifths – how would I do that?*
- Explain to the learners that when you colour, for example three fifths, you have to divide the whole into fifths and then you may colour any three of the fifths. The three fifths that you shade don't necessarily have to be next to one another or the first three parts. For example, in the following diagrams, 3 fifths have been shaded every time:

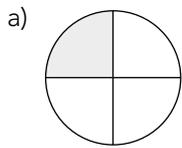


4. **Classwork activity from LAB (25 minutes) (See next page)**
5. **Homework activity from LAB (5 minutes) (See next page)**
6. **Reflection on lesson**

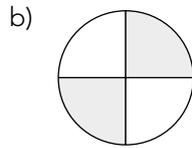
Term 4 Lesson 28: Fractions

Classwork

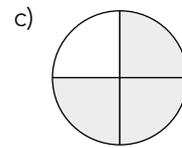
1. What part of each shape has been shaded below?



(1 quarter)

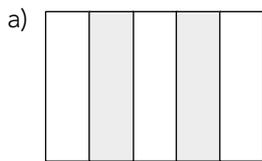


(2 quarters)

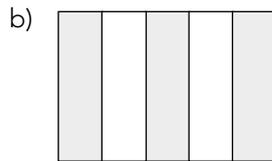


(3 quarters)

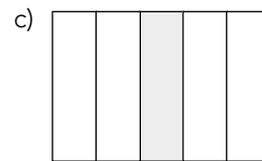
2. What part of each shape has been shaded below?



(2 fifths)



(3 fifths)



(1 fifth)

3. Draw the shape and colour the fraction. (Answers will vary.)

- A square. Colour two thirds.
- A square. Colour three quarters.
- A rectangle. Colour one half.
- A rectangle. Colour two fifths.

Homework

- When a shape is divided into three equal parts, each part is called ___ ?
(A third.)
- When a shape is divided into two equal parts, each part is called ___ ?
(A half.)
- When a shape is divided into five equal parts, each part is called ___ ?
(A fifth.)
- When a shape is divided into four equal parts, each part is called ___ ?
(A quarter.)

LESSON 29: FRACTIONS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.10 Sharing leading to fractions, 1.17 Fractions.

Lesson vocabulary: Forwards, backwards, fraction circle, fraction square, biggest, halves, quarters, thirds, fifths, two thirds, smaller, equal sharing, unitary fractions, diagrammatic form.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions, e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Recognise fractions in diagrammatic form; Write fractions as half, 2 thirds.

Concepts:

- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Recognise fractions in diagrammatic form; Write fractions as half, two thirds.

Resources: Whiteboards/scrap paper, counters. Fractions table (see *Printable Resources*).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 126 (pp. 132 and 133), Worksheet 125 (pp. 130 and 131).

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

Remediation: Gogo gives Sandile eight apples. Sandile makes fruit salad with one quarter of the apples. How many apples did she use? You can do this concretely or ask learners to make a drawing. Question: *How many apples did she use?* Keyword: One quarter of. Numbers: Eight apples and one quarter. Drawing (using fraction circles): One quarter of the apples is two.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 117, 113, 109...

1.2 Mental mathematics activity (10 minutes)

	Sequence the numbers from biggest to smallest:	Answer
1.	45, 60, 35	60, 45, 35
2.	40, 30, 66	66, 40, 30
3.	50, 65, 80	80, 65, 50
4.	41, 32, 78	78, 41, 32
5.	10, 58, 98	98, 58, 10

	Sequence the numbers from biggest to smallest:	Answer
6.	14, 58, 10	58, 14, 10
7.	16, 21, 30	30, 21, 16
8.	18, 90, 88	90, 88, 18
9.	54, 69, 38	69, 54, 38
10.	52, 63, 14	63, 52, 14

2. Correction/reflection on homework (15 minutes)

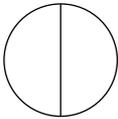
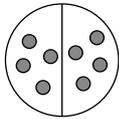
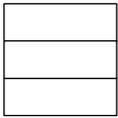
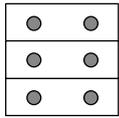
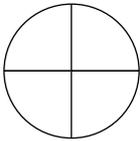
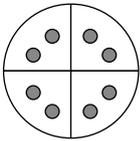
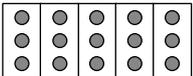
Reflection/remediation based on previous day's work/homework.

3. Lesson content – concept development (30 minutes)

In this lesson learners work with wholes that are made of *groups of items* and work out fraction parts of the wholes. A connection is made between fractions of a group of items and fractions of a unit whole by placing counters onto shapes (unit wholes) that have been divided into fraction parts. Making connections helps learners to understand their work more effectively.

Activity 1: Whole class activity

- Before the lesson draw the table (below) on the board. Give each group of learners 15 counters.
- Only write the heading row in full and the first two columns in full before the class. You will complete the table together with the class in the lesson.
- The answers in columns 3 and 4 should be filled in while you discuss the solutions with the class.
- Each time, learners should use counters to find the fraction parts – for the first row learners take 8 counters, for the second row they take 6 counters, and so on.
- Learners use their counters to do the sharing at the same time as you. Learners must draw each shape on their whiteboards/scrap paper as you discuss that row in the table. When you have completed one row, they rub out the drawing and draw the next one.

Single shape whole	A number of counters as the whole	What fraction of the counters have we found?	How many counters?
a) Halves using a fraction circle 	8 counters 	One half of the counters (four)	We have eight counters. One half of the counters is four counters.
b) Thirds using a fraction square 	6 counters 	One third of the counters (two)	We have six counters. One third of the counters is two counters.
c) Quarter using a fraction circle 	8 counters 	One quarter of the counters (two)	We have eight counters. One quarter of the counters is two counters.
d) Fifths using a fraction rectangle 	15 counters 	One fifth of the counters (three)	We have 15 counters. One fifth of the counters is three counters.

- When you have finished this activity, give each group of learners a copy of the fractions table as a record of the lesson activity. The classwork activity consolidates learners' ability to find a fraction part of a whole number in the context of word problems.

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

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

6. Reflection on lesson

Term 4 Lesson 29: Fractions

Classwork

1. If fifteen sweets are shared equally amongst three friends. How much does each one get?
(5 sweets each.)
2. Six cakes are shared equally amongst three friends. How much does each one get?
(2 cakes each.)
3. Twelve cakes are shared equally amongst four friends. How much does each one get?
(3 cakes each.)
4. Twenty sweets are shared equally amongst five friends. How much does each one get?
(4 sweets each.)

Homework

1. Two cakes are shared equally amongst two friends. How much does each one get?
(One cake each.)
2. Sixteen cakes are shared equally amongst four friends. How much does each one get?
(4 cakes each.)

LESSON 30: FRACTIONS – SHARING AND GROUPING THINGS EQUALLY

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.10 Sharing leading to fractions, 1.17 Fractions.

Lesson vocabulary: Forwards, backwards, sharing, fractions, halves, quarters, thirds, fifths, calculate, equal sharing, divide, circle square.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions, e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Recognise fractions in diagrammatic form.
- Write fractions as 1 half, 2 thirds.

Concepts:

- Solve word problems in context and explain own solutions to problems involving equal sharing leading to solutions that include unitary fractions, e.g. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{5}$.
- Use and name fractions including halves, quarters, thirds and fifths.
- Write fractions as half, 2 thirds.

Resources: Circles cut from scrap paper (4 per group), rectangles made from scrap paper (5 per group), Unifix blocks.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 118 (pp. 116 and 117), Worksheet 121 (pp. 122 and 123).

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

Remediation: Use Unifix blocks – seven towers with three blocks in each. Each tower is a *chocolate*. Share the seven chocolates bars amongst three friends so that they all get the same amount of chocolate bars and there is nothing left. (Each child will get two and one third chocolate bars.)

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from any multiple between 0 and 200, e.g. 97, 94, 91...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$__ + 19 = 20$	1
2.	$__ - 12 = 8$	20
3.	$__ + 15 = 20$	5
4.	$__ - 20 = 0$	20
5.	$__ + 12 = 20$	8

	Calculate:	Answer
6.	$__ - 5 = 12$	17
7.	$__ + 5 = 19$	14
8.	$__ - 9 = 9$	18
9.	$__ + 10 = 18$	8
10.	$__ - 4 = 15$	19

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 final lesson on fractions, the fractions found involve parts and wholes. This builds on the fraction concept that has been established in the lessons that have been done already this term.

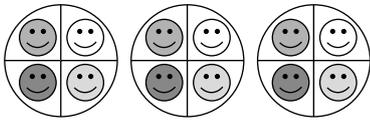
Activity 1: Learners work in groups

- Give each group of learners 3 circles cut from any scrap paper.
- In each group – four learners must participate in the next activity. If there are more than four learners in a group, some will participate and others will join in the discussion to find the solution.
- Ask the learners to share the three circles equally between the four members of the group.
- They may use scissors to cut the circles, or they could fold and tear the paper.
- *How much does each learner get?* (There are different ways of finding the part they each get. Learners have to cut up the circles in order to share them equally between the 4 learners in the group. Each learner will get one half of a circle and one quarter of a circle/Each learner will get three quarters.)
- You can draw these on the board to explain the answers to them:



(Each child will get one half and one quarter.)

OR



(Each child will get three quarters.)

Activity 2: Learners work in groups

- Give each learner five small rectangular pieces of paper, made out of scrap paper.
- Ask the learners to share the five pieces of paper equally between the four members of the group.
- They may use scissors to cut the paper, or they could fold and tear the paper.
- *How much does each learner get?* (Each learner will get one whole piece of paper and 1 quarter of a piece of paper.)

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

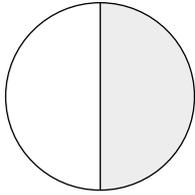
5. Homework activity from LAB (5 minutes) (See next page)

6. Reflection on lesson

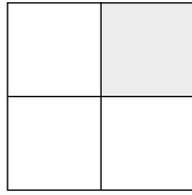
Term 4 Lesson 30: Fractions – sharing and grouping things equally

Classwork

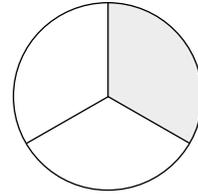
1. What fraction is coloured?



a) (one half)



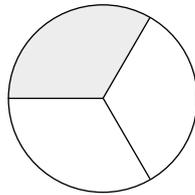
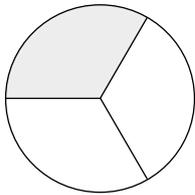
b) (one quarter)



c) (one third)

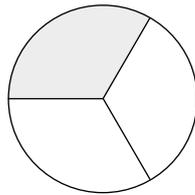
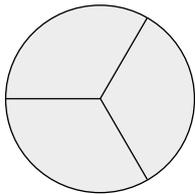
2. Solve the following. Draw a picture to show your answer.

a) Two biscuits are shared equally amongst three friends. How much does each one get?



(Answer: two thirds each.)

b) Four cakes are shared equally amongst three friends. How much cake does each one get?



(Answer: one and one third each.)

Homework

1. Two cakes are shared equally amongst five friends. How much cake does each one get?
(Two fifths each.)
2. Three cakes are shared equally amongst two friends. How much cake does each one get?
(One and one third each.)

WEEK 7

LESSON 31: 3-D OBJECTS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 3.2 3-D objects.

Lesson vocabulary: Forwards, backwards, 3-D shapes, spheres, cylinders, prisms, roll, slide, box-shaped, ball-shaped, describe, sort, compare, size.

Prior knowledge: Learners should have been taught how to:

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

Resources: Different sized spheres, prisms and cylinders, old magazines/newspapers/adverts.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 106 (pp. 90 and 91).

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

Remediation: Use the same items and ask the learners to look at the sides of each object. Give them the opportunity to roll, slide and roll and slide each object again until they understand the concept.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Ask the learners to start at 132, count on in ones to 200.

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$__ - 10 = 70$	80
2.	$__ + 10 = 70$	60
3.	$__ - 10 = 40$	50
4.	$__ + 20 = 80$	60
5.	$__ - 50 = 20$	70

	Calculate:	Answer
6.	$__ + 30 = 70$	40
7.	$__ - 20 = 50$	70
8.	$__ + 50 = 50$	0
9.	$__ - 30 = 40$	70
10.	$__ + 90 = 100$	10

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

This is the final lesson on 3-D objects for the year. Make sure to allow learners the chance revise the names of the objects and think about their properties. Remember to refer to the Jika iMfundo bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of this mathematical vocabulary.

Activity 1: Learners work in groups

- Take the learners outside to where there is a flat, smooth surface or to the school hall.
- Take different sized balls/ball-shaped objects, boxes/box-shaped objects, and cylinders out with you.
- Divide the class into three groups.
- Let each group sit in a circle.
- Give each group a mixture of different sized objects. (The objects that you took outside with you.)
Ask the learners to choose which of the objects they think they can roll.
- *What are these objects called?* (Spheres.)
- Take the balls/ball-shaped objects out and roll them to one another, one at a time.
- Ask the learners to choose which of the objects they think can slide.
- *What are these objects called?* (Prisms.)
- Take the boxes/box-shaped objects out and slide them to one another, one at a time.
- Ask the learners which shape they think can slide and roll.
- *What are these objects called?* (Cylinders.) Take the cylinders and first slide and then roll them to one another, one at a time.

Activity 2: Learners work in groups

- Ask each group to take their objects back to class.
- When back in class each group will sort their objects according to which can:
 - roll
 - slide and roll
 - slide.
- Make three groups in the front of the class.
- Ask if there are any objects in the class that can be added to these three groups of objects.
- Discuss – using the extra examples learners find by looking around the class.

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

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

6. Reflection on lesson

Term 4 Lesson 31: 3-D objects

Classwork

Answers will vary.)

1. Use an old magazine/newspaper to find three pictures that look like each of the following shapes:
 - a) Prism
 - b) Sphere
 - c) Cylinder
2. Stick your pictures into your book in order of size from smallest to biggest.
3. Label your pictures according to the shapes.

Homework

Copy this table into your homework book and complete it. (Answers will vary.)

Object	Draw the object	Roll/Slide/Roll and slide
Prisms		
Spheres		
Cylinders		

LESSON 32: MASS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 4.3 Mass.

Lesson vocabulary: Forwards, backwards, mass, kilogram (kg), grams (g), heavier, lighter, same as, bathroom scale, kitchen scale, balancing scale, greatest, lowest, more than, less than, calculate.

Prior knowledge: Learners should have been taught how to:

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

Concepts:

- Written tasks to consolidate the following, including reading pictures of: products with mass written on them, bathroom scales where the needle points to a numbered gradation line.

Resources: Pictures of/products with a mass of 250 g, 500 g, 1 kg and 2 kg, bathroom scale, objects with a mass of 1 kg, 5 kg, 10 kg and 20 kg.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 120 (pp. 120 and 121).

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

Remediation: (You need to prepare various products and objects that have a mass of 1 kg, 5 kg and 10 kg.) Use a bathroom scale. Ask a learner to place the first product on the bathroom scale. Ask that learner what its mass is by reading the scale. Find the mass of the rest of the products/objects. Ask the learners to sort the objects from the lightest to the heaviest.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Ask the learners to start at 180, count backwards in ones to 133.

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$__ + 2 = 10$	8
2.	$__ - 3 = 17$	20
3.	$__ + 0 = 20$	20
4.	$__ - 15 = 3$	18
5.	$__ + 12 = 20$	8

	Calculate:	Answer
6.	$__ - 3 = 15$	18
7.	$__ + 7 = 12$	5
8.	$__ - 16 = 4$	20
9.	$__ + 20 = 20$	0
10.	$__ - 0 = 15$	15

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

There is one lesson this term on the topic of mass. In this lesson standard units are used. Learners should know the standard units of mass (kilogram and gram) and be able to read and understand approximately what they represent. Remember to refer to the Jika iMfundo bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of the mathematical terminology of mass.

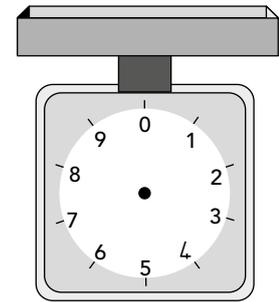
The second activity of the lesson can be done as a whole class activity if necessary.

Activity 1: Whole class activity

- Show learners products/pictures with a mass of 250 g, 500 g, 1 kg and 2 kg.
- Ask them the following questions. (Learners should respond using the examples shown to the class in the pictures you have collected. Answers will depend on the pictures you have brought to class.)
 - Which product has a mass of 1 kg?
 - Which product has a mass of less than 1 kg?
 - Which product has a mass of more than 1 kg?
 - Is the remaining product lighter or heavier than 1 kg?
- Sort the products as you discuss them and talk about them using the words heavier/lighter/same as.

Activity 2: Learners work in groups

- When you do this activity make sure that you show the learners how to read the correct mass using the scale markings. Draw a simple scale on the board to assist you when you explain how to read from a scale. For example: (Draw the scale arm to show different readings using the markers.)
- Use a bathroom scale to find the mass of the following:
 - An object with a mass of 1 kg.
 - An object with a mass of 5 kg.
 - An object with a mass of 10 kg.
 - An object with a mass of 20 kg.
- Ask questions like:
 - Which object has the greatest mass?
 - Which object has the lowest mass?
 - Which object is heavier/lighter? (Of two objects shown together.)
 - Which object has a mass of more than 5 kg/less than 10 kg?
- When you have finished this activity the learners will do the classwork activity. Draw a balance scale on the board to remind learners how to interpret a drawing of a balance scale.
- Explain to the class: *In the scale shown, the object on the right hand side is heavier because the scale is tipping down to the right.*
- The masses shown in the two balances are 1 kg on the left and 2 kg on the right. This scale would tip towards the heavier object, which is the 2 kg bag of soap. The balance scale shown here is true.

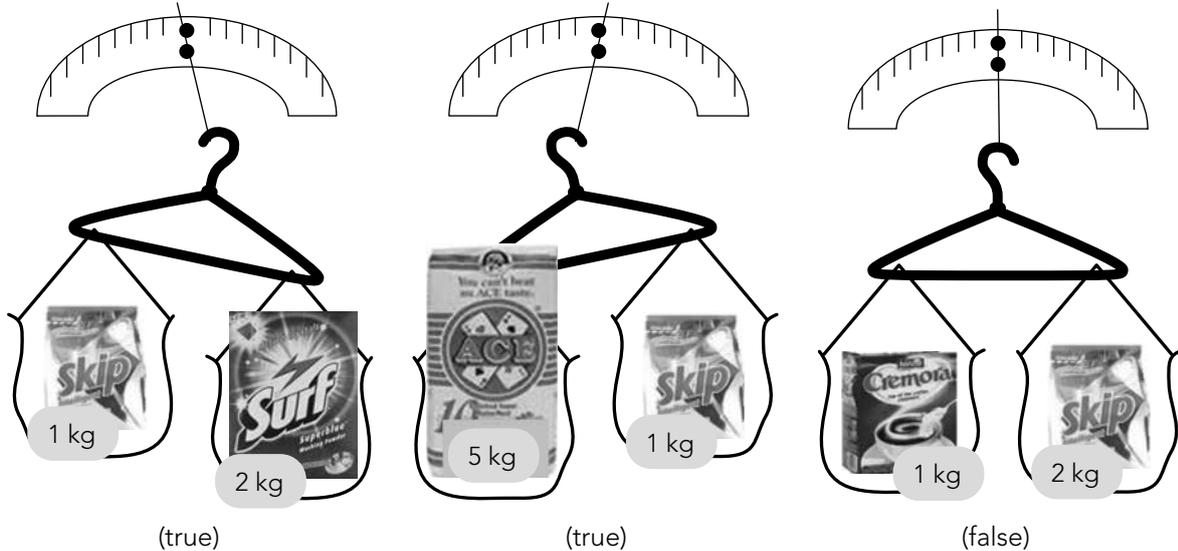


4. **Classwork activity from LAB (25 minutes) (See next page)**
5. **Homework activity from LAB (5 minutes) (See next page)**
6. **Reflection on lesson**

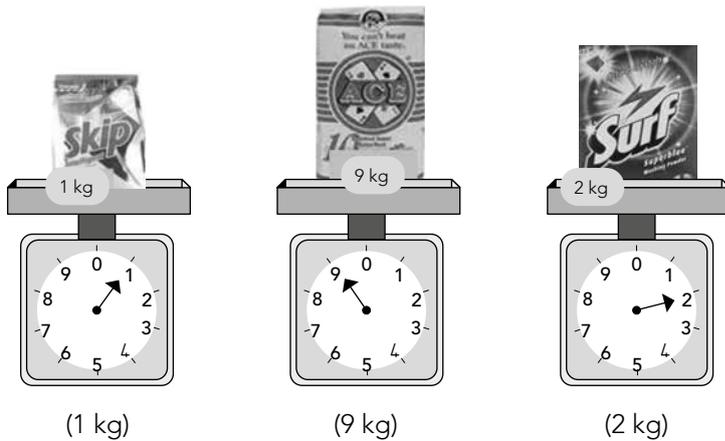
Term 4 Lesson 32: Mass

Classwork

1. Look at the balancing scales and say if the pictures shown are true or false:

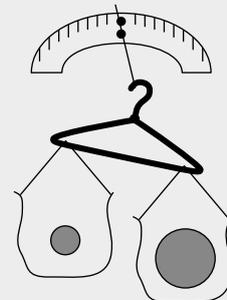


2. Draw the arms on the kitchen scales to show the mass of these products:
(Learners must draw the arms in the correct place.)



Homework

1. Draw a scale balance with a heavier object on the right hand side.
2. Draw a scale balance with a lighter object on the left hand side.
3. What can you say about the two drawings that you just did?
(Something like this: They have the heavier and lighter objects on the same sides.)



LESSON 33: CAPACITY

Teacher's notes

CAPS topics: 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 4.4 Capacity.

Lesson vocabulary: Forwards, backwards, capacity, standard measures, calibration lines, litres, calculate, estimate, measure, compare, order, record, hold more, hold less, most, least.

Prior knowledge: Learners should have been taught how to:

- Estimate, measure, compare, order and record the capacity of containers by using non-standard measures, e.g. spoons and cups.

Concepts:

- Estimate, measure, compare, order and record the capacity of objects by measuring in litres using: bottles with a capacity of 1 litre, and a measuring jug which has numbered calibration lines in litres.
- Compare, order and record the capacity of commercially packaged objects whose capacity is stated in litres, e.g. 2 litres of milk, 1 litre of cool drink, 5 litres of paint.

Resources: Empty 1, 2, 2,5, 3 and 5 litre containers, whiteboards/scrap paper, old newspaper adverts for products (e.g. Spar, Checkers).

DBE workbook activities relevant to this lesson:

- DBE Worksheet 111 (pp. 100 and 101).

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

Remediation: Give the learners magazines/pamphlets. Ask them to find an example of containers that will hold: 1 litre, 2 litres and 5 litres. Ask: Do all the 1 litre containers have the same shape? Do all the 2 litre containers have the same shape? Do all the 5 litre containers have the same shape? Talk about what each container holds, e.g. the 1 litre container holds milk and the 2 litre container holds fruit juice.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 94, 98, 102...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$18 - 4 =$	14
2.	$20 - 2 =$	18
3.	$12 - 3 =$	9
4.	$11 - 6 =$	5
5.	$15 - 5 =$	10

	Calculate:	Answer
6.	$3 - 0 =$	3
7.	$13 - 3 =$	10
8.	$10 - 5 =$	5
9.	$12 - 5 =$	7
10.	$17 - 3 =$	14

2. Correction/reflection on homework (15 minutes)

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

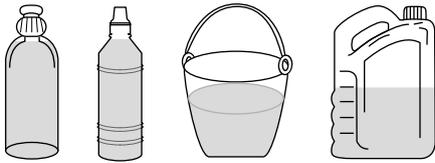
3. Lesson content – concept development (30 minutes)

There is one lesson this term on the topic of capacity. In this lesson the standard unit of a litre (l) is used. Learners should know the standard units of capacity (litre) and be able to read and understand approximately what they represent. Remember to refer to the Jika iMfundo bilingual Dictionary of Mathematical Terms if necessary to find explanations and examples of the mathematical terminology of capacity.

Remember to collect the empty containers or pictures that you need to use in this activity.

Activity 1: Whole class activity

- Before the lesson draw these pictures and write the sentences on the board:



1. This container can hold 5 litres of water.
 2. This container can hold 2 litres of water.
 3. This container can hold 4 litres of water.
 4. This container can hold 1 litre of water.
- Ask the learners to match the number of the sentence with the pictures.
 - Give the groups time to compare their answers.
 - Discuss the answers as a class.
 - How did they make their choices? Discuss. *(The larger containers are able to hold more. They have a bigger capacity.)*

Activity 2: Learners work in groups

- Give each group of learners some pictures or some empty containers, similar to these.



- Ask the learners to discuss in their groups how much each container can hold, according to the label on the container.
- Ask the learners to place these containers in order, from the container that holds the most to the container that holds the least.
- Learners discuss their sorted containers to check that their sorting was correct.

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

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

6. Reflection on lesson

Term 4 Lesson 33: Capacity

In this lesson, if you don't have old magazines or newspapers to cut from, the learners could draw objects instead.

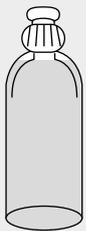
Classwork

1. Use adverts to cut out pictures of five containers with different capacities.
Stick the pictures in your maths book. Write the capacity of each container under the picture.
(Answers will vary.)
2. Mom buys 2 litres of milk and Dad buys another 5 litres.
How many litres altogether? (7 litres.)
3. Jabu buys one half litre of coke and Vusi buys 1 litre of coke.
How many litres of coke do they have together? (1,5 litres.)

Homework

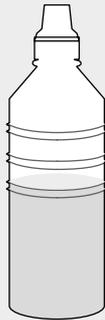
1. Write the following from the least to the most and draw a picture to show your answer:
2 litres, 5 litres, 4 litres, 1 litre, 3 litres. (1 litre, 2 litres, 3 litres, 4 litres, 5 litres.)
2. Estimate about how much water each container can hold.

a)



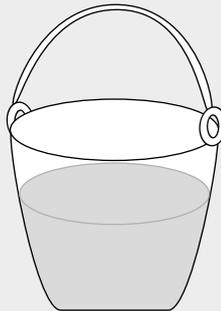
(1 litre)

b)



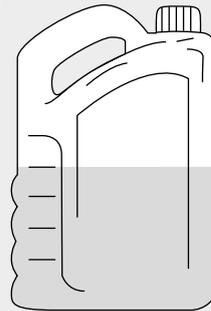
(2 litres)

c)



(4 litres)

d)



(5 litres)

LESSON 34: CAPACITY

Teacher's notes

CAPS topics: 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 4.4 Capacity.

Lesson vocabulary: Forwards, backwards, capacity, standard measures, calibration lines, litres, calculate, estimate, measure, compare, order, record, empty, full, hold more, hold less, cups, smallest, biggest.

Prior knowledge: Learners should have been taught how to:

- Estimate, measure, compare, order and record the capacity of containers by using non-standard measures, e.g. spoons and cups.

Concepts:

- Estimate, measure, compare, order and record the capacity of objects by measuring in litres using: bottles with a capacity of 1 litre, and a measuring jug which has numbered calibration lines in litres.
- Compare, order and record the capacity of commercially packaged objects whose capacity is stated in litres, e.g. 2 litres of milk, 1 litre of cool drink, 5 litres of paint.

Resources: Empty bottles with a capacity of 1, 2, and 3 litres, 1 litre measuring jug, cup, water.

DBE workbook activities relevant to this lesson:

- N/A

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

Remediation: Using the 1 litre measuring jug and cups, allow the learners to experiment with measuring cups of water to make 1 litre. Discuss the difference between 1 litre and 2 litre containers. Discuss how many cups would be needed to fill up a 2 litre cool drink bottle.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from any multiple between 0 and 200, e.g. 120, 124, 128...

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$13 + 6 =$	19
2.	$15 + 4 =$	19
3.	$14 + 4 =$	18
4.	$17 + 0 =$	17
5.	$10 + 10 =$	20

	Calculate:	Answer
6.	$20 + 10 =$	30
7.	$50 + 10 =$	60
8.	$80 + 10 =$	90
9.	$60 + 10 =$	70
10.	$90 + 10 =$	100

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

This is the second (and final) lesson on capacity for the term. Remember to use real containers that you have collected for this activity, as it will help learners to grasp the concept of capacity in a more meaningful way.

The first activity is a whole class demonstration. If it is not possible to allow learners to do the second activity in groups, you should do it as a whole class demonstration as well.

Activity 1: Whole class activity

- Place a set of empty bottles in the front of the class.
- Discuss with the class how we can use a litre measuring jug to measure amounts of liquid.
- Discuss and estimate with the learners how much water would fill each bottle (using jugs).
- You may need to revise the term estimate with the learners. Refer to the *Jika iMfundo Dictionary of Mathematical Terms* to assist you.
- Record their estimates on the board.
- Fill the bottles with water, using the litre jug.
- Count the number of litres that are needed to fill each bottle.
- The number of litres will vary depending on the size of the bottle.
- Record how many litres were needed to fill each bottle.

Activity 2: Learners work in groups

- Using the 1 litre measuring jug and a cup, discuss and estimate how many cups of water would be needed to fill the jug.
- Record the estimates on the board.
- Ask a learner to fill the jug using cups. (It should take 4 cups of water to fill a 1 litre measuring jug.)
- Ask the learners how many cups would be needed to fill a 2 litre bottle.
- Record the estimates on the board.
- Ask a learner to fill the 2 litre bottle using cups. (It should take 8 cups of water to fill a 2 litre bottle.)
- Discuss the difference between their estimates and the actual measurement if there were differences.
- Talk about the need for careful estimates.
- Ask the learners how many cups would be needed to fill a 3 litre bottle.
- Record the estimates on the board.
- Ask a learner to fill the 3 litre bottles using cups. (It should take 12 cups of water to fill a 3 litre bottle.)
- Discuss the difference between their estimates and the actual measurement if there were differences.
- Discuss any generalisations they can make based on this exercise, such as:
 - *There are 4 cups in 1 litre.*
 - *There are 8 cups in 2 litres.*
 - *There are 12 cups in 3 litres.*
- Ask:
 - *How many cups in 4 litres? (16 cups.)*
 - *How many cups in 5 litres? (20 cups.)*
 - *How many cups in 10 litres? (40 cups.)*
 - Etc.

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

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

6. Reflection on lesson

Term 4 Lesson 34: Capacity

Classwork

1. Write the litre measurements from smallest to biggest: 1 ℓ, 5 ℓ, 3 ℓ, 10 ℓ and 2 ℓ. (1 ℓ, 2 ℓ, 3 ℓ, 5 ℓ and 10 ℓ.)
2. Which one of the following would hold the most water?
 - a) Swimming pool
 - b) Bath
 - c) Bucket (swimming pool)
3. Which one would hold the least water?
 - a) Bucket
 - b) Cup
 - c) Teaspoon (teaspoon)
4. Can you estimate how many litres are needed to fill:
(Answers may vary but must be reasonable.)
 - a) A sink? (About 15 litres.)
 - b) A bath (About 80 litres.)
 - c) A bucket (About 5 litres.)
5. Jabu has collected 3 ℓ of water from the tap. His mother asked him to collect 10 ℓ.
How many more litres must he collect? (7 litres.)

Homework

Draw and label 5 objects that can hold more water than your water bottle.
(Answers will vary.)

WEEK 8

LESSON 35: ESTIMATION UP TO 200

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.7, 1.13 Addition and subtraction, 1.6 Problem solving, 1.12 Techniques (methods or strategies).

Lesson vocabulary: Forwards, backwards, number sentence, unknown number, addition facts, subtraction facts, more than, less than, estimate, grouping.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use techniques like concrete apparatus, drawing pictures, building up and breaking down of numbers and number lines.

Concepts:

- Estimate and count to at least 200 everyday objects reliably. The strategy of grouping is encouraged.

Resources: Unifix blocks.

DBE workbook activities relevant to this lesson:

- DBE Worksheet 70 (pp. 12 and 13).

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

Remediation: Using the Unifix blocks, work with the learners to estimate, e.g. $51 + 41 = \underline{\quad}$. Discuss how 51 is close to 50 and 41 is close to 40. So the answer is about 90. Repeat with the following sums: $101 + 62 = \underline{\quad}$, $34 + 60 = \underline{\quad}$, $55 + 55 = \underline{\quad}$.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 3s from 87, 90, 93 to 120.

1.2 Mental mathematics activity (10 minutes)

	What is 10 more than?	Answer
1.	43	53
2.	79	89
3.	85	95
4.	68	78
5.	99	109

	What is 10 less than?	Answer
6.	100	90
7.	76	66
8.	51	41
9.	39	29
10.	101	91

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

Estimation is an important skill. In this lesson you reinforce the importance of an accurate estimation and you do some word problems which involve estimates. In real life, we do estimate, for example when we try to work out if we have enough money to buy something. If our estimate is not correct, it will be misleading. Hence, valid and accurate estimations are the goal.

Activity 1: Whole class activity

- Place a group of Unifix blocks (or other counters such as beans or bottle tops) in front of the class (about 50) in no particular order.
- Ask the learners how many blocks they think there are.
- Use the word **estimate**.
- Explain that it means **an informed guess**.
- Count the blocks with the learners in 1s.
- Discuss how we could estimate by putting 5 blocks together and then estimating how many groups of 5 there are.
- Repeat using a group of 10 blocks as an estimate guide.
- Repeat the exercise using about 100 Unifix blocks and using groups of 5 and 10 as an estimation guide.

Activity 2: Whole class activity

- Work through the following sums with the learners, where you use estimation to find the answers.
- Use groupings of 5 and 10 to assist.
- Also talk about how you will use estimation when you think about your method.
- Example 1: $41 + 37 = 78$
 - Discuss how 41 is close to 40 and 37 is too – so we can use an estimation of 40 for each of these numbers to estimate the answer.
 - So $40 + 40 = 80$. An estimated answer is 80.
- Example 2: $47 + 51 = 98$ ($50 + 50$, estimate 100)
 - Discuss as for the first example.
- Example 3: $125 + 31 = 156$ ($130 + 30$, estimate 160)
 - Discuss as for the first two examples – how you rounded and estimated to find the answer.
- Do some more examples in which you contextualise the calculations to make them more meaningful.
For example:
 - A book costs R2,80. How much money do I need to buy 10 books? (One book costs approximately R3,00. If I estimate, I can say I need approximately R30,00.)
 - A ball costs R39,00. How much money do I need to buy 2 balls? (I need approximately $R40 \times 2 = R80,00$.)
 - Etc. Make up more similar word problems.

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

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

6. Reflection on lesson

Term 4 Lesson 35: Estimation up to 200

Classwork

1. Here is a display of crosses:

XXXXXXXXXXXXX
XXXXXXXXXXXXX
XXXXXXXXXXXXX
XXXXXXXXXXXXX
XXXXXX

- Estimate and then count the number of crosses. (Estimates will vary – actual number = 53.)
 - Did the rows help you with your estimation? (Discuss – learners may have assumed there were 10 in a row. This is logical. Discuss how grouping helps one to estimate numbers of objects.)
2. Estimate the solutions to the questions by rounding off the numbers first.
- $101 + 70 = \underline{\quad}$ ($100 + 70 = 170$ which is close to 171.)
 - $121 + 43 = \underline{\quad}$ ($120 + 40 = 160$ which is close to 164.)
 - $160 - 21 = \underline{\quad}$ ($160 - 40 = 120$ which is close to 120.)
 - $130 - 52 = \underline{\quad}$ ($130 - 50 = 80$ which is close to 80.)
 - $31 + 74 = \underline{\quad}$ ($30 + 70 = 100$ which is close to 105.)
3. I go to the shop to buy cool drink. I buy 2 ℓ of coke, 4 ℓ of Sprite, 2 and a half litres of Fanta and 1 and a quarter litres of ginger beer. Estimate and then calculate how many litres of cool drink I buy.
($2 + 4 + 2 + 1 = 9$ ℓ which is close to 9 and three quarters litres)
4. Today is the 1st of August. Estimate how many days until December 25?
($30 \times 4 + 25 = 120 + 25 = 145$ days – use 30 days in a month to help with the estimation.)

Homework

Estimate the solutions to the questions by rounding off the numbers first.

- $47 + 90 = (50 + 90 = 140$ which is close to 137.)
- $39 + 71 = (40 + 70 = 110$ which is close to 110.)
- $87 + 110 = (90 + 110 = 200$ which is close to 197.)
- $99 + 99 = (100 + 100 = 200$ which is close to 198.)
- $67 + 70 = (70 + 70 = 140$ which is close to 137.)

LESSON 36: COMPARE AND ORDER UP TO 200

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 1.13 Addition and subtraction, 1.6 Problem solving, 1.12 Techniques (methods or strategies).

Lesson vocabulary: Forwards, backwards, more than, less than, next, between, before, after, halfway, largest, smallest, ordinal, equal, position, compare, order, identify, recognise, number line, number name, number symbol, ordinal numbers (first, second, third, ...).

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use techniques like concrete apparatus, drawing pictures, building up and breaking down of numbers and number lines.

Concepts:

- Recognise, identify and read number symbols **0** to **200**.
- Write number symbols **0** to **200**.
- Recognise, identify and read number names 0 to 100.
- Write number names 0 to 100.
- Order and compare numbers to 99.
- Use ordinal numbers to show order, place or position.

Resources: 1–200 number grid (see *Printable Resources* Term 3), 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: Using the 1–200 number chart and counters, focus on the numbers 0–50. Identify the 5th, 1st and 10th number. Select a number, e.g. 33, cover it with a counter, count back 4 spaces and cover it, count on 11 spaces and cover it. Repeat using words before, after, between, etc.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 4s from 100, 104...152.

1.2 Mental mathematics activity (10 minutes)

	What is 5 more than:	Answer
1.	25?	30
2.	33?	38
3.	47?	52
4.	58?	63
5.	101?	106

	What is 5 less than:	Answer
6.	30?	25
7.	45?	40
8.	56?	51
9.	65?	60
10.	98?	93

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 revise number concept and the comparison of numbers. You also revise ordinal number concept.

Activity 1: Whole class activity

- Give each learner a 200 number grid.
- Ask the learners to put their finger on 53.
- Ask a learner to come and write the number name for 53 on the board. (fifty-three)
- Ask learners *what number comes before 53?* (52) *What comes after 53?* (54)
- Ask them to count forward 5 places. *What is the number that you land on?* (58)
- Repeat using a variety of different numbers. Ask questions such as:
 - *What number comes before?*
 - *What number comes after?*
 - *What number is next?*
 - *What number is in between?*
 - *What number is halfway between?*
 - *Which is the largest number?*
 - *Which is the smallest number?*
 - Etc.

Activity 2: Whole class activity

- Write 9 numbers on the board (the numbers should be between 0 and 200). They don't need to be in numerical order.
- Ask the learners to tell you the number names of each of the numbers you have written on the board.
- Write the number names of each number on the board as the learners tell them to you so that they can see the spelling.
- Using these numbers, ask the following questions:
 - *Which is the second number?*
 - *Which is the fifth number?*
 - *Which is the largest number?*
 - *Which is the smallest number?*
 - *Are any of the numbers the same?*
 - *Which number is in the halfway position?*
- You may repeat this activity using a different set of 9 numbers.

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

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

6. Reflection on lesson

Term 4 Lesson 36: Compare and order up to 200

Classwork

1. Match the number symbols to the number names:

6	One hundred and nine (109)
32	Sixty eight (68)
171	Fifty nine (59)
44	Ninety one (91)
59	Forty four (44)
109	Six (6)
91	Thirty two (32)
68	One hundred and seventy one (171)

2. Here is a list of numbers: 12, 34, 57, 42, 28, 66, 89, 101, 188, 200
- What is the second number? (34)
 - What is the sixth number? (66)
 - What is the eighth number? (101)
 - What is the 10th number? (200)
3. Look at the list of numbers again and answer these questions:
- The smallest number is? (12)
 - The largest number is? (200)
 - The number before 66 is? (28)
 - The number after 34 is? (57)
 - Arrange the numbers from largest to smallest. (200, 188, 101, 89, 66, 57, 42, 34, 28, 12)

Homework

- Write the number symbols for the following:
 - Eleven (11)
 - Fifty two (52)
 - One hundred and twelve (112)
 - Sixty six (66)
 - One hundred and ninety seven (197)
 - Forty five (45)
 - Ninety nine (99)
- Write the numbers in order from smallest to biggest. (11, 45, 52, 66, 99, 112, 197)

LESSON 37: ADDITION AND SUBTRACTION - CONSOLIDATION

Teacher's notes

CAPS topics: 1.1 Count objects 1.2 Count forwards and backwards 1.16 Mental Mathematics 1.7, 1.13 Addition and subtraction 1.6 Problem solving 1.12 Techniques (methods or strategies)

Lesson vocabulary: Forwards, backwards, number sentence, unknown number, addition facts, subtraction facts, more than, less than, breaking down, sum, plus, difference, 2-digit.

Prior knowledge: Learners should have been taught how to:

- Solve word problems in context and explain own solutions to problems involving addition, subtraction with answers up to 20.
- Use techniques like concrete apparatus, drawing pictures, building up and breaking down of numbers and number lines.

Concepts:

- Add to 99.
- Subtract from 99.
- Use appropriate symbols (+, -, =).

Resources: Whiteboards/scrap paper, base ten blocks (*Printable Resources* Term 1).

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 base ten blocks as a concrete aid to help learners work through the question that you did in the lesson activities. ($69 + 12 = \underline{\quad}$, $87 - 56 = \underline{\quad}$) Work through other similar examples if learners need more practice.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Count forwards and backwards in 5s from 145, 150, 155 to 200.

1.2 Mental mathematics activity (10 minutes)

	What is 3 more than:	Answer
1.	3	6
2.	15	18
3.	21	24
4.	47	50
5.	33	36

	What is 3 less than:	Answer
6.	9	6
7.	27	24
8.	45	42
9.	80	77
10.	99	96

2. Correction/reflection on homework (15 minutes)

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

3. Lesson content – concept development (30 minutes)

In this lesson you consolidate addition and subtraction using building up and breaking down. You should allow learners to use other strategies if they feel more comfortable with them. Make sure that all learners in the class are able to add and subtract 2-digit numbers.

Activity 1: Whole class activity

- Do the following on the board with your learners.
- It is important to go through each step carefully and also to highlight the relationship between addition (+) and subtraction (-) as inverse operations.
- Remind learners about how we use brackets in maths to identify pairs of numbers that we are working with.
- Work through the following two examples:
 1. $69 + 12 = \square$
 $69 + 12 = (60 + 9) + (10 + 2)$ (Break down the numbers into tens and units.)
 $= (60 + 10) + (9 + 2)$ (Pair the numbers according to place value – tens and units)
 $= 70 + 11$
 $= 81$
 2. $87 - 56 = \square$
 $87 - 56 = (80 + 7) - (50 + 6)$ (Break down the numbers into tens and units.)
 $= (80 - 50) + (7 - 6)$ (Pair the numbers according to place value – tens and units – be careful as this is subtraction ... watch the signs)
 $= 30 + 1$
 $= 31$
- Discuss how we have found the sum of 69 and 12.
- Discuss other addition words – plus, add.
- Do other similar examples, depending on time available.
- Discuss how we have found the difference between 87 and 56.
- Discuss other subtraction words – take away, minus.
- Do other similar examples, depending on time available.

Activity 2: Whole class activity

- Learners complete these on their whiteboards/scrap paper using the method from Activity 1.
 1. $44 + 42 = \square$
 $44 + 42 = (40 + 4) + (40 + 2)$
 $= (40 + 40) + (4 + 2)$
 $= 80 + 6$
 $= 86$
 2. $57 - 34 = \square$
 $57 - 34 = (50 + 7) - (30 + 4)$
 $= (50 - 30) + (7 - 4)$
 $= 20 + 3$
 $= 23$

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

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

6. Reflection on lesson

Term 4 Lesson 37: Addition and subtraction – consolidation

Classwork

Complete the following:

1. $57 - 34 = \underline{\quad}$. (23)
2. $12 + 46 = \underline{\quad}$. (58)
3. Add 67 and 21. (88)
4. Find the sum of 56 and 14. (70)
5. 12 tens plus 8 ones equals? (128)
6. $98 - 42 = \underline{\quad}$. (56)
7. Subtract 45 from 99. (54)
8. What is the difference between 38 and 57? (19)
9. What number must you subtract from 56 to get 32? (24)
10. What number must you add to twelve to get thirty eight? (26)

Homework

Calculate using any method:

1. $33 + 21 = \underline{\quad}$. (54)
2. $42 + 17 = \underline{\quad}$. (59)
3. $33 - 21 = \underline{\quad}$. (12)
4. $66 - 15 = \underline{\quad}$. (51)

LESSON 38: GEOMETRIC PATTERNS

Teacher's notes

CAPS topics: 1.1 Count objects, 1.2 Count forwards and backwards, 1.16 Mental Mathematics, 2.1 Geometric patterns.

Lesson vocabulary: Forwards, backwards, geometric patterns, lines, everyday life, nature, cultural heritage, regular, calculate, identify, describe.

Prior knowledge: Learners should have been taught how to:

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

Concepts:

- Identify, describe in words and copy geometric patterns in nature, from everyday life and from our cultural heritage.

Resources: Pictures of leopard, zebra, and giraffe skin, a brick wall, dishcloth, onion, magazines (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 to draw/copy a geometric pattern based on a real life object/picture.

Enrichment: See enrichment activity cards.

1. Mental mathematics

1.1 Counting (5 minutes)

- Ask the learners to start at 90, count on in twos to 134.

1.2 Mental mathematics activity (10 minutes)

	Calculate:	Answer
1.	$14 + 6 =$	20
2.	$20 - 5 =$	15
3.	$16 + 2 =$	18
4.	$10 - 3 =$	7
5.	$15 + 4 =$	19

	Calculate:	Answer
6.	$12 - 4 =$	8
7.	$16 - 15 =$	1
8.	$14 + 3 =$	17
9.	$10 + 3 =$	13
10.	$10 - 6 =$	4

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

Patterns in nature.

- Show learners pictures of the following patterns in nature. (These could be copied onto the board OR use the examples in the *Printable Resources* – one per group.)

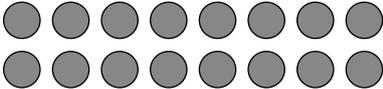
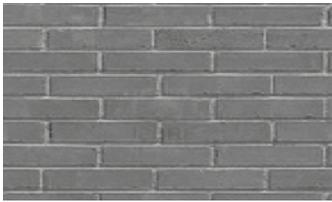


- Ask them if they can guess where we will find patterns like these. (In nature – animal skin.)
- *What animals are these?* (Leopard, zebra, giraffe.)
- *What pattern can you see?* (Irregular lines or shapes.)

Activity 2: Whole class activity

Patterns in everyday life.

- Ask: *How can we describe patterns that we see around us?*
- There are different ways to describe the patterns we see around us.
- Most patterns around us are made up of lines, shapes or objects.
- What we see is what is repeated, e.g. Repeated dots, lines, any kind of shape.
- Show them some more examples of modern everyday life objects where we see patterns, for example:

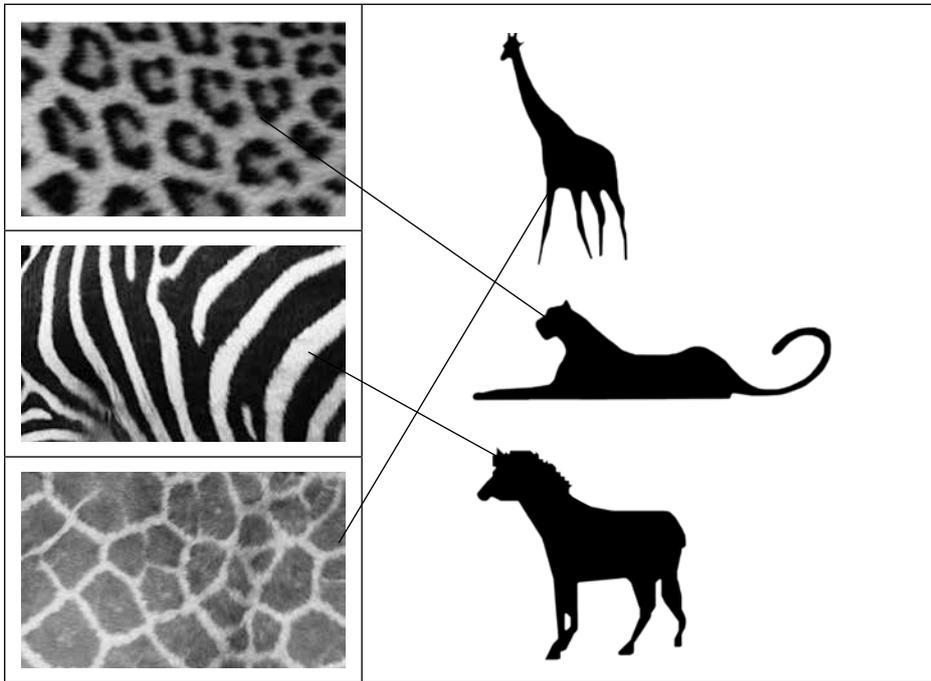
<p>Dishcloths – straight lines that cross each other.</p> 	<p>Cutting across an onion – curves/circles that increase in size.</p> 	<p>Dots – same size and evenly spread.</p> 
<p>Bricks in a wall or in paving – shapes that are the same size.</p> 	<p>Patterns in our cultural heritage.</p> 	

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

Term 4 Lesson 38: Geometric patterns

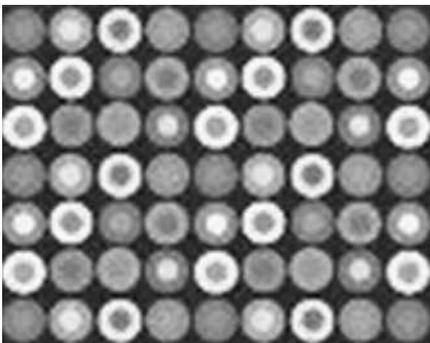
Classwork

1. Match the animal to the animal print.



2. Describe the following patterns. Use the key words to help you.

a) Key words: circle, size, equal.



(The pattern is made of circles that are equal in size and evenly spread.)

b) Key words: lines, straight, cross.



(The pattern is made of straight lines that cross one another.)

Homework

Design your own geometric pattern using squares and triangles.

PRINTABLE RESOURCES

The following printable resources are included in this section:

1. Resource sheets
2. Mental mathematics challenge cards: Bilingual version
3. Enrichment activity cards: English version
4. Enrichment activity cards: isiZulu version

1. Resource Sheets

This is a list of the mathematical resources that you will need this term. You need to make sure that you have them for the lessons for which they are recommended.

1. Base ten blocks (Several lessons – reprint from Term 1)
2. Flard cards (Several lessons – reprint from Term 1)
3. Number name cards 90–95 (Lesson 2)
4. Amakhadi amagama ezinombolo 90–95 (Isifundo 2)
5. Number name cards 96–100 (Lesson 2)
6. Amakhadi amagama ezinombolo 96–100 (Isifundo 2)
7. Ordinal number cards 1–10 (Lesson 5)
8. Amakhadi ezinombolo ezejwayelekile 1–10 (Isifundo 5)
9. Original number cards 11–20 (Lesson 5)
10. Amakhadi ezinombolo ezejwayelekile 11–20 (Isifundo 5)
11. Money problem card/Ikhadi lezibalo zemali (Lesson/Isifundo 14)
12. Fractions circles and fraction squares (Lesson 28)
13. Fractions table (Lesson 30)
14. Ithebula lamaqhezu (Isifundo 30)
15. Geometric patterns (Lesson 38)

Resources for each day of teaching

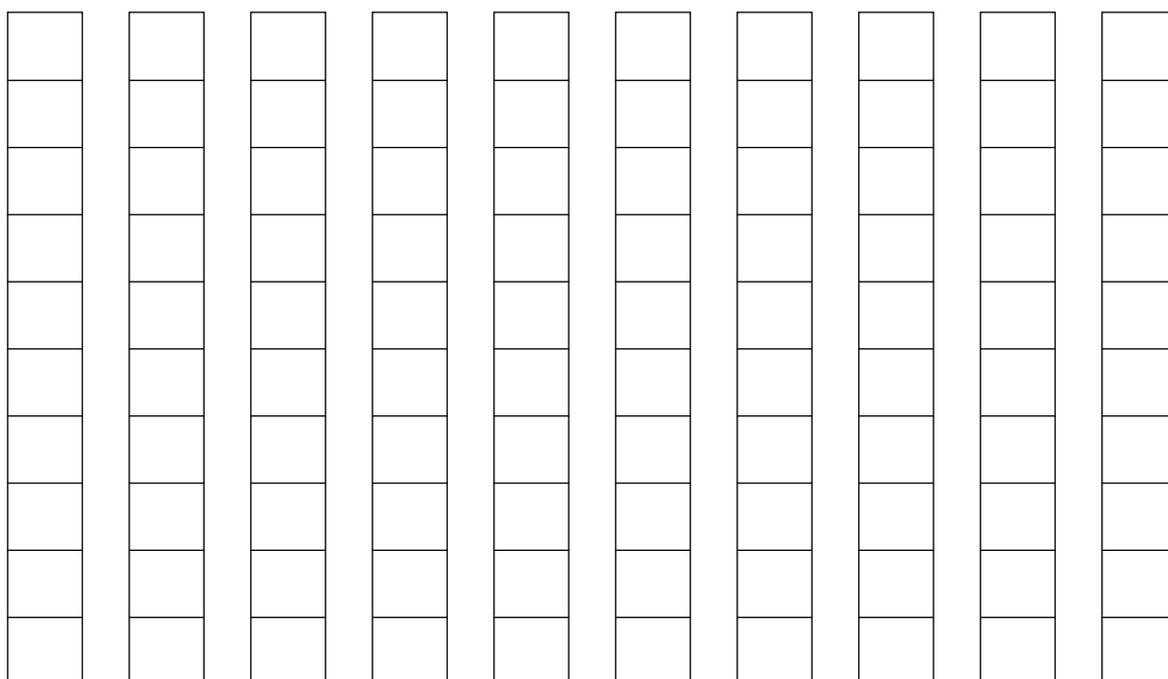
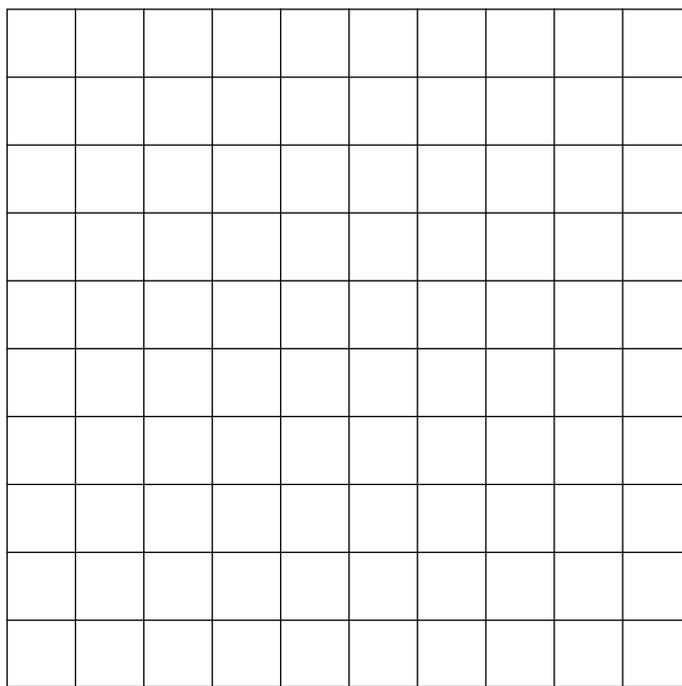
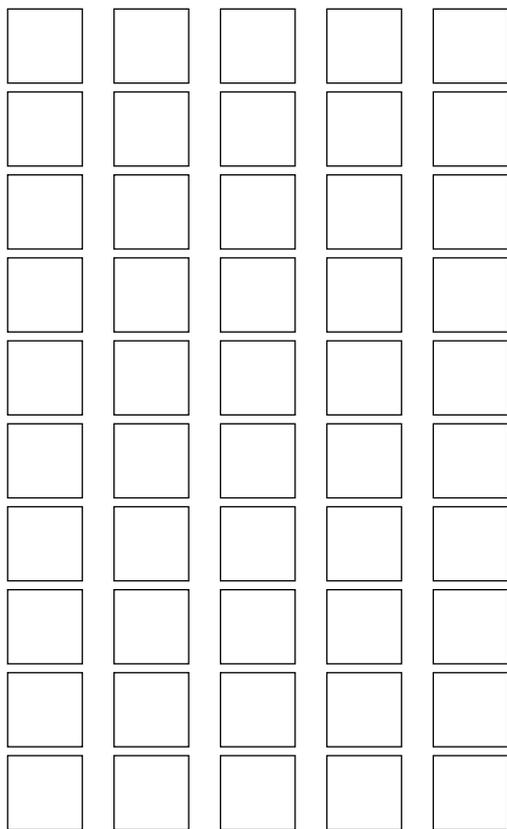
There are also other resources such as informal resources (old magazines, pieces of string, scrap paper, etc.) that you may need in certain lessons. You should have a careful look at the list of resources needed for each lesson which is given in the lesson plans each day to see which resources are needed for that day. Prepare yourself so that you have the necessary resources for the lessons on a daily basis.

1. Base ten blocks (Several lessons)

To make the base ten block kit you need to paste a copy of this sheet onto cardboard and then cut out all of the blocks.

You could also use grid paper and mark out the blocks and cut them out.

- The small blocks are used to represent unit/ones.
- The long blocks are used to represent tens.
- The big flat blocks are used to represent hundreds.



2. Flard cards (Several lessons)

1	1	0	1	0	0
2	2	0	2	0	0
3	3	0	3	0	0
4	4	0	4	0	0
5	5	0	5	0	0
6	6	0	6	0	0
7	7	0	7	0	0
8	8	0	8	0	0
9	9	0	9	0	0
		1	0	0	0

3. Number name cards 90–95 (Lesson 2)

90	ninety
91	ninety one
92	ninety two
93	ninety three
94	ninety four
95	ninety five

4. Amakhadi amagama ezinombolo 90–95 (Isifundo 2)

90	amashumi ayisishiyagalolunye
91	amashumi ayisishiyagalolunye nanye
92	amashumi ayisishiyagalolunye nambili
93	amashumi ayisishiyagalolunye nantathu
94	amashumi ayisishiyagalolunye nane
95	amashumi ayisishiyagalolunye nanhlanu

5. Number name cards 96–100 (Lesson 2)

96

ninety six

97

ninety seven

98

ninety eight

99

ninety nine

100

one hundred

6. Amakhadi amagama ezinombolo 96–100 (Isifundo 2)

96	amashumi ayisishiyagalolunye nesithupha
97	amashumi ayisishiyagalolunye nesikhombisa
98	amashumi ayisishiyagalolunye nesishiyagalombili
99	amashumi ayisishiyagalolunye nesishiyagalolunye
100	
ikhulu linye	

7. Ordinal number cards 1–10 (Lesson 5)

first		second	
third		fourth	
fifth		sixth	
seventh		eighth	
ninth		tenth	
1 st	2 nd	3 rd	4 th
5 th	6 th	7 th	8 th
9 th	10 th	11 th	12 th
13 th	14 th	15 th	16 th
17 th	18 th	19 th	20 th

8. Amakhadi ezinombolo ezejwayelekile 1–10 (Isifundo 5)

okokuqala		okwesibili	
okwesithathu		okwesine	
okwesihlanu		okwesithupha	
okwesikhombisa		okwesishiyagalombili	
okwesishiyagalolunye		okweshumi	
1 st	2 nd	3 rd	4 th
5 th	6 th	7 th	8 th
9 th	10 th	11 th	12 th
13 th	14 th	15 th	16 th
17 th	18 th	19 th	20 th

9. Ordinal number cards 11–20 (Lesson 5)

eleventh

twelfth

thirteenth

fourteenth

fifteenth

sixteenth

seventeenth

eighteenth

nineteenth

twentieth

10. Amakhadi ezinombolo ezejwayelekile 11–20 (Isifundo 5)

okweshumi nanye

okweshumi nambili

okweshumi nantathu

okweshumi nane

okweshumi nanhlanu

okweshumi nesithupha

okweshumi nesikhombisa

okweshumi nesishiyagalombili

okweshumi nesishiyagalolunye

okwamashumi amabili

11. Money problem card/Ikhadi lezibalo zemali (Lesson/Isifundo 14)

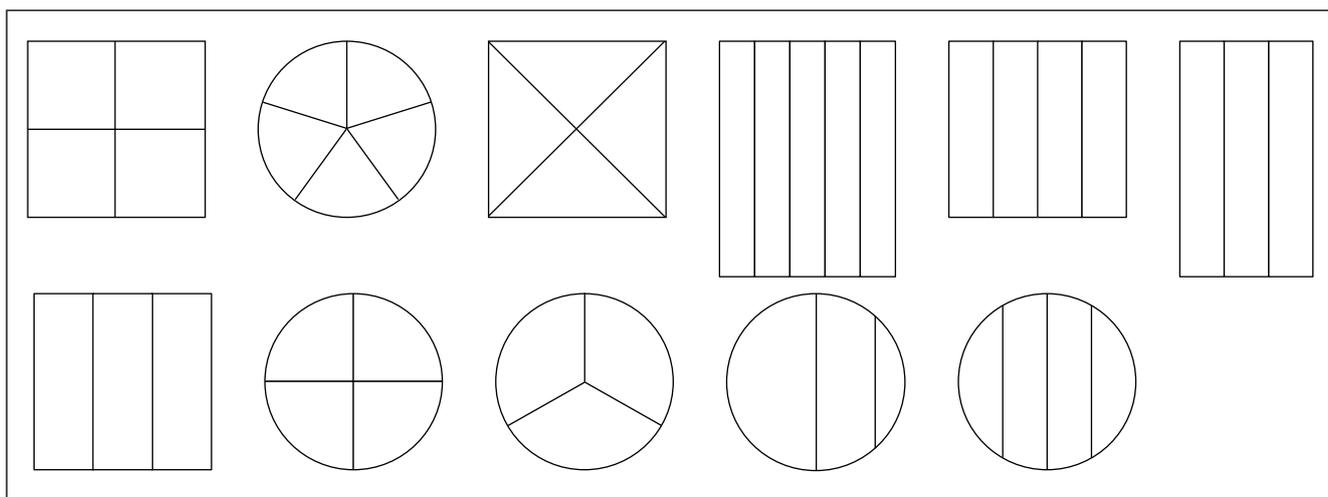
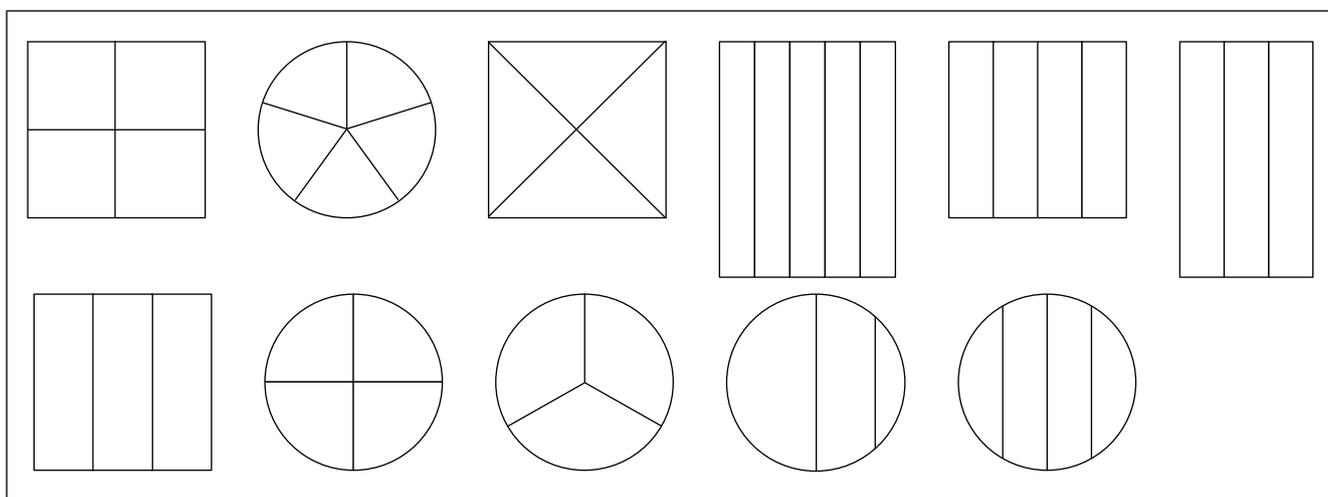
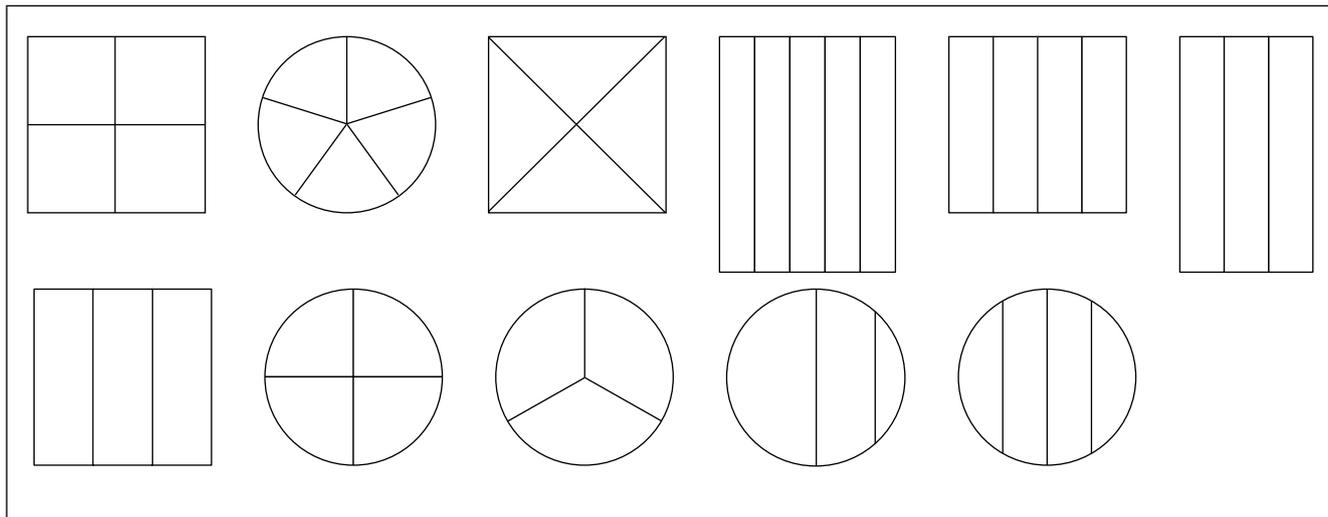
Money word problems / Izibalo zamagama emali

1. I have R30,00. I go to the shop to buy bread and milk for R28,50.
How much change will I get? /
Ngino-R30,00. Ngiyothenga esitolo isinkwa kanye nobisi ngo-R28,50.
Ngizothola ushintshi ongakanani?
2. I want to buy a hat for R16,25 and a pair of shoes for R78,90.
How much money do I need to save to be able to buy these items? /
Ngifuna ukuthenga isigqoko esibiza u-R16,25 kanye nepheya lezicathula elibiza u-R78,90.
Ngidinga ukuba nomalini ukuze ngikwazi ukuthenga lezi zinto?
3. A packet of chips costs R1,75. / Iphakethe lamazambane athosiwe libiza u-R1,75
 - a) How much will 5 packets of chips cost? /
Azobiza malini amaphakethe ama-5 amazambane athosiwe?
 - b) How many packets can I buy with R12,00? /
Ngingathenga amaphakethe amangaki amazambane athosiwe ngo-R12,00?

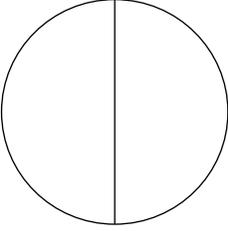
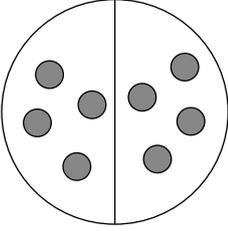
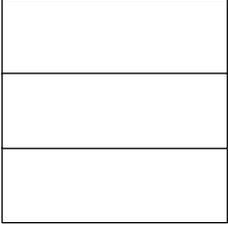
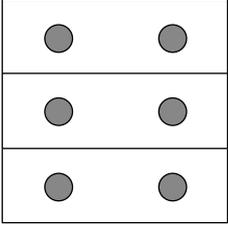
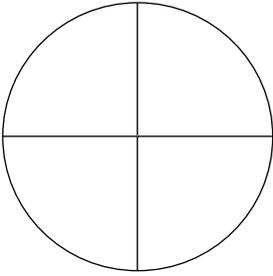
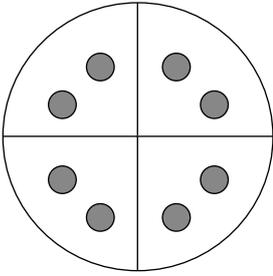
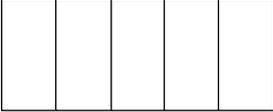
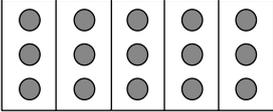
Money word problems / Izibalo zamagama emali

1. I have R30,00. I go to the shop to buy bread and milk for R28,50.
How much change will I get? /
Ngino-R30,00. Ngiyothenga esitolo isinkwa kanye nobisi ngo-R28,50.
Ngizothola ushintshi ongakanani?
2. I want to buy a hat for R16,25 and a pair of shoes for R78,90.
How much money do I need to save to be able to buy these items? /
Ngifuna ukuthenga isigqoko esibiza u-R16,25 kanye nepheya lezicathula elibiza u-R78,90.
Ngidinga ukuba nomalini ukuze ngikwazi ukuthenga lezi zinto?
3. A packet of chips costs R1,75. / Iphakethe lamazambane athosiwe libiza u-R1,75
 - a) How much will 5 packets of chips cost? /
Azobiza malini amaphakethe ama-5 amazambane athosiwe?
 - b) How many packets can I buy with R12,00? /
Ngingathenga amaphakethe amangaki amazambane athosiwe ngo-R12,00?

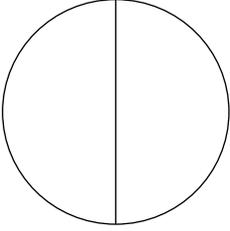
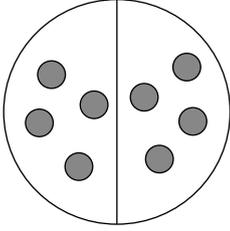
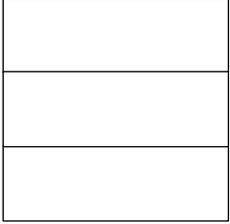
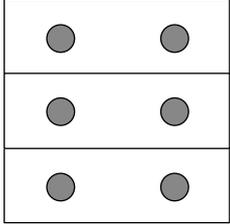
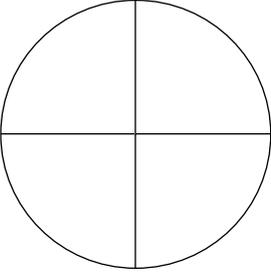
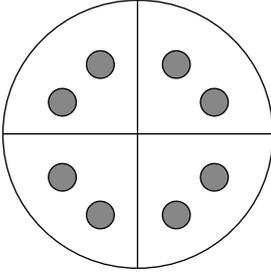
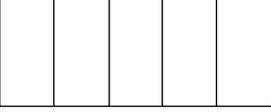
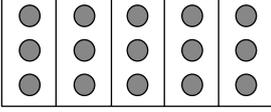
12. Fractions circles and fraction squares (Lesson 28)



13. Fractions table (Lesson 30)

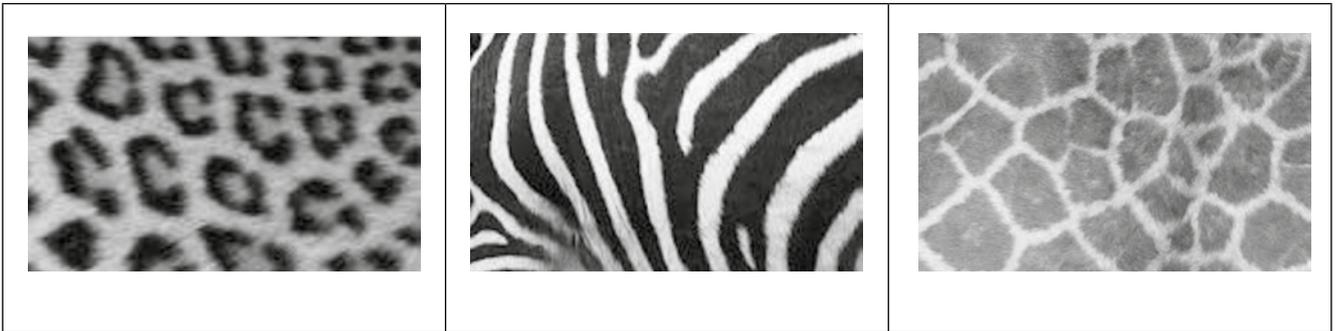
Single shape whole	A number of counters as the whole	What fraction of the counters have we found?	How many counters?
<p>a) Halves using a fraction circle</p> 	<p>Eight counters</p> 	<p>One half of the counters (four)</p>	<p>We have eight counters. One half of the counters is four counters.</p>
<p>b) Thirds using a fraction square</p> 	<p>Six counters</p> 	<p>One third of the counters (two)</p>	<p>We have six counters. One third of the counters is two counters.</p>
<p>c) Quarter using a fraction circle</p> 	<p>Eight counters</p> 	<p>One quarter of the counters (two)</p>	<p>We have eight counters. One quarter of the counters is two counters.</p>
<p>d) Fifths using a fraction rectangle</p> 	<p>Fifteen counters</p> 	<p>One fifth of the counters (three)</p>	<p>We have 15 counters. One fifth of the counters is three counters.</p>

14. Ithebula lamaqhezu (Isifundo 30)

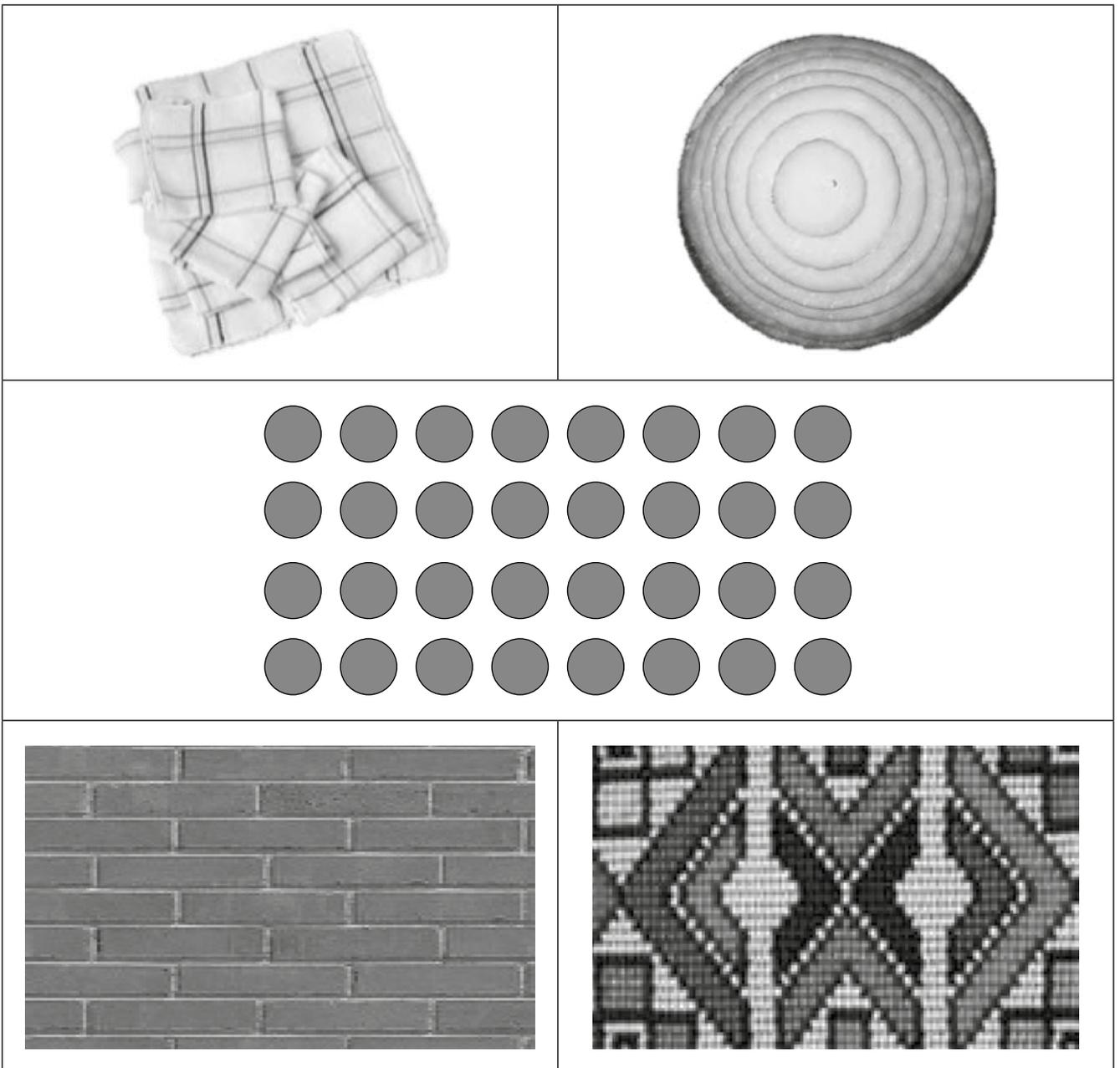
Umfanekiso owodwa ophelele	Inani eliphelele lezibali	Uthole iqhezu elinganani lezibali?	Zingaki izibali?
<p>a) Iqhezu lokubili usebenzisa amaqhezu endilinga</p> 	<p>Izibali eziyisishiyagalombili</p> 	<p>Iqhezu elilodwa lezibali (kune)</p>	<p>Sinezibali eziyisishiyagalombili. Iqhezu lokubili kwezibali yizibali ezine.</p>
<p>b) Iqhezu lokuthathu usebenzisa amaqhezu esikwele</p> 	<p>Izibali eziyisithupha</p> 	<p>Iqhezu lokuthathu lezibali (kubili)</p>	<p>Sinezibali eziyisithupha. Iqhezu lokuthathu kwezibali yizibali ezimbili.</p>
<p>c) Iqhezu lokwesine usebenzisa amaqhezu endilinga</p> 	<p>Izibali eziyisishiyagalombili</p> 	<p>Iqhezu lokwesine lezibali (kubili)</p>	<p>Sinezibali eziyisishiyagalombili. Iqhezu lokwesine kwezibali yizibali ezimbili.</p>
<p>d) Iqhezu lokwesihlanu usebenzisa amaqhezu kanxande</p> 	<p>Izibali eziyishumi nesihlanu</p> 	<p>Iqhezu lokwesihlanu lezibali (kuthathu)</p>	<p>Sinezibali eziyi-15. Iqhezu lokwesihlanu kwezibali yizibali ezintathu.</p>

15. Geometric patterns (Lesson 38)

Activity 1



Activity 2



2. Mental Mathematics Challenge Cards: Bilingual Version

Each term there will be a set of eight mental mathematics challenge cards. If you make them into cards and collect them over the course of the year, you will have a set of one card per teaching week for a year.

Use of the mental mathematics challenge cards

Once a week learners should do mental mathematics in written form, so that there is some record of your daily mental mathematics activities. You can use the **mental mathematics challenge cards** for this purpose.

Learners should not use concrete material to work out the answers in mental mathematics. If learners need to, let them use their fingers as a concrete aid during mental mathematics, but make a note of who they are and then spend time with them during remediation to help them with the basic number and operation skills. Mental mathematics skills improve hugely from Grade 1 to Grade 3. In Grade 1 learners might only manage five questions, especially when they have to write the answers, but by Grade 3 learners should manage ten questions with written answers easily.

Maths Challenge Card 1

Which is the smaller number?

Ikhadi Lenselelo Yezibalo 1

Iyiphi inombolo encane kunenye?

1. 17, 27
2. 31, 13
3. 11, 91
4. 84, 48
5. 36, 63
6. 23, 32
7. 46, 64
8. 87, 78
9. 99, 66
10. 77, 44

Maths Challenge Card 2

Which is the largest number?

Ikhadi Lenselelo Yezibalo 2

Iyiphi inombolo enkulu kunenye?

1. 99, 66
2. 48, 84
3. 36, 63
4. 64, 46
5. 97, 79
6. 54, 45
7. 39, 93
8. 37, 73
9. 88, 87
10. 10, 101

Maths Challenge Card 3

Which number is between:

Ikhadi Lenselelo Yezibalo 3

Iyiphi inombolo ephakathi kwalezi:

1. 62, 64
2. 73, 75
3. 90, 92
4. 87, 89
5. 69, 71
6. 28, 30
7. 77, 79
8. 96, 98
9. 88, 90
10. 59, 61

Maths Challenge Card 4

Solve:

Ikhadi Lenselelo Yezibalo 4

Xazulula:

1. $2 + 8 = \square + 7 = \square$
2. $15 + 3 = \square + 2 = \square$
3. $14 + 3 = \square + 5 = \square$
4. $18 + 4 = \square + 3 = \square$
5. $17 + 3 = \square + 5 = \square$
6. $11 + 8 = \square + 2 = \square$
7. $10 + 9 = \square + 6 = \square$
8. $3 + 11 = \square + 4 = \square$
9. $12 + 4 = \square + 3 = \square$
10. $13 + 6 = \square + 4 = \square$

Maths Challenge Card 1: Answers

Which is the smaller number?

Ikhadi Lenselelo Yezibalo 1: Izimpendulo

Iyiphi inombolo encane kunenye?

1. 17
2. 13
3. 11
4. 8
5. 36
6. 23
7. 46
8. 78
9. 66
10. 44

Maths Challenge Card 2: Answers

Which is the largest number?

Ikhadi Lenselelo Yezibalo 2: Izimpendulo

Iyiphi inombolo enkulu kunenye?

1. 99
2. 84
3. 63
4. 64
5. 97
6. 54
7. 93
8. 73
9. 88
10. 101

Maths Challenge Card 3: Answers

Which number is between:

Ikhadi Lenselelo Yezibalo 3: Izimpendulo

Iyiphi inombolo ephakathi kwalezi:

1. 63
2. 74
3. 91
4. 88
5. 70
6. 29
7. 78
8. 97
9. 89
10. 60

Maths Challenge Card 4: Answers

Solve:

Ikhadi Lenselelo Yezibalo 4: Izimpendulo

Xazulula:

1. 10, 17
2. 18, 20
3. 17, 22
4. 22, 25
5. 20, 25
6. 19, 21
7. 19, 25
8. 14, 18
9. 16, 19
10. 19, 23

Maths Challenge Card 5

What must I add to these numbers to get 20?

Ikhadi Lenselelo Yezibalo 5

Kumele ngengeze ngokungaki kulezi zinombolo ukuze ngithole ama-20?

1. 5
2. 11
3. 12
4. 8
5. 9
6. 13
7. 17
8. 18
9. 15
10. 19

Maths Challenge Card 6

4 more than:

Ikhadi Lenselelo Yezibalo 6

Okuningi ngoku-4 kunalakhu:

1. 15
2. 8
3. 7
4. 16
5. 14
6. 13
7. 12
8. 10
9. 1
10. 17

Maths Challenge Card 7

3 less than:

Ikhadi Lenselelo Yezibalo 7

Okuncane ngoku-3 kunalokhu:

1. 18
2. 7
3. 11
4. 4
5. 18
6. 12
7. 15
8. 16
9. 13
10. 17

Maths Challenge Card 8

Complete:

Ikhadi Lenselelo Yezibalo 8

Qedela:

1. 24, 22, 20, ____, ____, ____
2. 16, 18, 20, ____, ____, ____
3. 30, 40, ____, ____, ____
4. ____, ____, ____, 40, 50, 60
5. 15, 20, 25, ____, ____, ____
6. 30, 25, ____, ____, ____
7. 3, 6, 9, ____, ____, ____
8. 20, 16, 12, ____, ____, ____
9. 70, 75, ____, ____, ____
10. 100, 95, ____, ____, ____

Maths Challenge Card 5: Answers

What must I add to these numbers to get 20?

Ikhadi Lenselelo Yezibalo 5: Izimpendulo

Kumele ngengeze ngokungaki kulezi zinombolo ukuze ngithole ama-20?

1. 15
2. 9
3. 8
4. 12
5. 11
6. 7
7. 3
8. 2
9. 5
10. 1

Maths Challenge Card 6: Answers

4 more than:

Ikhadi Lenselelo Yezibalo 6: Izimpendulo

Okuningi ngoku-4 kunalokhu:

1. 19
2. 12
3. 11
4. 20
5. 18
6. 17
7. 16
8. 14
9. 5
10. 21

Maths Challenge Card 7: Answers

3 less than:

Ikhadi Lenselelo Yezibalo 7: Izimpendulo

Okuncane ngoku-3 kunalokhu:

1. 15
2. 4
3. 8
4. 1
5. 15
6. 9
7. 12
8. 13
9. 10
10. 14

Maths Challenge Card 8: Answers

Complete:

Ikhadi Lenselelo Yezibalo 8: Izimpendulo

Qedela:

1. 18, 16, 14
2. 22, 24, 26
3. 50, 60, 70
4. 10, 20, 30
5. 30, 35, 40
6. 20, 15, 10
7. 12, 15, 18
8. 8, 4, 0
9. 80, 85, 90
10. 90, 85, 80

3. Enrichment Activity Cards: English Version

Each term a set of new enrichment cards will be provided. You should retain this set, as they will not be reproduced each term.

Use of the enrichment activity cards

Optional as required.

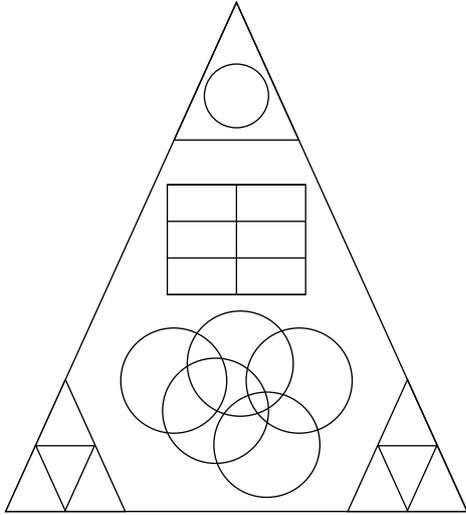
These cards include activities that you can use for enrichment opportunities for learners who have completed the lesson activities ahead of the rest of the class. Learners should work on these cards independently or with their peers who have also completed the classwork. You may need to explain some of the activities to the learners who use them. You should remind them to ask you questions about any of the enrichment activities that they are doing, so that you can guide them as necessary.

You should photocopy the enrichment cards, paste them onto cardboard and laminate them (if possible), so that they can be used as a resource, not only this year but in the future as well.

Put the laminated cardboard cards into a box in a set place in your classroom, so that learners know where to find them. These cards are for all learners and do not have to be used in a particular order. Learners should keep a record of the cards that they have done, so that they continue to choose a new card each time they go to the box. Learners must be taught to replace the cards in numeric order in the box, so that everyone who looks for cards can easily find the one they want to use.

Enrichment Activity 4.1

Count the different shapes?



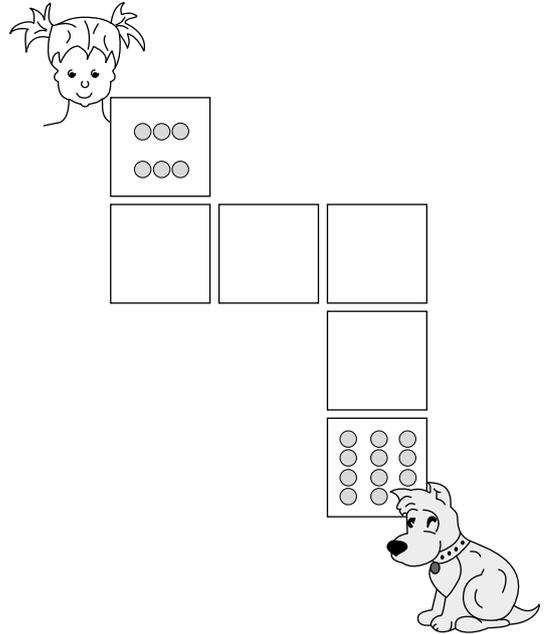
How many \triangle are there? _____

How many \square are there? _____

How many \bigcirc are there? _____

Enrichment Activity 4.2

Help Sarah to find her lost dog by filling in the correct number of dots on each counter.



Enrichment Activity 4.3

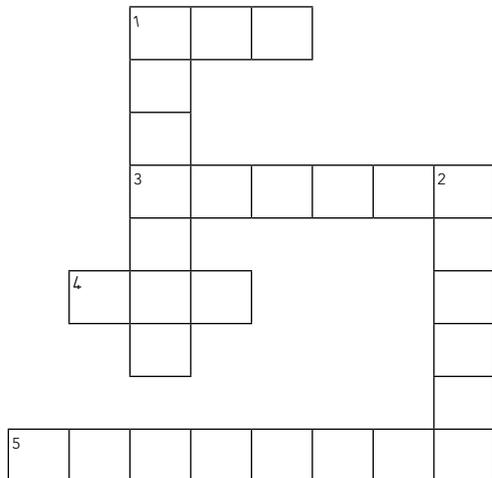
Work out the sums and complete the crossword puzzle by filling in the number names:

Down

1. $4 \times 4 =$
2. $6 + 5 =$

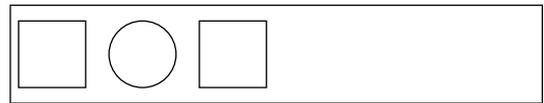
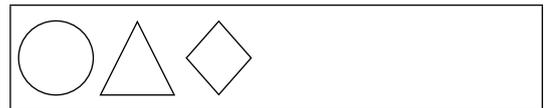
Across

1. $3 \times 2 =$
3. $6 \times 2 =$
4. $5 \times 2 =$
5. $12 + 7 =$



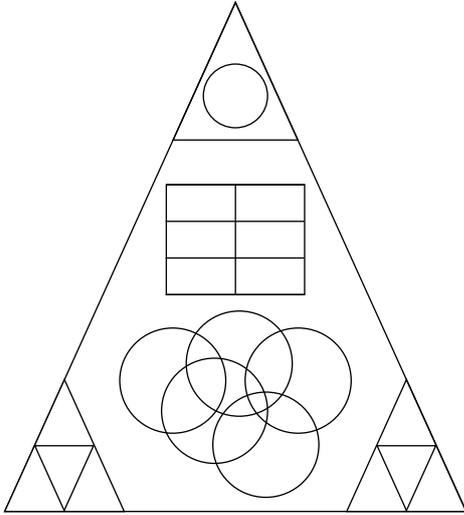
Enrichment Activity 4.4

Complete the following patterns.



Enrichment Activity 4.1: Answers

Count the different shapes?



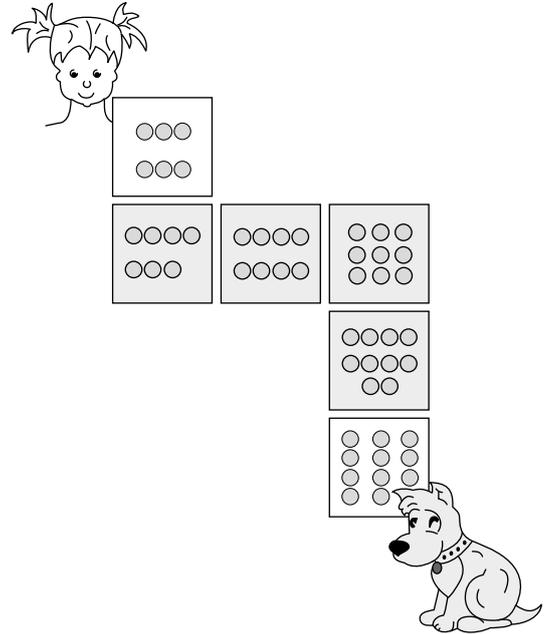
How many \triangle are there? (12)

How many \square are there? (14)

How many \circ are there? (6)

Enrichment Activity 4.2: Answers

Help Sarah to find her lost dog by filling in the correct number of dots on each counter.



Enrichment Activity 4.3: Answers

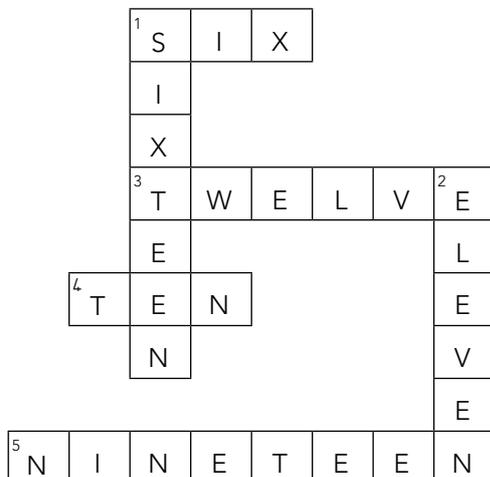
Work out the sums and complete the crossword puzzle by filling in the number names:

Down

- $4 \times 4 =$
- $6 + 5 =$

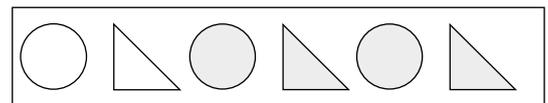
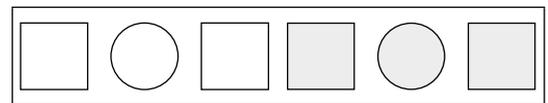
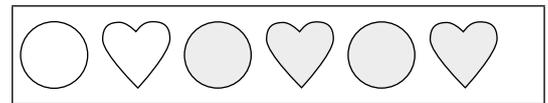
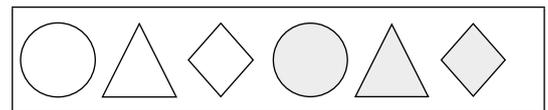
Across

- $3 \times 2 =$
- $6 \times 2 =$
- $5 \times 2 =$
- $12 + 7 =$



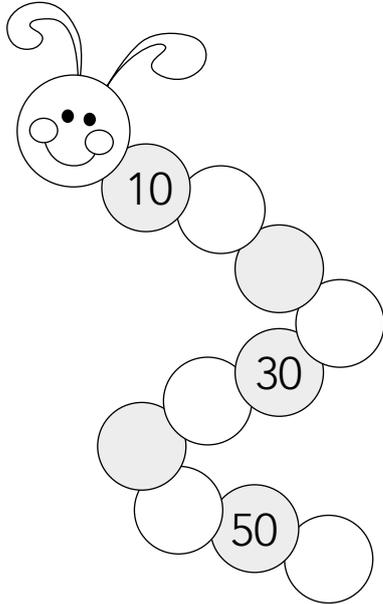
Enrichment Activity 4.4: Answers

Complete the following patterns.



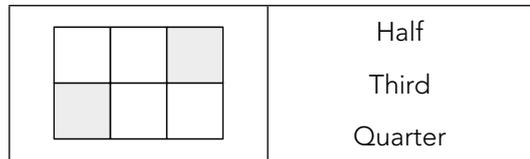
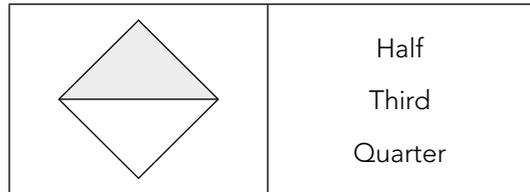
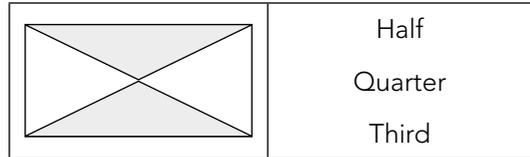
Enrichment Activity 4.5

Figure out the pattern to complete the worm.



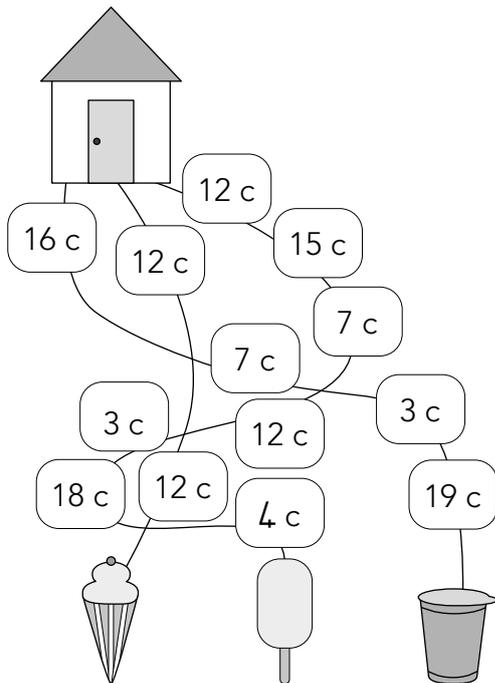
Enrichment Activity 4.6

What fraction of the shape is coloured?
Choose the correct answer.



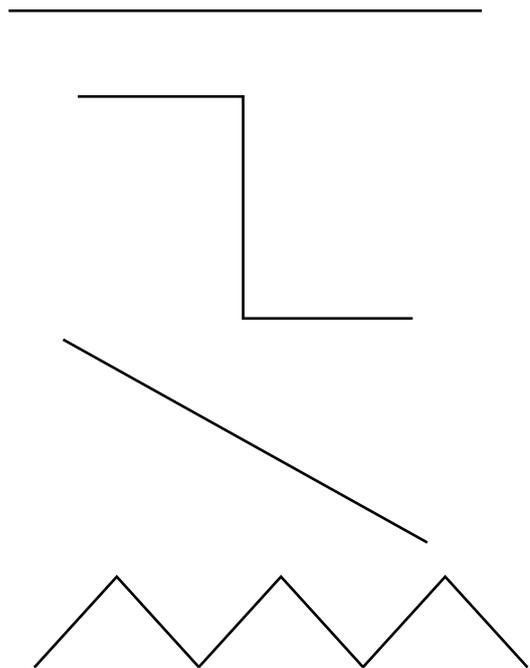
Enrichment Activity 4.7

Follow the paths and then circle the ice-cream that is the cheapest.



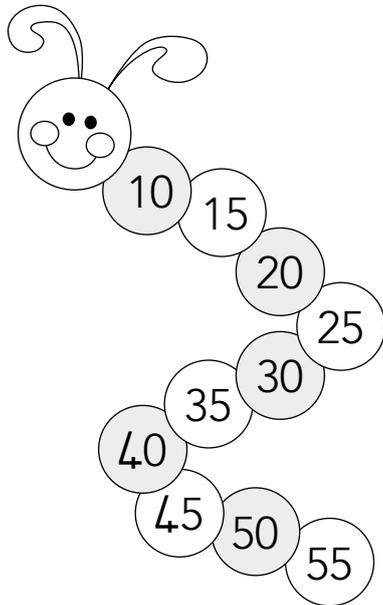
Enrichment Activity 4.8

Circle the line that is the longest. You may use a ruler to measure the lines.



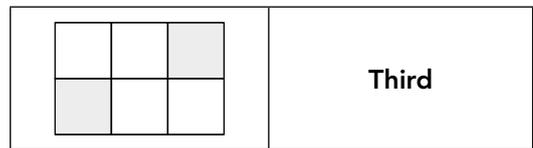
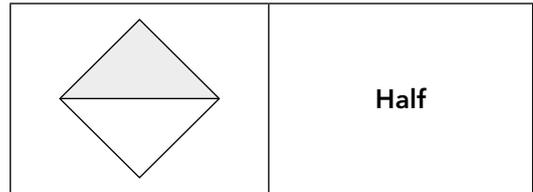
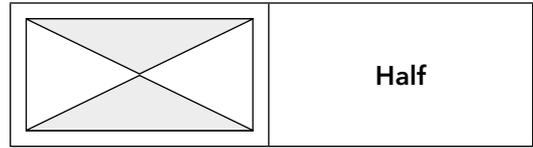
Enrichment Activity 4.5: Answers

Figure out the pattern to complete the worm.



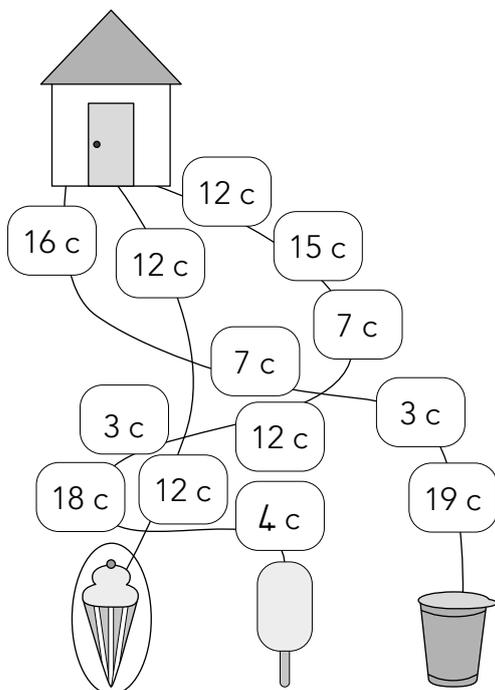
Enrichment Activity 4.6: Answers

What fraction of the shape is coloured?
Choose the correct answer.



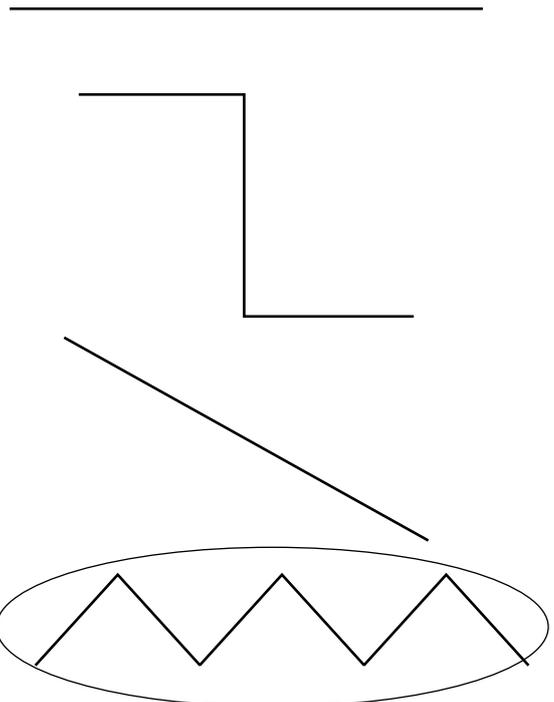
Enrichment Activity 4.7: Answers

Follow the paths and then circle the ice-cream that is the cheapest.



Enrichment Activity 4.8: Answers

Circle the line that is the longest. You may use a ruler to measure the lines.

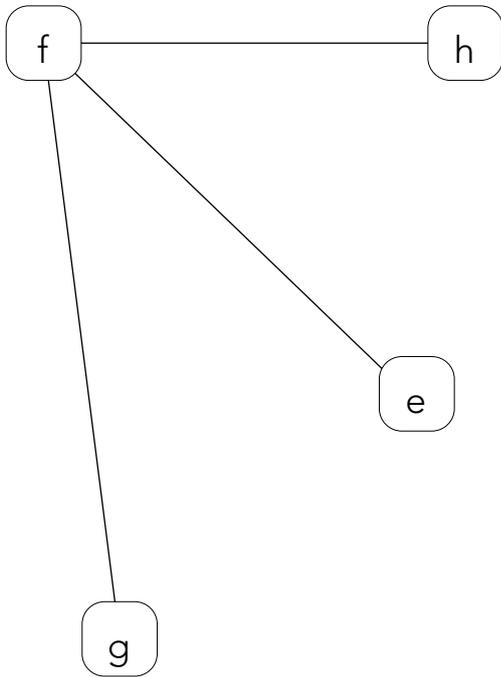


Enrichment Activity 4.9

Which line will be the longest?

Circle your answer.

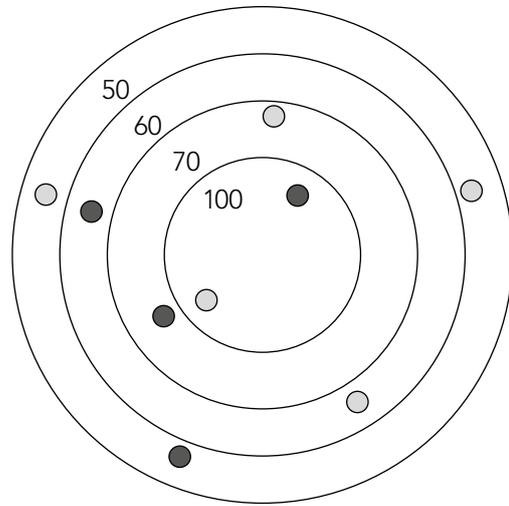
E to F; F to G; or F to H?



Enrichment Activity 4.10

Jane and Jake are playing marbles.

Add their scores to see who is winning.

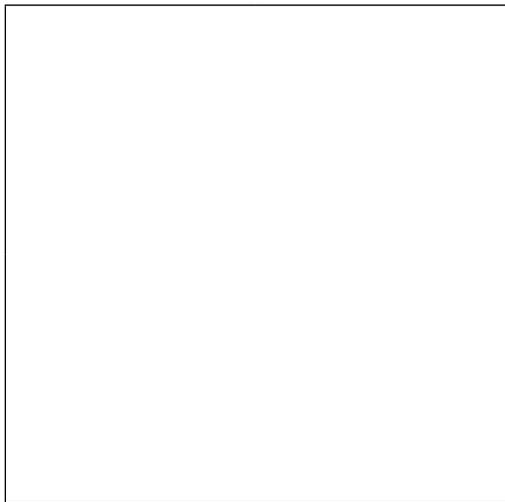


● Jane _____

○ Jake _____

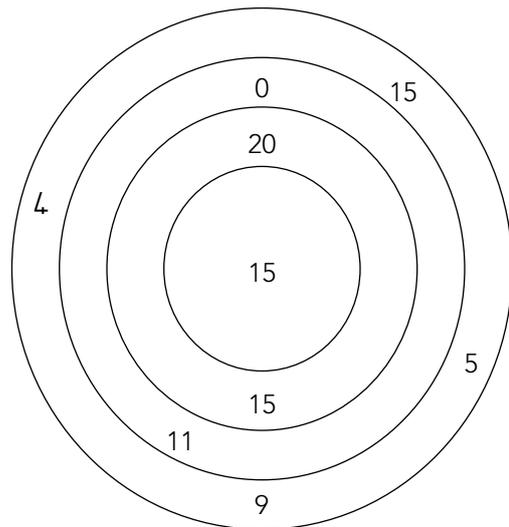
Enrichment Activity 4.11

Divide this square into 6 smaller rectangles.



Enrichment Activity 4.12

Use the numbers and figure out how many sums you can make with 20 as the answer.

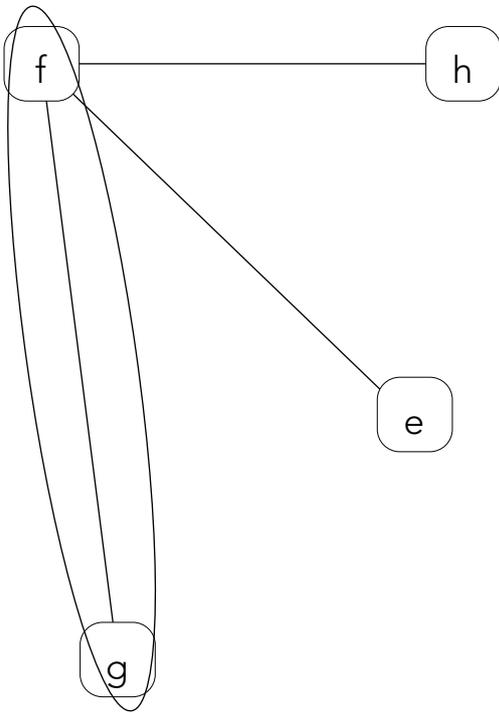


Enrichment Activity 4.9: Answers

Which line will be the longest?

Circle your answer.

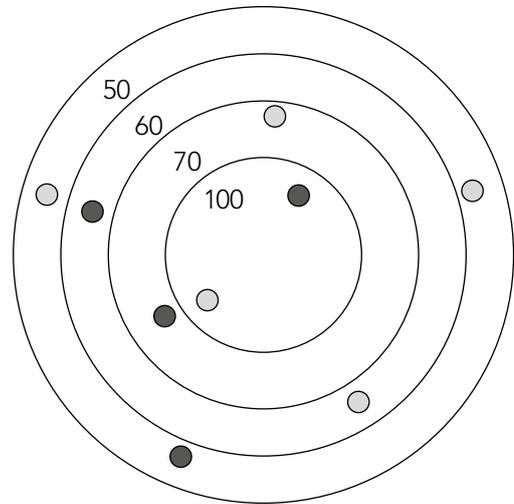
E to F; F to G; or F to H?



Enrichment Activity 4.10: Answers

Jane and Jake are playing marbles.

Add their scores to see who is winning.

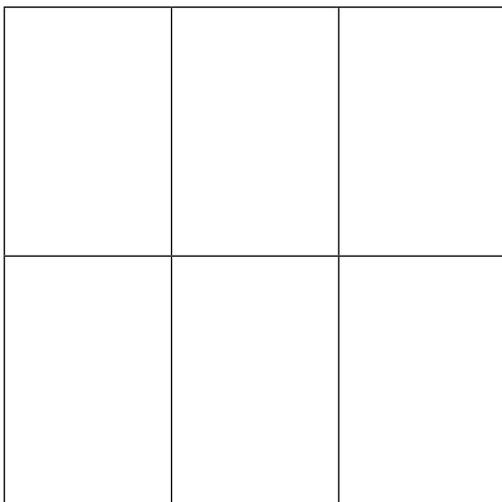


● Jane (350)

○ Jake (330)

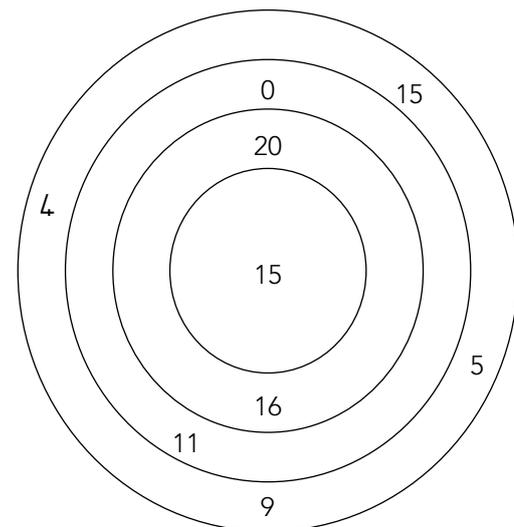
Enrichment Activity 4.11: Answers

Divide this square into 6 smaller rectangles.



Enrichment Activity 4.12: Answers

Use the numbers and figure out how many sums you can make with 20 as the answer.



You can make 4 sums:

$20 + 0$, $15 + 5$, $11 + 9$, $16 + 4$

Enrichment Activity 4.13

Match the problems in Block A with the answers in Block B.

Block A	Block B
$5 \times 4 =$	40
$20 \times 2 =$	18
$16 + 3 =$	0
$12 + 6 =$	63
$60 + 3 =$	23
$10 \times 7 =$	28
$40 \times 0 =$	70
$27 + 1 =$	20
$14 + 9 =$	19

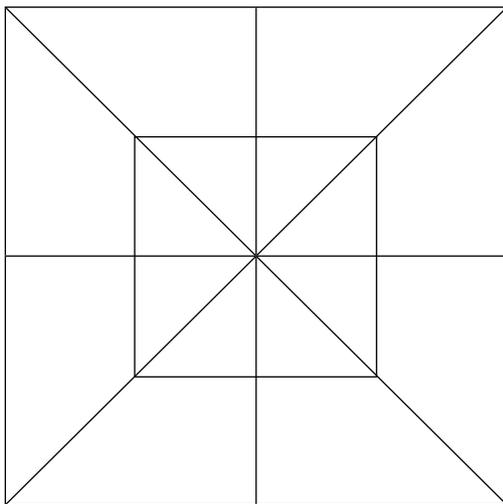
Enrichment Activity 4.14

Try to work out the sums in these blocks.

+	8	1	50
2			
4			
6			
8			
10			

Enrichment Activity 4.15

How many \triangle do you see?



12 Triangles

26 Triangles

33 Triangles

20 Triangles

Enrichment Activity 4.16

Match the numbers with the number names.

Numbers	Number names
20	Twelve
10	Nineteen
90	Twenty
19	Ninety
12	Ten
14	Forty
40	Fourteen

Enrichment Activity 4.13: Answers

Match the problems in Block A with the answers in Block B.

Block A	Block B
$5 \times 4 =$	40
$20 \times 2 =$	18
$16 + 3 =$	0
$12 + 6 =$	63
$60 + 3 =$	23
$10 \times 7 =$	28
$40 \times 0 =$	70
$27 + 1 =$	20
$14 + 9 =$	19

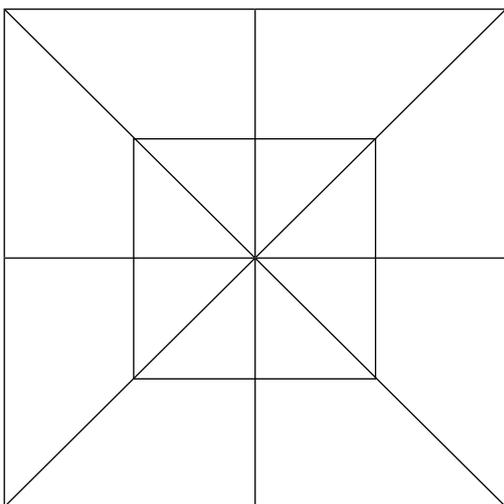
Enrichment Activity 4.14: Answers

Try to work out the sums in these blocks.

+	8	1	50
2	10	3	52
4	12	5	54
6	14	7	56
8	16	9	58
10	18	11	60

Enrichment Activity 4.15: Answers

How many \triangle do you see?



26 Triangles

Enrichment Activity 4.16: Answers

Match the numbers with the number names.

Numbers	Number names
20	Twenty
10	Ten
90	Ninety
19	Nineteen
12	Twelve
14	Fourteen
40	Forty

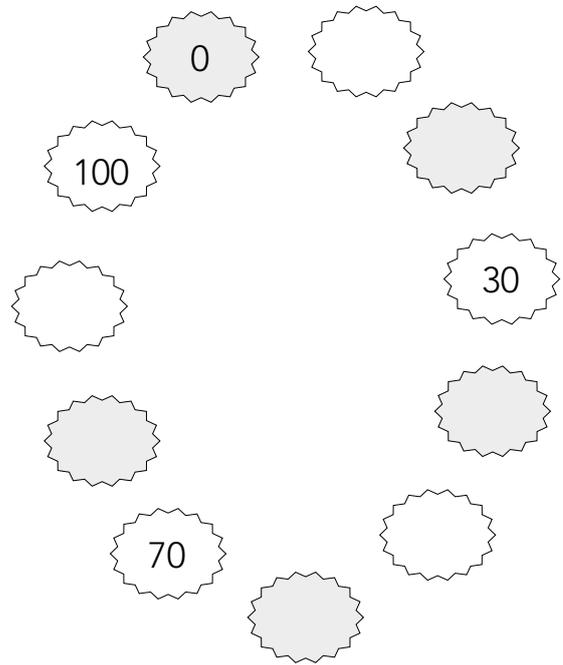
Enrichment Activity 4.17

Complete the table by working out the sums.

x	5	4	2
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Enrichment Activity 4.18

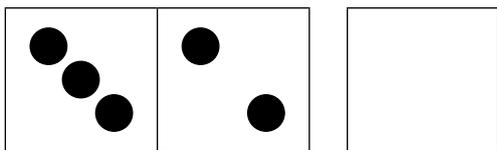
Complete the pattern.



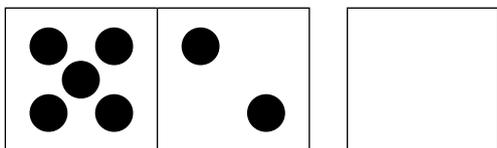
Enrichment Activity 4.19

Multiply the dots on the dominoes and fill in the answers.

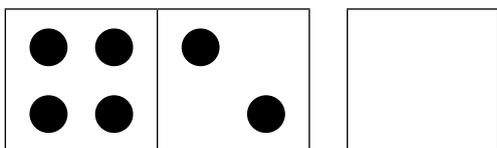
How much will it be?



How much will it be?

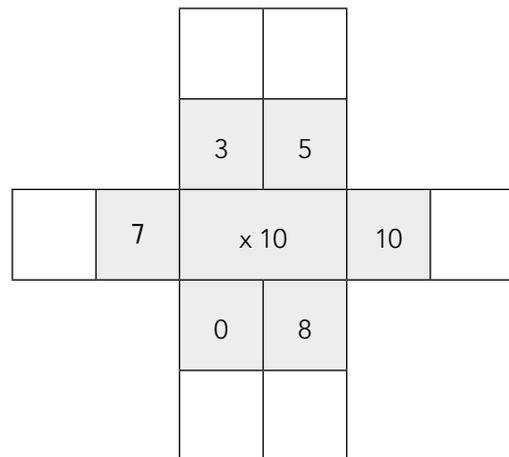


How much will it be?



Enrichment Activity 4.20

Multiply the inner number with the outer numbers.



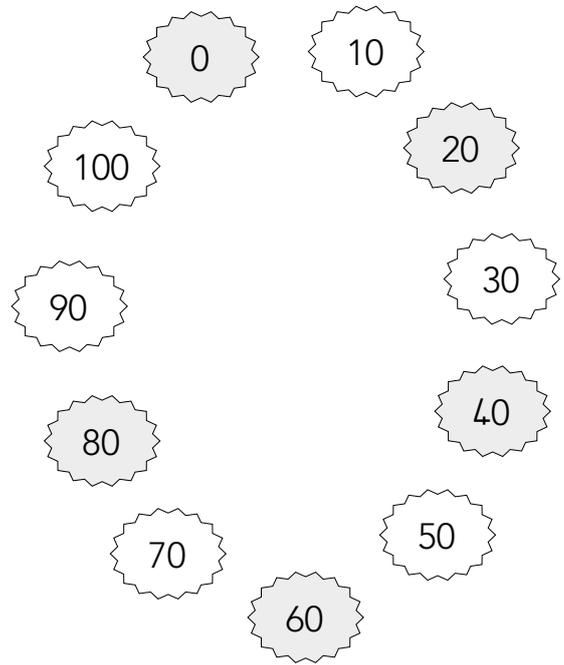
Enrichment Activity 4.17: Answers

Complete the table by working out the sums.

x	5	4	2
1	5	4	3
2	10	8	4
4	15	7	12
4	20	16	8
5	25	20	10
6	30	24	12
7	35	28	14
8	40	32	16
9	45	36	18
10	50	40	20

Enrichment Activity 4.18: Answers

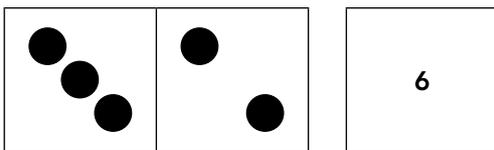
Complete the pattern.



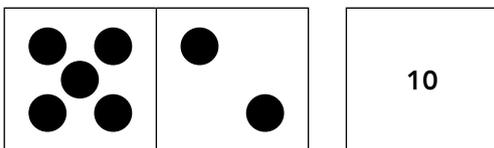
Enrichment Activity 4.19: Answers

Multiply the dots on the dominoes and fill in the answers.

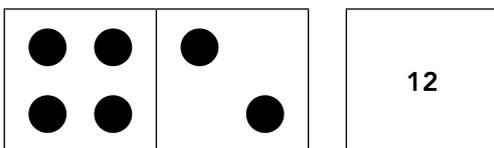
How much will it be?



How much will it be?

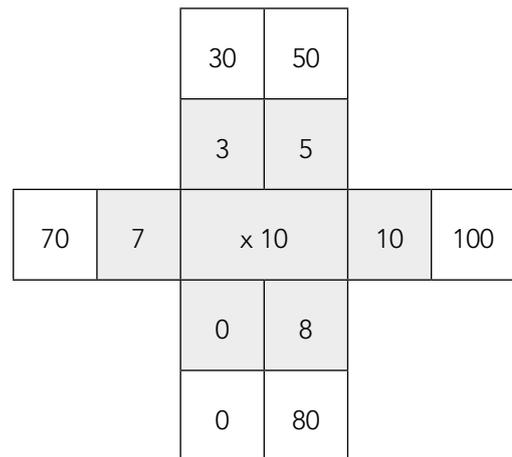


How much will it be?



Enrichment Activity 4.20: Answers

Multiply the inner number with the outer numbers.



Enrichment Activity 4.21

Calculate the following and draw a line to the answer.

$$14 + 1 =$$

20

$$13 + 20 =$$

15

$$17 + 3 =$$

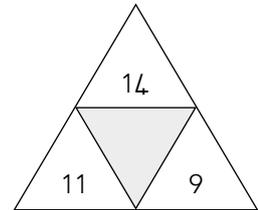
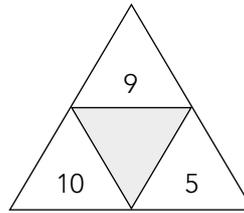
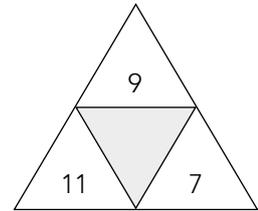
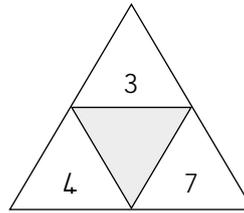
26

$$19 + 7 =$$

33

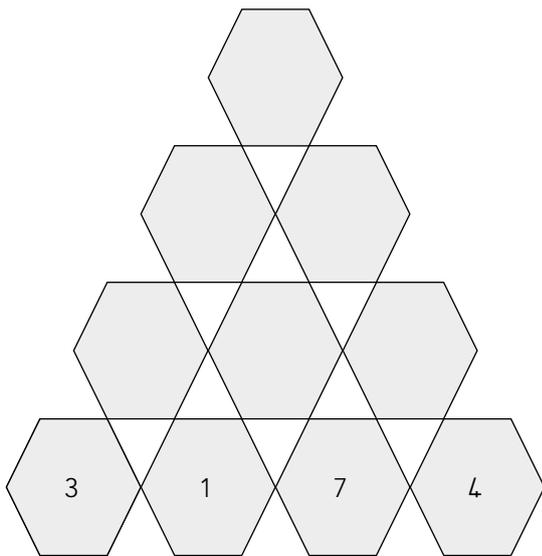
Enrichment Activity 4.22

Add the numbers to find the number in the middle.



Enrichment Activity 4.23

The number in each hexagon is made up by adding the numbers in the two hexagons below it. Calculate the missing numbers.



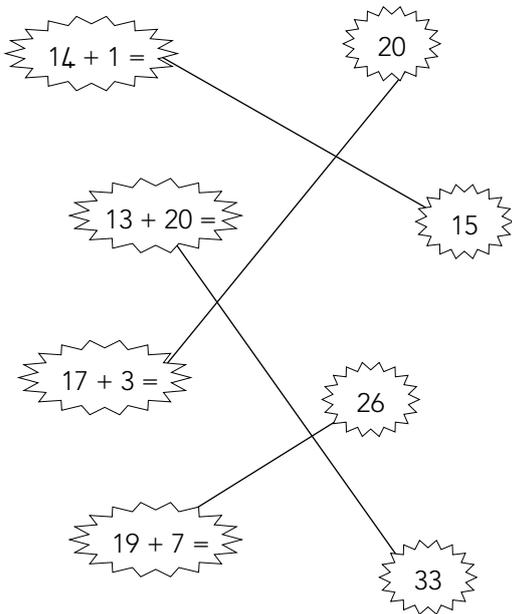
Enrichment Activity 4.24

Calculate each row of the puzzle. Fill in the answers. Calculate each column of the puzzle.

14	+	2	=	
+		+		+
3	+	7	=	
=		=		=
	+		=	

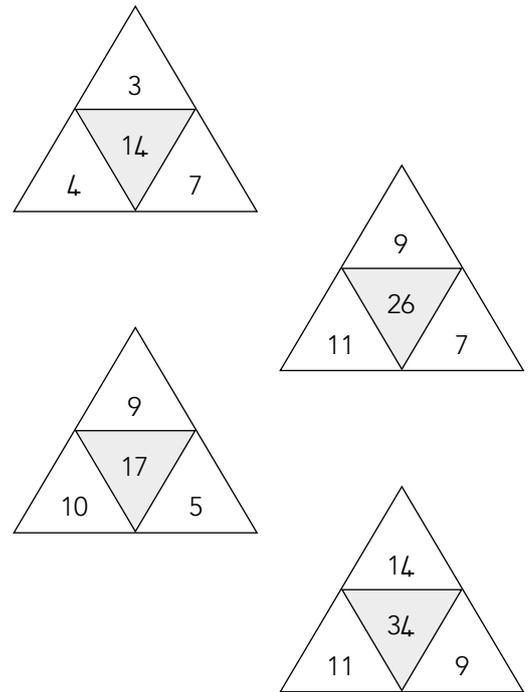
Enrichment Activity 4.21: Answers

Calculate the following and draw a line to the answer.



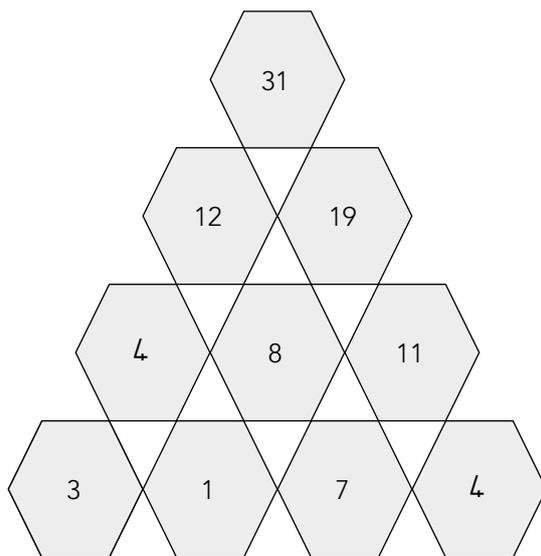
Enrichment Activity 4.22: Answers

Add the numbers to find the number in the middle.



Enrichment Activity 4.23: Answers

The number in each hexagon is made up by adding the numbers in the two hexagons below it. Calculate the missing numbers.



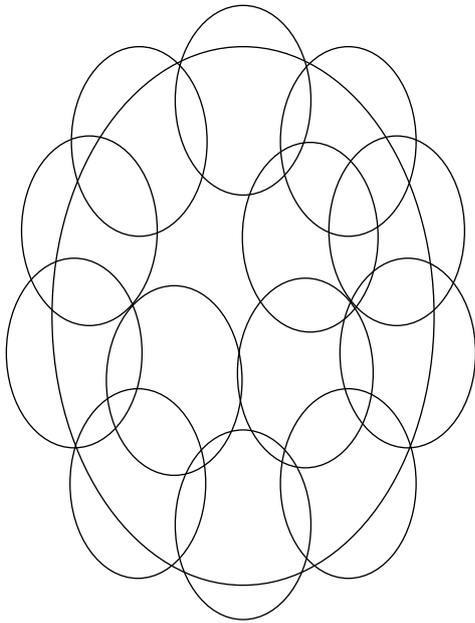
Enrichment Activity 4.24: Answers

Calculate each row of the puzzle. Fill in the answers. Calculate each column of the puzzle.

14	+	2	=	16
+		+		+
3	+	7	=	10
=		=		=
17	+	9	=	26

Enrichment Activity 4.25

How many ovals do you see?



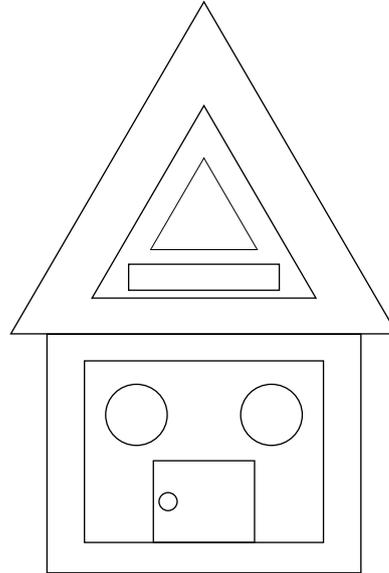
12 24 14

Enrichment Activity 4.26

Colour all the  red.

Colour all the  yellow.

Colour all the  blue.



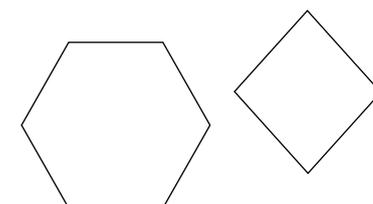
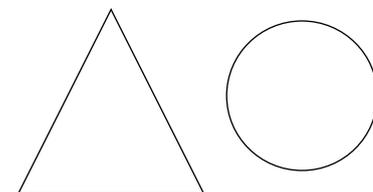
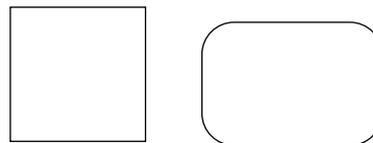
Enrichment Activity 4.27

Name the different shapes.



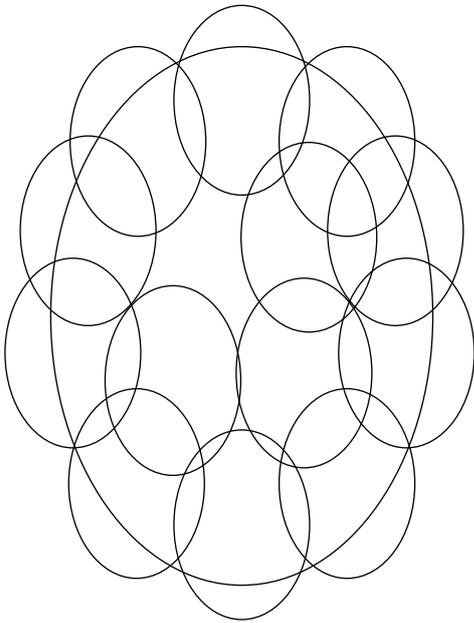
Enrichment Activity 4.28

Use these shapes and draw something that you like.



Enrichment Activity 4.25: Answers

How many ovals do you see?



12

24

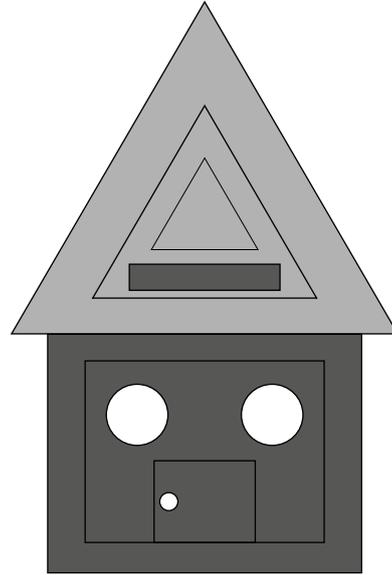
14

Enrichment Activity 4.26: Answers

Colour all the  red.

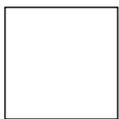
Colour all the  yellow.

Colour all the  blue.

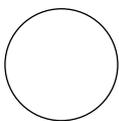


Enrichment Activity 4.27: Answers

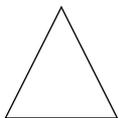
Name the different shapes.



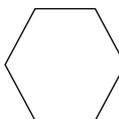
Square



Circle



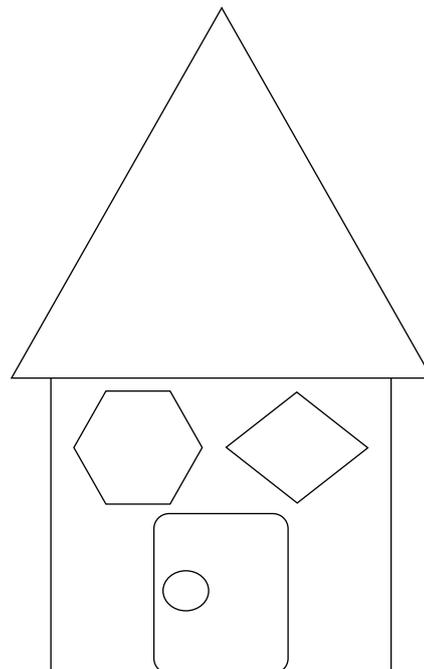
Triangle



Hexagon

Enrichment Activity 4.28: Answers

Use these shapes and draw something that you like.



Enrichment Activity 4.29

Add each row of numbers to get an answer.

Grid structure:

=				=
3			5	
	7	19	2	
	8		1	
=	0		7	=

Enrichment Activity 4.30

Write the number names for each of the following numbers.

8	
2	
3	
7	
9	
10	
15	
12	
30	
25	
100	

Enrichment Activity 4.31

Count and draw 10 more counters on the right hand side.

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--	--

Enrichment Activity 4.32

Which number is bigger?
Circle the bigger number.

- 10 or 100
- 12 or 21
- 15 or 51
- 16 or 61
- 31 or 13
- 17 or 72
- 20 or 21
- 52 or 25
- 10 or 1

Enrichment Activity 4.29: Answers

Add each row of numbers to get an answer.

29						26
=						=
	3				5	
		7		2		
			19			
		8		1		
	0				7	
=						=
27						27

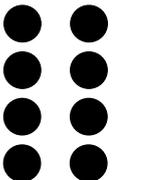
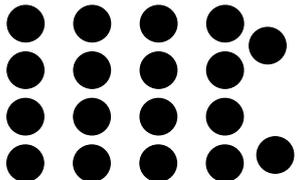
Enrichment Activity 4.30: Answers

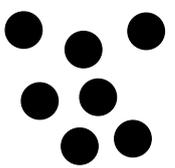
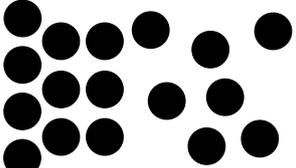
Write the number names for each of the following numbers.

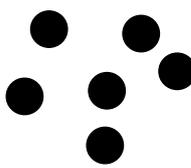
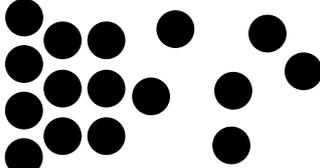
8	eight
2	two
3	three
7	seven
9	nine
10	ten
15	fifteen
12	twelve
30	thirty
25	twenty five
100	one hundred

Enrichment Activity 4.31: Answers

Add 10 and draw your answer on the right hand side.

	
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Enrichment Activity 4.32: Answers

Which number is bigger?
Circle the bigger number.

- | | | |
|------|----|-------|
| 10 | or | (100) |
| 12 | or | (21) |
| 15 | or | (51) |
| 16 | or | (61) |
| (31) | or | 13 |
| 17 | or | (72) |
| 20 | or | (21) |
| (52) | or | 25 |
| (10) | or | 1 |

4. Enrichment Activity Cards: isiZulu Version

Each term a set of new enrichment cards will be provided. You should retain this set, as they will not be reproduced each term.

Use of the enrichment activity cards

Optional as required.

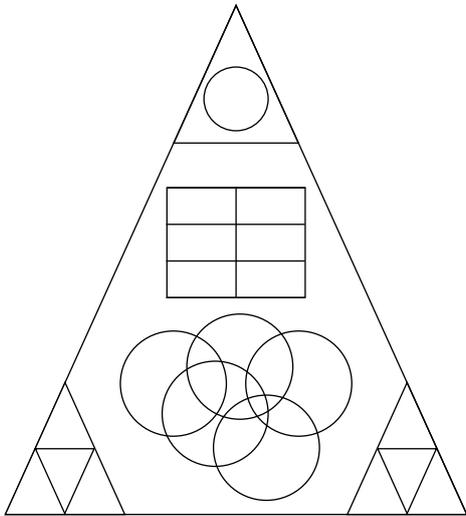
These cards include activities that you can use for enrichment opportunities for learners who have completed the lesson activities ahead of the rest of the class. Learners should work on these cards independently or with their peers who have also completed the classwork. You may need to explain some of the activities to the learners who use them. You should remind them to ask you questions about any of the enrichment activities that they are doing, so that you can guide them as necessary.

You should photocopy the enrichment cards, paste them onto cardboard and laminate them (if possible), so that they can be used as a resource, not only this year but in the future as well.

Put the laminated cardboard cards into a box in a set place in your classroom, so that learners know where to find them. These cards are for all learners and do not have to be used in a particular order. Learners should keep a record of the cards that they have done, so that they continue to choose a new card each time they go to the box. Learners must be taught to replace the cards in numeric order in the box, so that everyone who looks for cards can easily find the one they want to use.

Umsebenzi Wokubakhulisa 4.1

Bala izimo ezahlukahlukene?



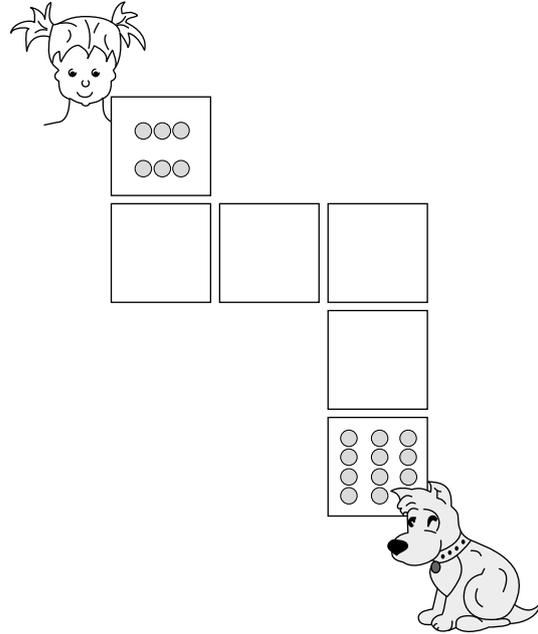
Kungaki \triangle lokhu? _____

Kungaki \square lokhu? _____

Kungaki \circ lokhu? _____

Umsebenzi Wokubakhulisa 4.2

Siza uSara atholeinja yakhe elahlekile ngokugcwalisa inombolo efanele yamachashazi esibalini ngasinye.



Umsebenzi Wokubakhulisa 4.3

Xazulula izinkinga futhi ugcalise isiphicamagama ngokufaka amagama enombolo:

Phansi

1. $4 \times 4 =$

2. $6 + 5 =$

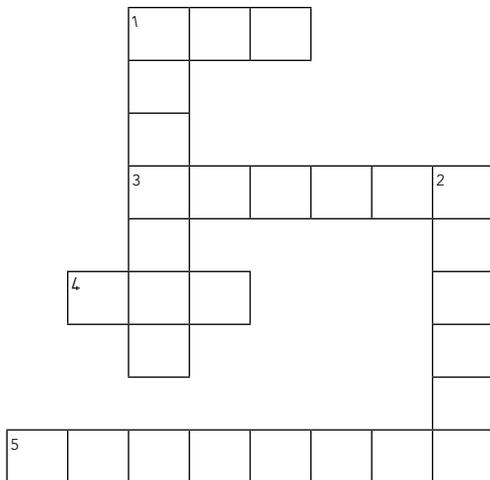
Ukuvundla

1. $3 \times 2 =$

3. $6 \times 2 =$

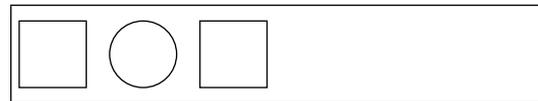
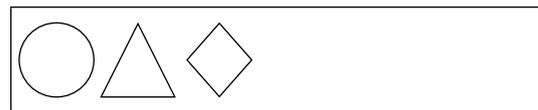
4. $5 \times 2 =$

5. $12 + 7 =$



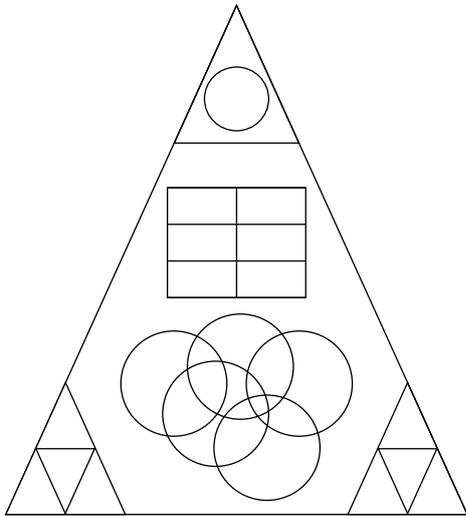
Umsebenzi Wokubakhulisa 4.4

Qedela la maphethini alandelayo.



Umsebenzi Wokubakhulisa 4.1: Izimpendulo

Bala izimo ezahlukahlukene?



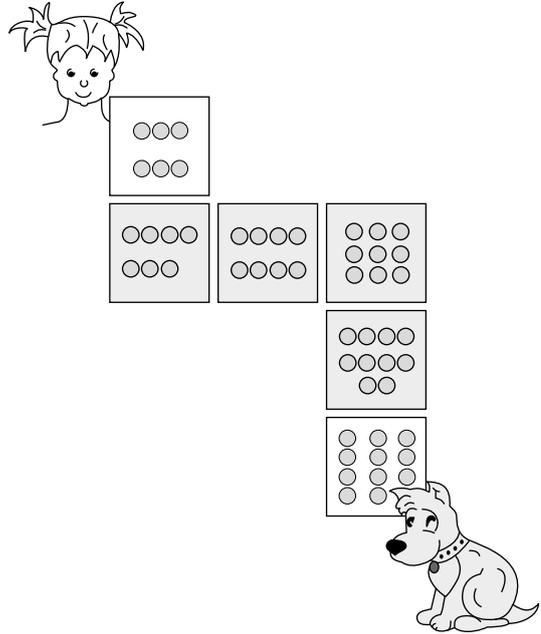
Kungaki \triangle lokhu? (12)

Kungaki \square lokhu? (14)

Kungaki \circ lokhu? (6)

Umsebenzi Wokubakhulisa 4.2: Izimpendulo

Siza uSara atholeinja yakhe elahlekile ngokugcwalisa inombolo efanele yamachashazi esibalini ngasinye.



Umsebenzi Wokubakhulisa 4.3: Izimpendulo

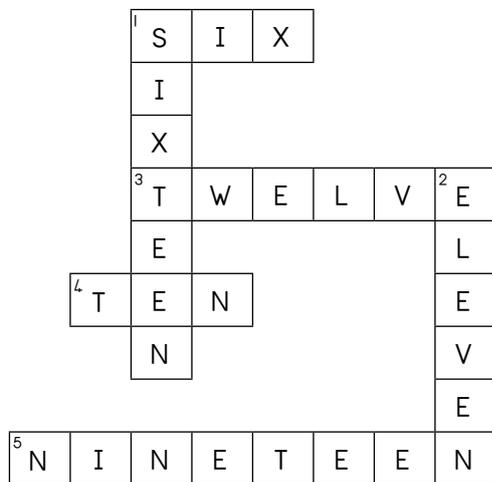
Xazulula izinkinga futhi ugqwalise isiphicamagama ngokufaka amagama enombolo:

Phansi

1. $4 \times 4 =$
2. $6 + 5 =$

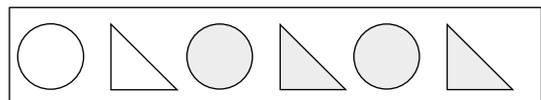
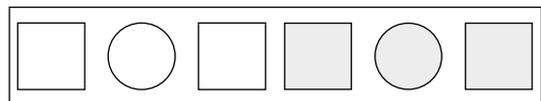
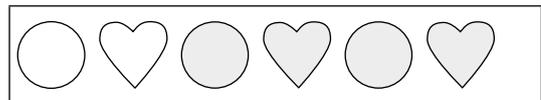
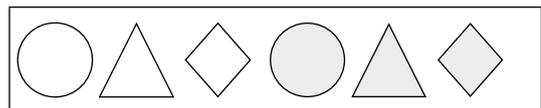
Ukuvundla

1. $3 \times 2 =$
3. $6 \times 2 =$
4. $5 \times 2 =$
5. $12 + 7 =$



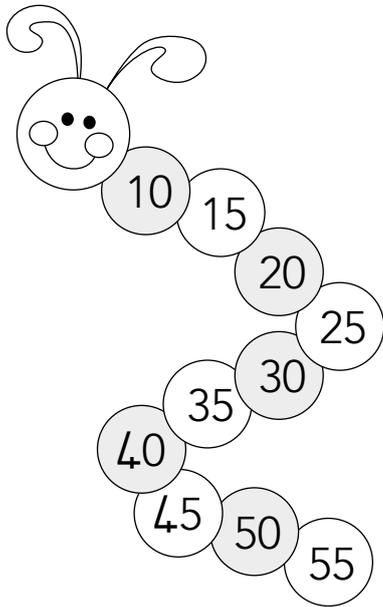
Umsebenzi Wokubakhulisa 4.4: Izimpendulo

Qedela la maphethini alandelayo.



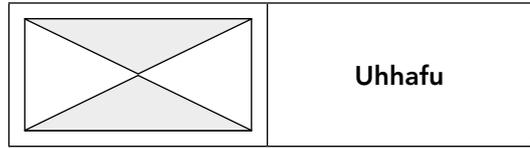
Umsebenzi Wokubakhulisa 4.5: Izimpendulo

Qagela iphethini uqedele isibungu.

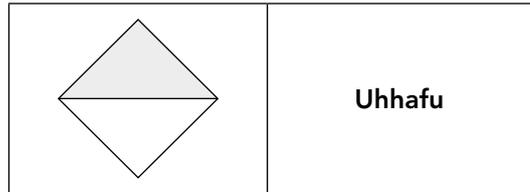


Umsebenzi Wokubakhulisa 4.6: Izimpendulo

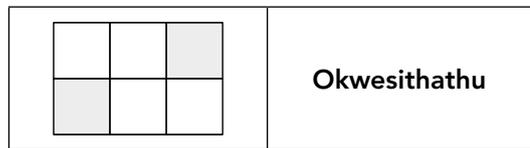
Yisiphi isimo noma izimo ezifakwe imibala?
Khetha impendulo efanele



Uhhafu



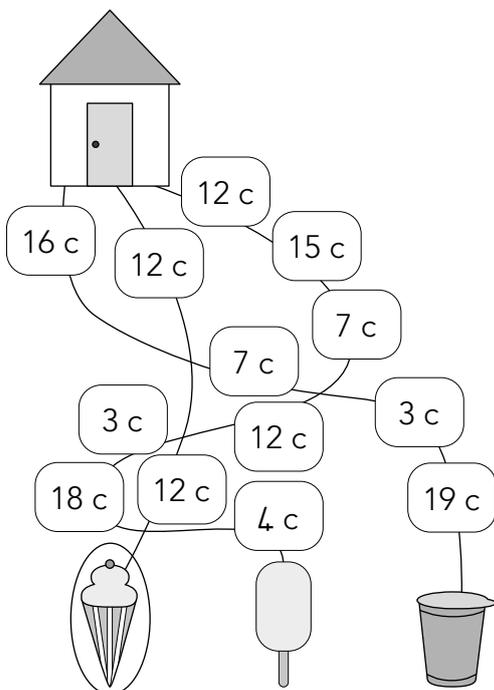
Uhhafu



Okwesithathu

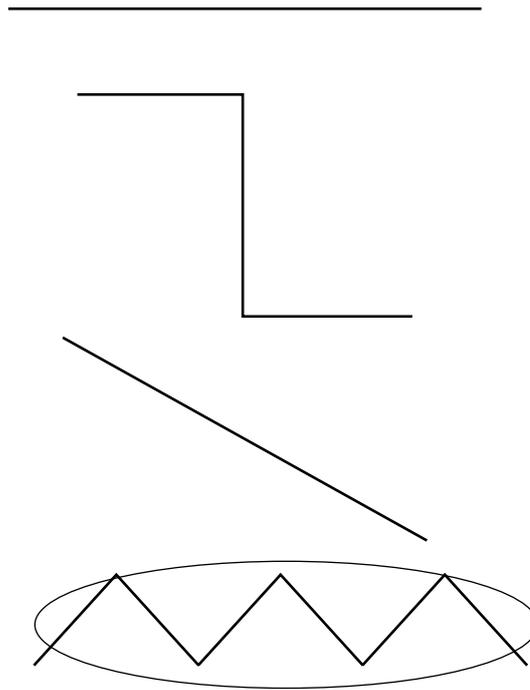
Umsebenzi Wokubakhulisa 4.7: Izimpendulo

Landela izindlela bese ukokeleza i-ayisikhilimu ebiza kancane kunabo bonke.



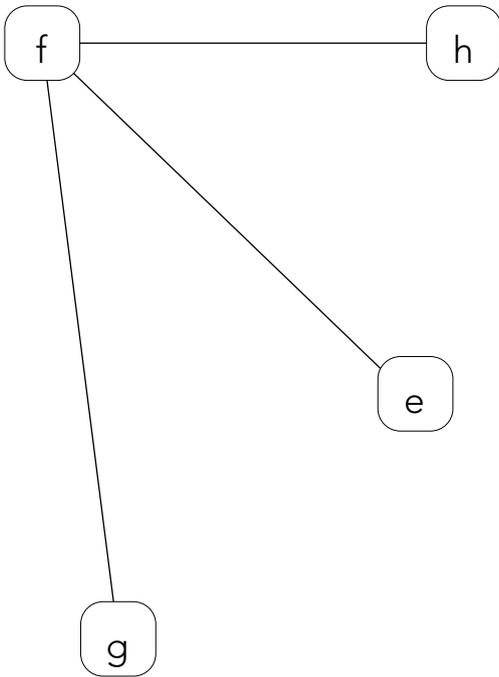
Umsebenzi Wokubakhulisa 4.8: Izimpendulo

Kokelezela umugqa omude kunayo yonke.
Ungalisebenzisa manje irula ukukala imigqa.



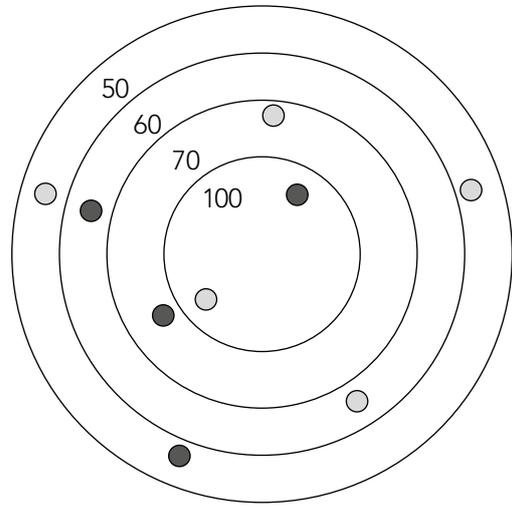
Umsebenzi Wokubakhulisa 4.9

Yimuphi umugqa ozoba mude kunayo yonke. E kuya ku-F noma F kuya ku-G noma F kuya ku-H?



Umsebenzi Wokubakhulisa 4.10

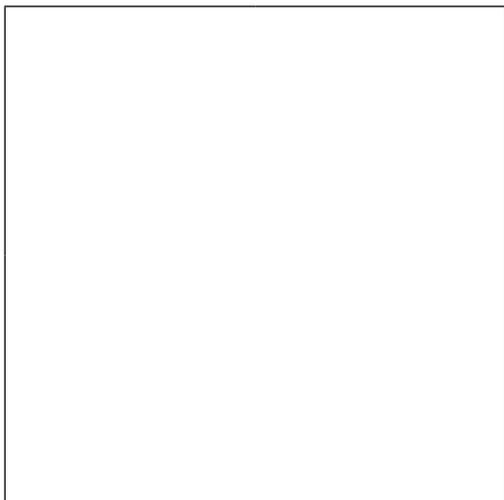
uJane noJake badlala izimabule. Hlanganisa amaphuzu abawazuzile uthole ukuthi ngubani onqobayo.



● UJane _____ ● UJake _____

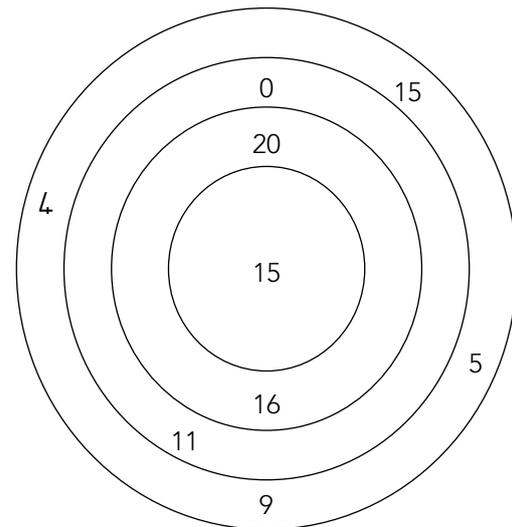
Umsebenzi Wokubakhulisa 4.11

Hlukanisa lesi sikwele sibe yizikwele ezincane ezi-6.



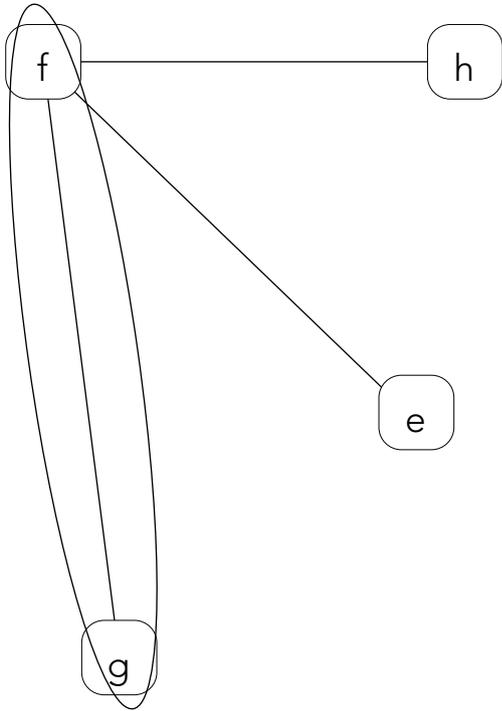
Umsebenzi Wokubakhulisa 4.12

Sebenzisa izinombolo ukubona ukuthi zingaki izibalo ongazakha ngempendulo engama-20.



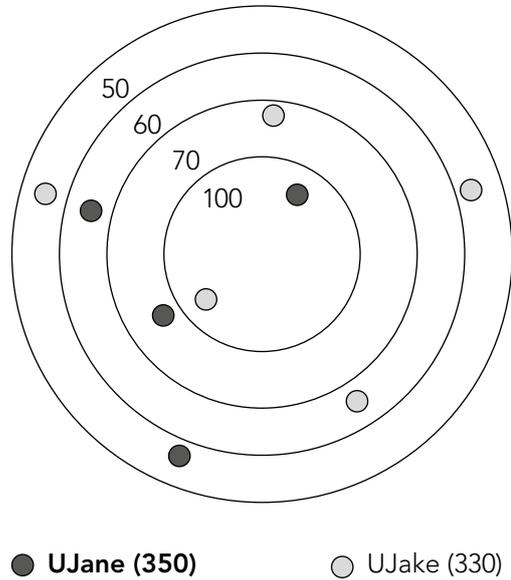
Umsebenzi Wokubakhulisa 4.9: Izimpendulo

Yimuphi umugqa ozoba mude kunayo yonke. E kuya ku-F noma F kuya ku-G noma F kuya ku-H?



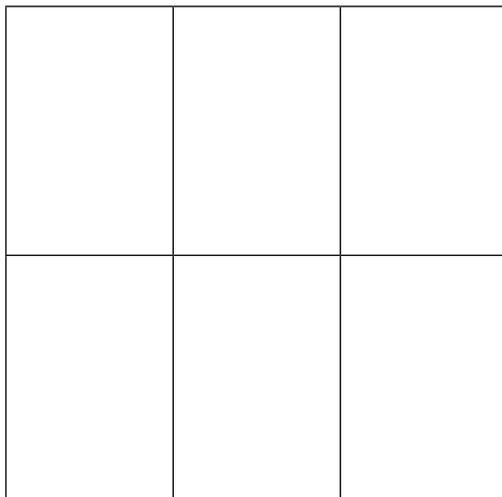
Umsebenzi Wokubakhulisa 4.10: Izimpendulo

uJane noJake badlala izimabule. Hlanganisa amaphuzu abawazuzile uthole ukuthi ngubani onqobayo.



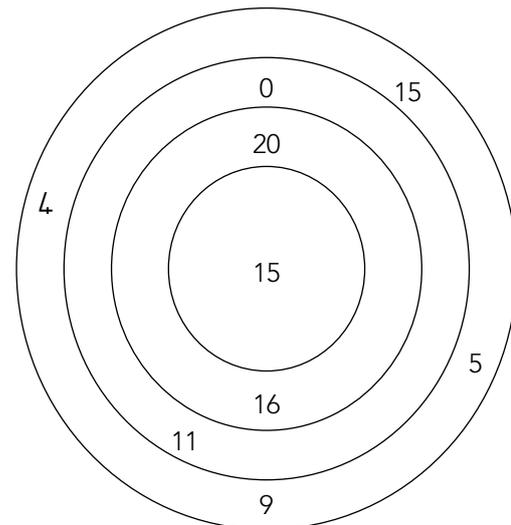
Umsebenzi Wokubakhulisa 4.11: Izimpendulo

Hlukanisa lesi sikwele sibe yizikwele ezincane ezi-6.



Umsebenzi Wokubakhulisa 4.12: Izimpendulo

Sebenzisa izinombolo ukubona ukuthi zingaki izibalo ongazakha ngempendulo engama-20.



Ungenza izibalo ezi-4:
 $20 + 0$, $15 + 5$, $11 + 9$, $16 + 4$

Umsebenzi Wokubakhulisa 4.13

Qondanisa izinkinga ezisebhulokhini A nezimpendulo ezisebhulokhini B.

Ibhulokhi A	Ibhulokhi B
$5 \times 4 =$	40
$20 \times 2 =$	18
$16 + 3 =$	0
$12 + 6 =$	63
$60 + 3 =$	23
$10 \times 7 =$	28
$40 \times 0 =$	70
$27 + 1 =$	20
$14 + 9 =$	19

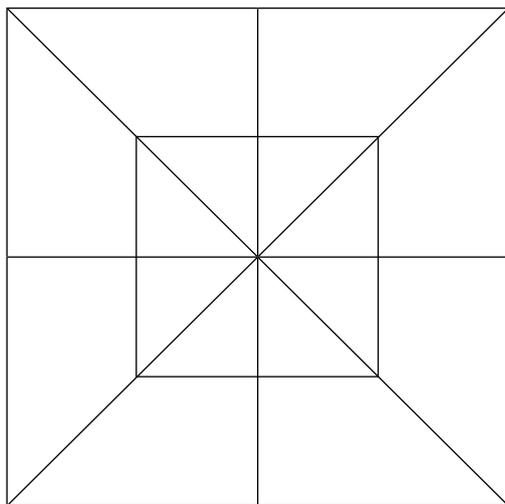
Umsebenzi Wokubakhulisa 4.14

Zama ukwenza lezi zibalo ezisemabhulokhini.

+	8	1	50
2			
4			
6			
8			
10			

Umsebenzi Wokubakhulisa 4.15

Bangaki o \triangle obabonayo?



Onxantathu abayi-12

Onxantathu abangama-26

Onxantathu abangama-33

Onxantathu abangama-20

Umsebenzi Wokubakhulisa 4.16

Qondanisa izinombolo namagama ezinombolo.

Izinombolo	Amagama ezinombolo
20	Ishumi nambili
10	Ishumi nesishiyagalolunye
90	Amashumi amabili
19	Amashumi ayisishiyagalolunye
12	Yishumi
14	Amashumi amane
40	Ishumi nane

Umsebenzi Wokubakhulisa 4.13: Izimpendulo

Qondanisa izinkinga ezisebhulokhini A nezimpendulo ezisebhulokhini B.

Ibhulokhi A	Ibhulokhi B
$5 \times 4 =$	40
$20 \times 2 =$	18
$16 + 3 =$	0
$12 + 6 =$	63
$60 + 3 =$	23
$10 \times 7 =$	28
$40 \times 0 =$	70
$27 + 1 =$	20
$14 + 9 =$	19

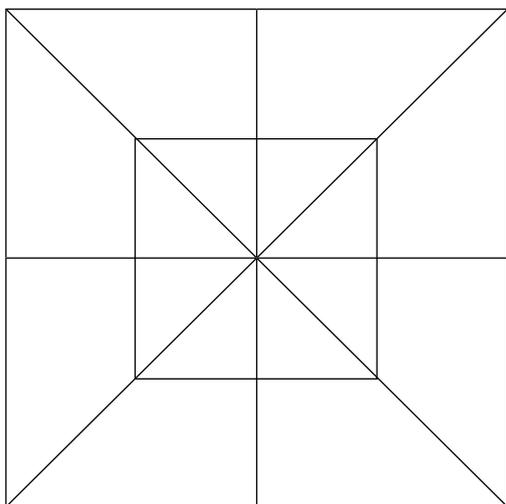
Umsebenzi Wokubakhulisa 4.14: Izimpendulo

Zama ukwenza lezi zibalo ezisemabhulokhini.

+	8	1	50
2	10	3	52
4	12	5	54
6	14	7	56
8	16	9	58
10	18	11	60

Umsebenzi Wokubakhulisa 4.15: Izimpendulo

Bangaki o \triangle obabonayo?



Onxantathu abangama-26

Umsebenzi Wokubakhulisa 4.16: Izimpendulo

Qondanisa izinombolo namagama ezinombolo.

Izinombolo	Amagama ezinombolo
20	Amashumi amabili
10	Ishumi nesishiyagalolunye
90	Ishumi nane
19	Ishumi
12	Amashumi amane
14	Ishumi nambili
40	Amashumi ayisishiyagalolunye

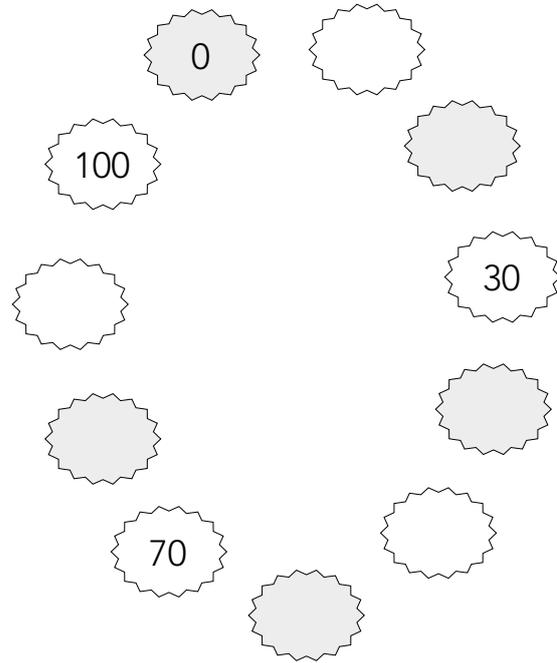
Umsebenzi Wokubakhulisa 4.17

Qedela ithebhula ngokuthi wenze izibalo.

x	5	4	2
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Umsebenzi Wokubakhulisa 4.18

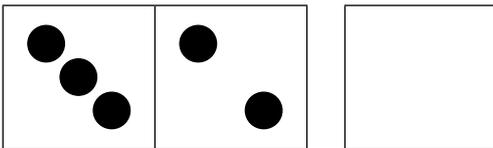
Qedela iphethini.



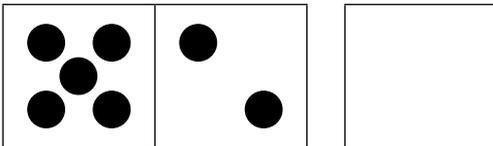
Umsebenzi Wokubakhulisa 4.19

Phindaphinda amachashazi asedayisini bese ugcwalisa izimpendulo.

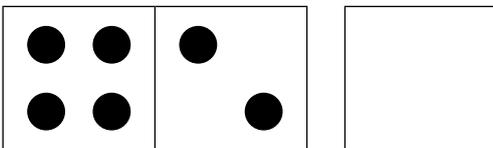
Kuzoba kungaki?



Kuzoba kungaki?

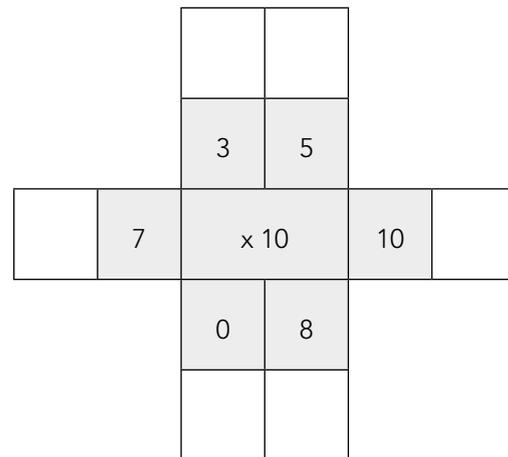


Kuzoba kungaki?



Umsebenzi Wokubakhulisa 4.20

Phindaphinda inombolo ephakathi nezinombolo ezingaphandle.



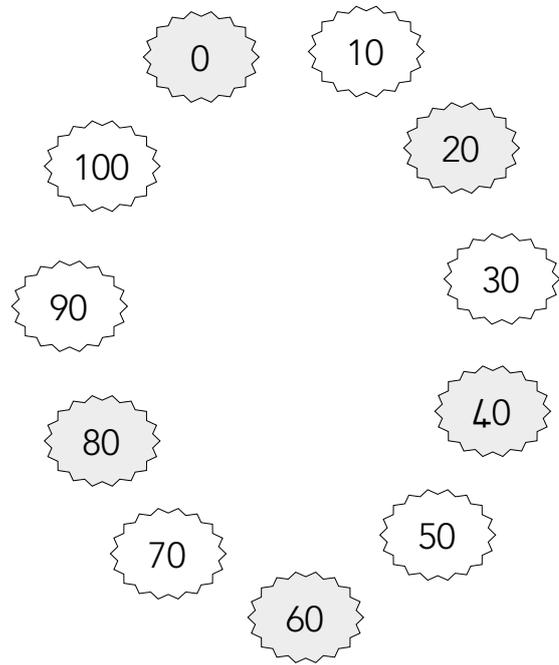
Umsebenzi Wokubakhulisa 4.17: Izimpendulo

Qedela ithebhula ngokuthi wenze izibalo.

x	5	4	2
1	5	4	3
2	10	8	4
4	15	7	12
4	20	16	8
5	25	20	10
6	30	24	12
7	35	28	14
8	40	32	16
9	45	36	18
10	50	40	20

Umsebenzi Wokubakhulisa 4.18: Izimpendulo

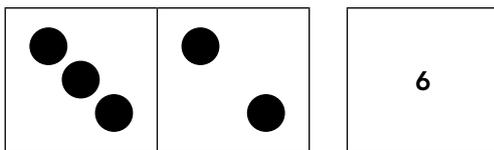
Qedela iphethini.



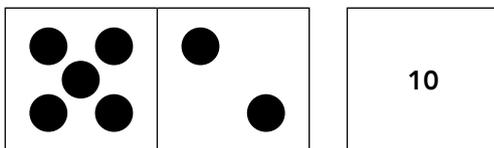
Umsebenzi Wokubakhulisa 4.19: Izimpendulo

Phindaphinda amachashazi asedayisini bese ugcalisa izimpendulo.

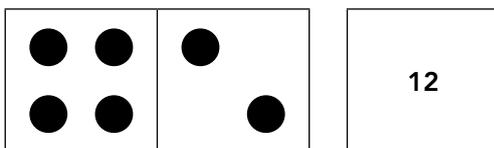
Kuzoba kungaki?



Kuzoba kungaki?

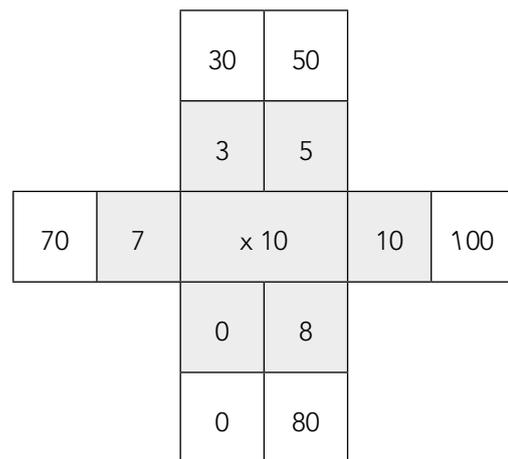


Kuzoba kungaki?



Umsebenzi Wokubakhulisa 4.20: Izimpendulo

Phindaphinda inombolo ephakathi nezinombolo ezingaphandle.



Umsebenzi Wokubakhulisa 4.21

Bala okulandelayo bese udweba umugqa uye empendulweni.

$14 + 1 =$

20

$13 + 20 =$

15

$17 + 3 =$

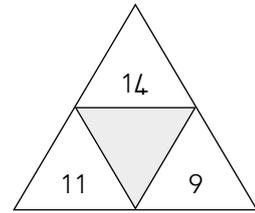
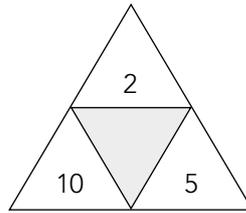
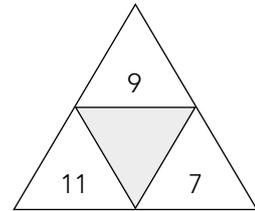
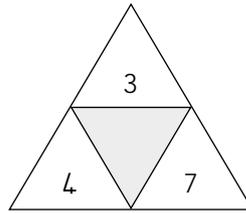
26

$19 + 7 =$

33

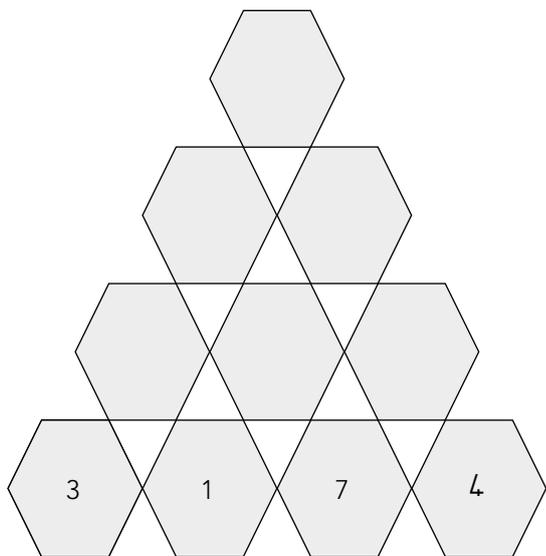
Umsebenzi Wokubakhulisa 4.22

Hlanganisa izinombolo ukuthola inombolo ephakathi.



Umsebenzi Wokubakhulisa 4.23

Inombolo ekunhlangothi-sithupha ngamunye yakhiwa ukuhlanganisa izinombolo ezikonhlangothi-sithupha ababili abangezansi kwawo. Bala izinombolo ezidingekayo.



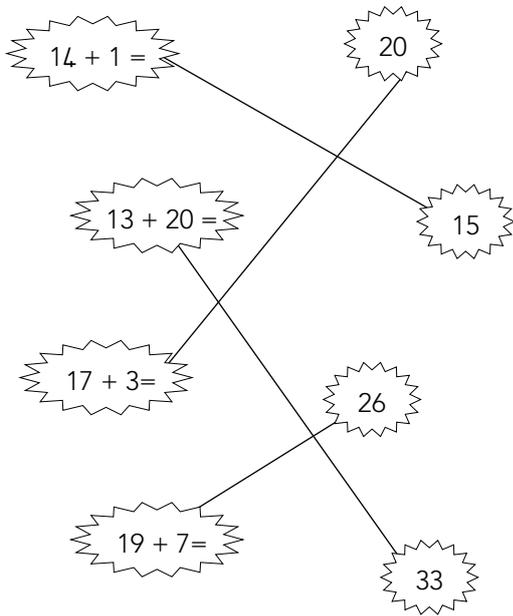
Umsebenzi Wokubakhulisa 4.24

Bala umugqa ngamunye wephazili. Gcwalisa izimpendulo. Bala ikholamu ngayinye yephazili.

14	+	2	=	
+		+		+
3	+	7	=	
=		=		=
	+		=	

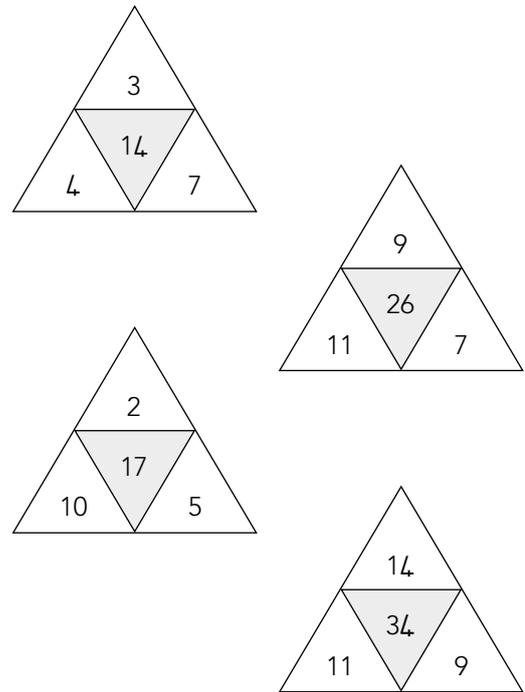
Umsebenzi Wokubakhulisa 4.21: Izimpendulo

Bala okulandelayo bese udweba umugqa uye empendulweni.



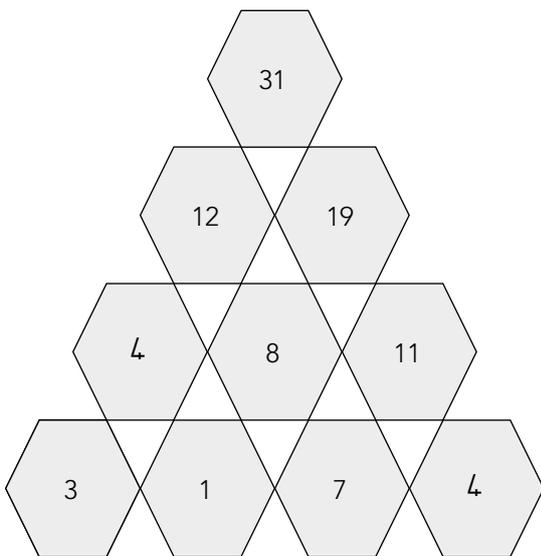
Umsebenzi Wokubakhulisa 4.22: Izimpendulo

Hlanganisa izinombolo ukuthola inombolo ephakathi.



Umsebenzi Wokubakhulisa 4.23: Izimpendulo

Inombolo ekunhlangothi-sithupha ngamunye yakhiwa ukuhlanganisa izinombolo ezikhlangothi-sithupha ababili abangezansi kwawo. Bala izinombolo ezidingekayo.



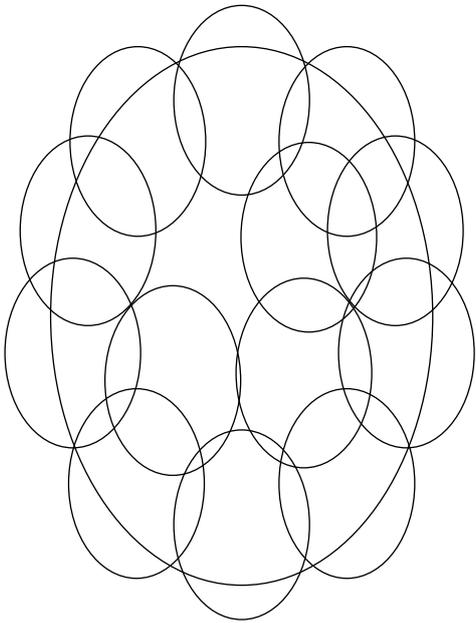
Umsebenzi Wokubakhulisa 4.24: Izimpendulo

Bala umugqa ngamunye wephazili. Gcwalisa izimpendulo. Bala ikholamu ngayinye yephazili.

14	+	2	=	16
+		+		+
3	+	7	=	10
=		=		=
17	+	9	=	26

Umsebenzi Wokubakhulisa 4.25

Ubona okusaqanda okungaki?



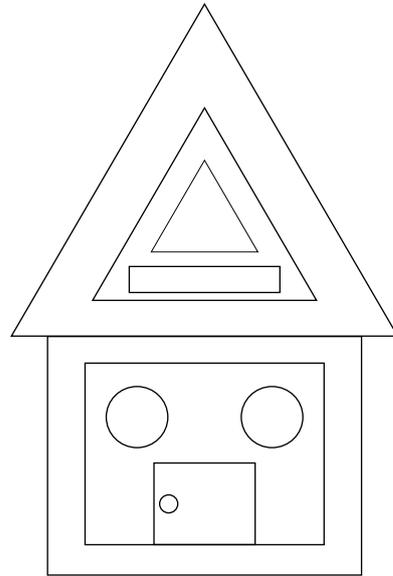
12 24 14

Umsebenzi Wokubakhulisa 4.26

Faka umbala obomvu kubo bonke o-.

Faka umbala ophuzi kuzo zonke izi-.

Faka umbala osasibhakabhaka kubo bonke o-.



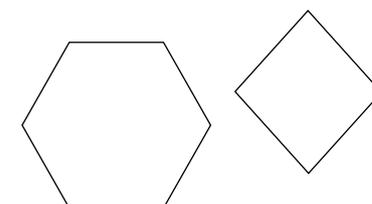
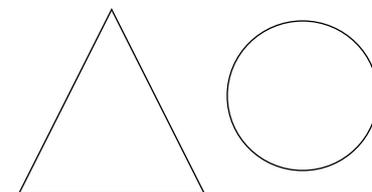
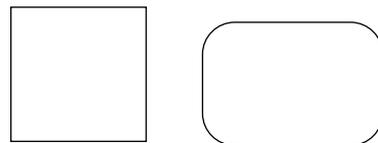
Umsebenzi Wokubakhulisa 4.27

Nikeza izimo ezahlukahlukene amagama.



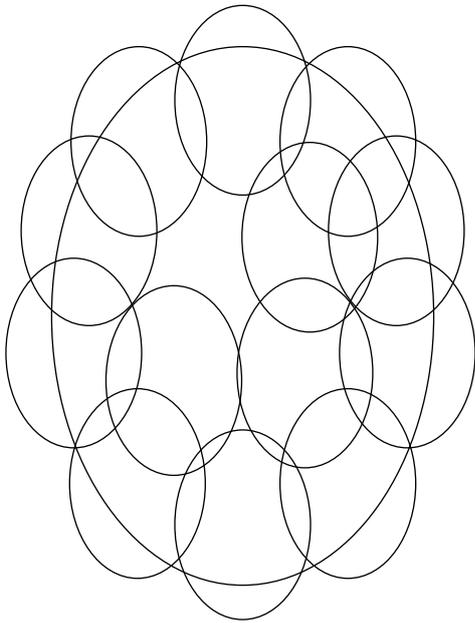
Umsebenzi Wokubakhulisa 4.28

Sebenzisa izimo ukudweba okuthile okuthandayo.



Umsebenzi Wokubakhulisa 4.25: Izimpendulo

Ubona okusaqanda okungaki?



12

24

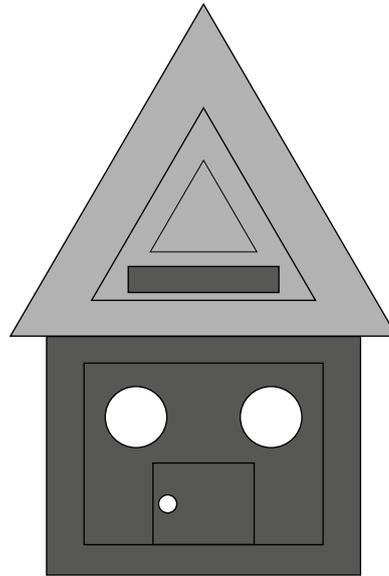
14

Umsebenzi Wokubakhulisa 4.26: Izimpendulo

Faka umbala obomvu kubo bonke o-.

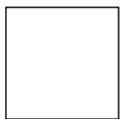
Faka umbala ophuzi kuzo zonke izi-.

Faka umbala osasibhakabhaka kubo bonke o-.

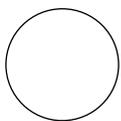


Umsebenzi Wokubakhulisa 4.27: Izimpendulo

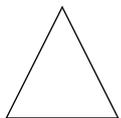
Nikeza izimo ezahlukahlukene amagama.



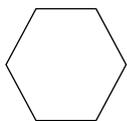
Isikwele



Isiyingi



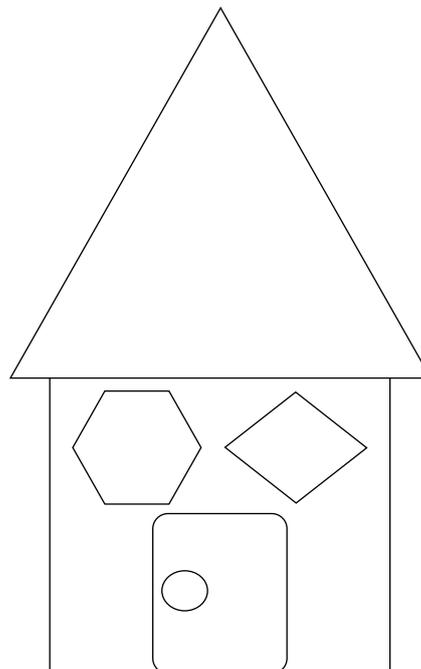
Unxantathu



Unhlangothi-sithupha

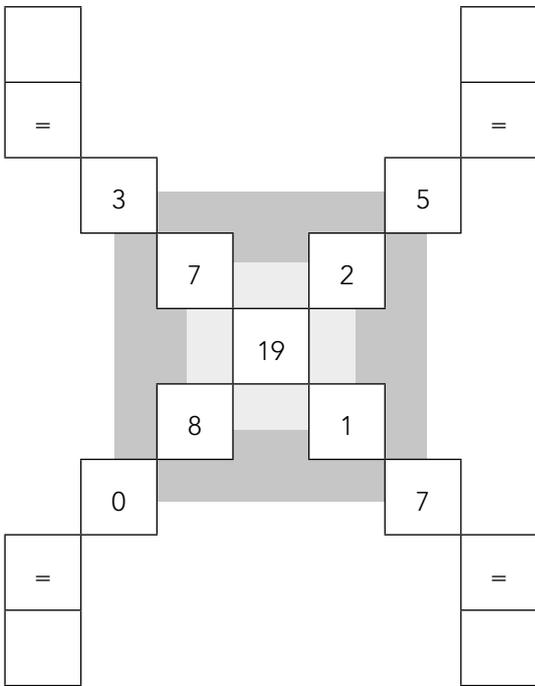
Umsebenzi Wokubakhulisa 4.28: Izimpendulo

Sebenzisa izimo ukudweba okuthile okuthandayo.



Umsebenzi Wokubakhulisa 4.29

Hlanganisa umugqa ngamunye uthole impendulo.



Umsebenzi Wokubakhulisa 4.30

Bhala igama lenombolo ngayinye kulezi ezilandelayo.

8	
2	
3	
7	
9	
10	
15	
12	
30	
25	
100	

Umsebenzi Wokubakhulisa 4.31

Bala udwebe ezinye izibali eziyi-10 ngakwesokudla.

Umsebenzi Wokubakhulisa 4.32

Iyiphi inombolo enkulu?
Kokelezela inombolo enkulu.

- | | | |
|----|------|-----|
| 10 | noma | 100 |
| 12 | noma | 21 |
| 15 | noma | 51 |
| 16 | noma | 61 |
| 31 | noma | 13 |
| 17 | noma | 72 |
| 20 | noma | 21 |
| 52 | noma | 25 |
| 10 | noma | 1 |

Umsebenzi Wokubakhulisa 4.29: Izimpendulo

Hlanganisa umugqa ngamunye uthole impendulo.

Umsebenzi Wokubakhulisa 4.30: Izimpendulo

Bhala igama lenombolo ngayinye kulezi ezilandelayo.

8	yisishiyagalombili
2	kubili
3	kuthathu
7	yisikhombisa
9	yisishiyagalolunye
10	yishumi
15	yishumi nanhlanu
12	yishumi nambili
30	amashumi amathathu
25	amashumi amabili nanhlanu
100	yikhulu

Umsebenzi Wokubakhulisa 4.31: Izimpendulo

Bala udwebe ezinye izibali eziyi-10 ngakwesokudla.

Umsebenzi Wokubakhulisa 4.32 : Izimpendulo

Iyiphi inombolo enkulu?

Kokelezela inombolo enkulu.

- 10 noma (100)
- 12 noma (21)
- 15 noma (51)
- 16 noma (61)
- (31) noma 13
- 17 noma (72)
- 20 noma (21)
- (52) noma 25
- (10) noma 1



Jika iMfundo
what I do matters

Jik'iMfundo is a programme to improve learning outcomes, funded by the National Education Collaboration Trust, the KwaZulu-Natal Department of Education and others.

THE PROGRAMME TO IMPROVE LEARNING OUTCOMES

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