

TERM /

Books 1, 2 and 3 (pages 1–16)

Book /

The activities in **Level 3: Book 1** engage learners in **number concepts from 1 to 99**. This book serves as revision and reinforcement of concepts covered in Level 2 and a baseline assessment for Grade 3 numeracy readiness. All these activities are covered within the theme of *Discovering with feathered friends*.

PAGE 1

Focus: Numbers, operations and relationships & measurement

LS Pollution – impact of pollution and importance of keeping birds and animals safe

Equipment needed



“Feathered friends” cut-out cards on pages 23 and 25, scissors, questions for the scavenger hunt, (optional for interactive activities: string, bags of sand/stones, rulers/tape measures, hula hoops)

Key focus skills



Mass, length, grouping, comparing objects and numbers

Understanding **mass** helps learners grasp the concept of weight, which is essential for everyday tasks like cooking or shopping, and fosters measurement skills used in science and mathematics. Learning **length** develops their ability to measure and compare distances, enhancing spatial awareness and problem-solving.

Grouping aids in understanding multiplication, division, and organising information, laying the foundation for more advanced maths concepts like fractions. **Comparing objects and numbers** sharpens critical thinking by allowing learners to analyse relationships, make decisions, and understand mathematical operations such as “greater than”, “less than” and “equals”.

Introducing the concept



Before introducing these concepts to the learners, ask them to cut out the feathered friend cards on pages 23 and 25 at the back of the book, which includes pictures and details like lifespan, wingspan, weight, intelligence and speed. Make sure each learner or group of learners has a full set of cards to work with.

 **Have a discussion:** Have a class discussion where you ask them to lay out their cards and identify the different types of birds they see, as well as the birds’ unique features. Encourage learners to share what they know about the birds, making it a light and conversational introduction to the feathered friends.

You can then discuss the details on the cards and the symbols used to indicate factors such as the different weights of the birds (scale), their size, lifespan, wingspan, speed (speedometer) and intelligence (brain).

-  **Feathered friends scavenger hunt:** Set up a “scavenger hunt” in which learners must find specific information about the birds from the cards. Give them clues like, “Find the bird with the longest wingspan” or “Find the bird that weighs the most”, and let them hunt for the correct bird cards. To keep them engaged and excited, reward them with stickers or stamps for each correct answer.

Teaching tips



To introduce these concepts in a fun and interactive way for the learners, you can turn the lesson into a hands-on exploration using the cut-out cards. The following is a step-by-step approach that includes an interactive element for each concept.

Separate the learners into small groups or let them work individually, depending on their skill level, and guide them through the activities below.

-  **Lifespan comparison:** Have the learners compare the lifespan of the different birds by laying the cards side by side. Ask them to find the bird with the longest lifespan and the shortest lifespan, and then to calculate the difference in years.
 - Interactive element: Use a long string or tape to visually represent the lifespan of each bird, with shorter lengths for shorter lives and longer ones for longer lives.
-  **Wingspan showdown:** Ask the learners to compare the wingspans of the birds. Have them sort the birds from the longest wingspan to the shortest.
 - Interactive element: Allow the learners to use rulers or tape measures to measure out on the floor the wingspan of the different birds on the cards.
-  **Weight ranking:** Ask the learners to arrange the birds by their weight, from heaviest to lightest. Discuss why some birds might weigh more than others and how weight might affect their ability to fly.
 - Interactive element: Use bags of sand or stones to represent each bird’s weight, allowing learners to compare weights through touch as they arrange them.
-  **Size ordering:** Have the learners sort the birds by size, from largest to smallest, using the cards. Encourage them to visualise how big each bird would be if they were standing next to it.
 - Interactive element: Draw outlines of the birds on the floor or wall, scaled to size, so that the learners can visually see the size differences.
-  **Group sorting:** Challenge the learners to sort the birds into groups based on lifespan, wingspan, or other characteristics. Let them physically place the cards in the appropriate groups.
 - Interactive element: Use hula hoops or sections on the floor to represent different groups, and have the learners move the cards into the correct spots.

For the last two word problems:

-  “If two parrots sit on an ostrich, how much will the ostrich weigh?” Let the learners add the weights of the parrots and the ostrich together.
-  “What is the total weight of a flamingo, an eagle and a swan?” Have them calculate the combined weight by adding the weights listed on the cards.

End the lesson with a discussion, asking the learners what they learnt about birds, mass, length and comparisons. Allow them to share their favourite birds and what surprised them most during the activities. This interactive approach combines hands-on learning with movement and visual aids, making it both educational and engaging for the learners.

Lesson outcomes



By the end of the lesson, learners should be able to compare and arrange birds based on characteristics like lifespan, wingspan, weight and speed. They should also be able to sort the birds into groups, solve simple word problems using addition and subtraction, and make comparisons between quantities.

Consolidation



Additional pages covering these concepts can be found at the end of each term section and may be used for homework, revision or further assessment.



Learners can complete pages 2–3 in the **Mathematics DBE Book 1**.

PAGE 3

Focus: Numbers, operations and relationships



Use this lesson as a numbers, operations and relationships activity – mental maths.
See checklist as a guide to assess.

Equipment needed



Flashcards with mental maths sums (addition, subtraction and multiplication), sharp HB pencil, eraser, mental maths bingo cards

Key focus skills



Mental maths

Learning mental maths and performing simple operations like addition, subtraction and multiplication are crucial because they help learners develop problem-solving skills, improve their number sense, and build confidence in handling everyday tasks quickly and efficiently. These skills form the foundation for more advanced mathematical concepts, enhancing their ability to think logically and make accurate calculations in real-life situations like shopping, time management, or sharing items.

Introducing the concept



Introducing basic mental maths for addition, multiplication and subtraction to Grade 3 learners can be both fun and interactive by incorporating games and hands-on activities.



Maths relay race: Divide the class into teams. Each team stands in a line, with players some distance apart. The first player in line is given a mental maths problem (e.g., addition, subtraction, or multiplication) and, after solving the problem, run to the next person in line and whisper the next problem. The race continues until all team members have participated.

- ✍ **Flashcard showdown:** Create flashcards with simple addition, subtraction, or multiplication problems. Have two learners come to the front of the class, and as you show a card, the first one to answer correctly wins a point for their team.
- ✍ **Maths bingo:** Give each learner a bingo card with answers to various maths problems. Call out different addition, subtraction, or multiplication problems, and the learners must mentally solve the problem and mark the answer on their card. The first to complete a line or full card wins.
- ✍ **Mental maths riddles:** Pose riddles or “brain teasers” that involve basic addition, subtraction, or multiplication. For example, “I’m thinking of a number that, when you subtract 3, equals 7. What’s the number?” Have the learners solve the riddle mentally.

Teaching tips



The following are ways you could guide learners through this lesson and keep it engaging while they crack the code and solve the mental maths sums.

- ✍ **Start with a clear introduction:** Explain the task step by step before beginning. Show the learners the table at the top of the page where each bird is matched with a number. Point out that each bird has a unique number value attached to it. Use visual cues – for example, hold up the bird pictures from the book and point to their corresponding number values. Make sure that the learners understand that these numbers will be used to solve the sums.
- ✍ **Model the first problem together:** Walk the class through the first problem as a group. Show the learners the two birds (e.g., the brown owl with the speckled breast valued at 18 and the blue-and-tan bird valued at 20). Write the values (18 and 20) in the blue blocks beneath the birds, and demonstrate how to solve the sum together: $18 + 20 = 38$. Emphasise how matching the birds to their numbers leads to the sum.
- ✍ **Make it interactive:** Let the learners actively participate by helping you with matching the numbers to the birds and writing them in the blocks. Keep the exercise engaging by asking questions like, “Which bird is next? What value does it have?” Encourage group discussions about how the learners arrived at their answers during this part of the lesson.
- ✍ **Time challenge:** Set a visible countdown timer (e.g., on the board or an online timer projected on the screen) for the remaining sums, giving the learners 5–6 minutes to complete the task. To boost excitement, make this part of the game. Learners can work independently, but the timer adds urgency and a fun challenge. Tell them to try to finish before the timer runs out and that this is their “race against the clock”. Encourage the learners to complete these sums without the use of a number line or chart, because the purpose of this activity is to test mental mathematical abilities.
- ✍ **Monitor progress:** Remember to monitor the learners’ progress by walking around the classroom to observe them as they work independently. Provide assistance where needed, but encourage them to try to solve the sums on their own first. Give them hints rather than direct answers, helping them to think through the process themselves. Praise the learners for their focus and effort, especially those who solve the sums quickly and accurately. You can also give small incentives, like stickers or points, to those who complete the task on time and with correct answers. Once the time is up, review the answers as a class. Go over any tricky sums that the learners found difficult, reinforcing the process of matching the birds to their number values and solving the problems.

Lesson outcomes



By the end of the lesson, learners should be able to match bird pictures to their corresponding number values and solve addition, subtraction and multiplication sums independently using mental maths.

Consolidation



Additional pages covering these concepts can be found at the end of each term section and may be used for homework, revision or further assessment.

PAGES 4–5

Focus: Numbers, operations and relationships



Use this lesson as a numbers, operations and relationships activity – grouping and counting, and number symbols. See checklist as a guide to assess.

Equipment needed



Objects to count (buttons, blocks, or toys), blocks to build towers, counters for grouping, ten frame (optional), sharp HB pencil, eraser, large number chart, worksheets or digital activities with missing numbers in a sequence, large number line to 200 (optional), number name chart (optional), colouring pencils (optional)

Key focus skills



Counting and grouping, number chart activities, missing numbers, number names and symbols

It is important for learners to count and group objects because these skills build a foundation for understanding numbers, patterns and relationships in mathematics. Counting helps learners develop number sense, while grouping teaches them how to organise and classify items, which is essential for more complex mathematical concepts like addition, multiplication and division. These skills also support logical thinking and problem-solving in everyday situations.

Number charts help with number recognition and sequencing, missing numbers develop problem-solving skills and pattern recognition, and understanding number names and symbols is essential for performing calculations and communicating mathematical ideas. Mastering these concepts enhances overall numeracy and prepares learners for more complex mathematics skills.

Introducing the concept



Below are some interactive ways to revise the concepts of counting and grouping.

-  **Sorting and grouping game:** Give the learners a variety of objects like buttons, blocks, or toys. Ask them to count the total number of objects and then group (e.g., groups of 5) them by colour, size, or type. They can also work in pairs or small groups to make the activity more collaborative.
-  **Counting in groups with movement:** Play a game in which learners form groups of a certain number (e.g., groups of 3 or 5) as you call out different numbers. After forming the groups, they count how many groups were formed and how many people are in each group.

- ✍ **Building towers:** Give each learner a set of blocks and ask them to build towers of a certain height (e.g., towers of 4 blocks). After building, they count how many towers they have and how many blocks were used in total. Building and grouping with blocks adds a creative element to counting, making the process enjoyable and visual.

To revise number chart activities, missing numbers, number names, and symbols with learners, try the following interactive and engaging methods.

- ✍ **Number chart games:** Use a large number chart and play a game in which you call out numbers, and the learners must find and circle them on the chart. Alternatively, play a “number search” in which they find and point to specific numbers you mention. After completing this game, the learners can pull out the 200-chart on page 27 of their books and practise filling in the missing numbers.
- ✍ **Missing numbers puzzle:** Provide worksheets or digital activities with missing numbers in a sequence. The learners must fill in the blanks. You can do a few examples together before letting them complete the rest independently.
- ✍ **Number name matching:** Create cards with numbers and their corresponding number names. Have the learners match the number cards with the correct number name cards.

Teaching tips



Here are Teaching tips for guiding learners through the workbook activity on page 4.

- ✍ **Start with counting:** Begin by guiding the learners through simple counting of the toucans, ensuring they count each bird. Encourage them to count aloud, because this reinforces accuracy. Ask questions like, “How many toucans did you count?” to ensure they start with a clear understanding of the total number.
- ✍ **Introduce grouping:** Once the learners have the total number of toucans, revise the concept of grouping. Demonstrate this by making groups of 5, 4 and 2 by physically grouping using counters. Use a fun approach, such as pretending the birds are sitting on branches in groups. Ask the learners to compare which grouping is easier to form (groups of 2 or 5) and why. Engage them in reasoning out the differences and prompt discussion about which method feels quicker or more efficient.
- ✍ **Relate grouping to real-world situations:** Connect grouping to real-world examples like grouping food items or toys. This helps learners visualise and understand the practicality of grouping numbers. Make the activity fun by asking, “If these were chocolates, would you rather count them in 5s or 2s?”
- ✍ **Guide through addition:** After grouping, introduce the concept of addition. Ask the learners to combine the number of toucans and parrots to find the total. Use number cards or simple drawings to visually represent the sum. Explain the sum on the board: “We have 20 toucans and 26 parrots. What happens when we put them all together?” Explain to the learners that “sum” is the term used to describe the answer to an addition sum. So question 1.7 is asking them to work out the answer when adding the total number of parrots and toucans together.
- ✍ **Introduce groups of 10:** Demonstrate making groups of 10 with both toucans and parrots. Use ten frames or counters to make this exercise visual and hands-on. Let learners experience how making groups of 10 helps with larger numbers. Ask them to predict how many birds might be left over after making groups of 10 and discuss why some numbers do not fit perfectly into groups.
- ✍ **Reinforce with addition practice:** For the final questions, guide the learners step by step through adding the total number of toucans, parrots and owls. Allow them to use manipulatives, like counters or drawings, to add the numbers visually. Encourage them to solve the sum on their own after modelling it once. Provide support if needed.

-  **Explore different counting methods:** Discuss with learners how counting in different ways (2s, 5s, 10s) can change the speed and ease of counting. Show them examples using their total number of birds and compare how counting in 10s or 2s feels. Ask them which method is quicker and why. Use a clock or timer for a fun challenge to see how fast they can count by 2s versus 10s.
-  **Use concrete aids:** Encourage the learners to use tools like counters, drawings, or number lines to help them visualise groups and sums. Emphasise that these tools can make counting and grouping easier.
-  **Reflection and discussion:** End with a discussion on why certain grouping methods felt easier or faster. Engage them in thinking about which methods they found most helpful and how they can apply this in future tasks.

Before beginning the activities on page 5, demonstrate to the learners how to fill in missing numbers by starting with a filled-in 200-chart and showing them how to identify the missing numbers by counting up or down. Emphasise the importance of recognising patterns in the number sequence. Guide the learners to check their answers by ensuring that the numbers increase or decrease correctly in the sequence. Make sure to use a number line if needed to help visualise the counting.

For each counting interval under question 2 (10s, 5s, 3s, 4s), show the learners how to count using the number chart or a number line. Practise together before having them complete the workbook tasks independently. Encourage the learners to start from the given number and use the number chart to find the next numbers in the sequence. Remind them to count carefully to avoid mistakes. Explain the concept of counting backwards by starting with a higher number and subtracting the interval each time. Use the number chart to show how to count backwards.

Show the learners how to fill in missing numbers for question 3 by identifying the pattern in the sequence (e.g., counting up or down by 2, 5, etc.). Use visual aids or manipulatives if needed. Encourage the learners to check their answers by ensuring the pattern is consistent. For sequences with a constant difference, check that the difference remains the same.

Review how to write number names by demonstrating with a few examples on the board. Emphasise the spelling and correct format for each number name. Remind learners to write the number names clearly and to check their spelling. Offer a number name chart or list to the learners as a reference if needed.

Demonstrate how to match numbers to their corresponding number names by demonstrating with a few pairs. Explain how to carefully read both the number and the name to ensure correct matching. Have the learners first match a few pairs together as a class, then allow them to complete the remaining matches independently. Encourage them to double-check their matches by comparing the numbers and names. The learners can either match the number to its corresponding number name by colouring the pair in the same colour, or drawing a line from one to the other.