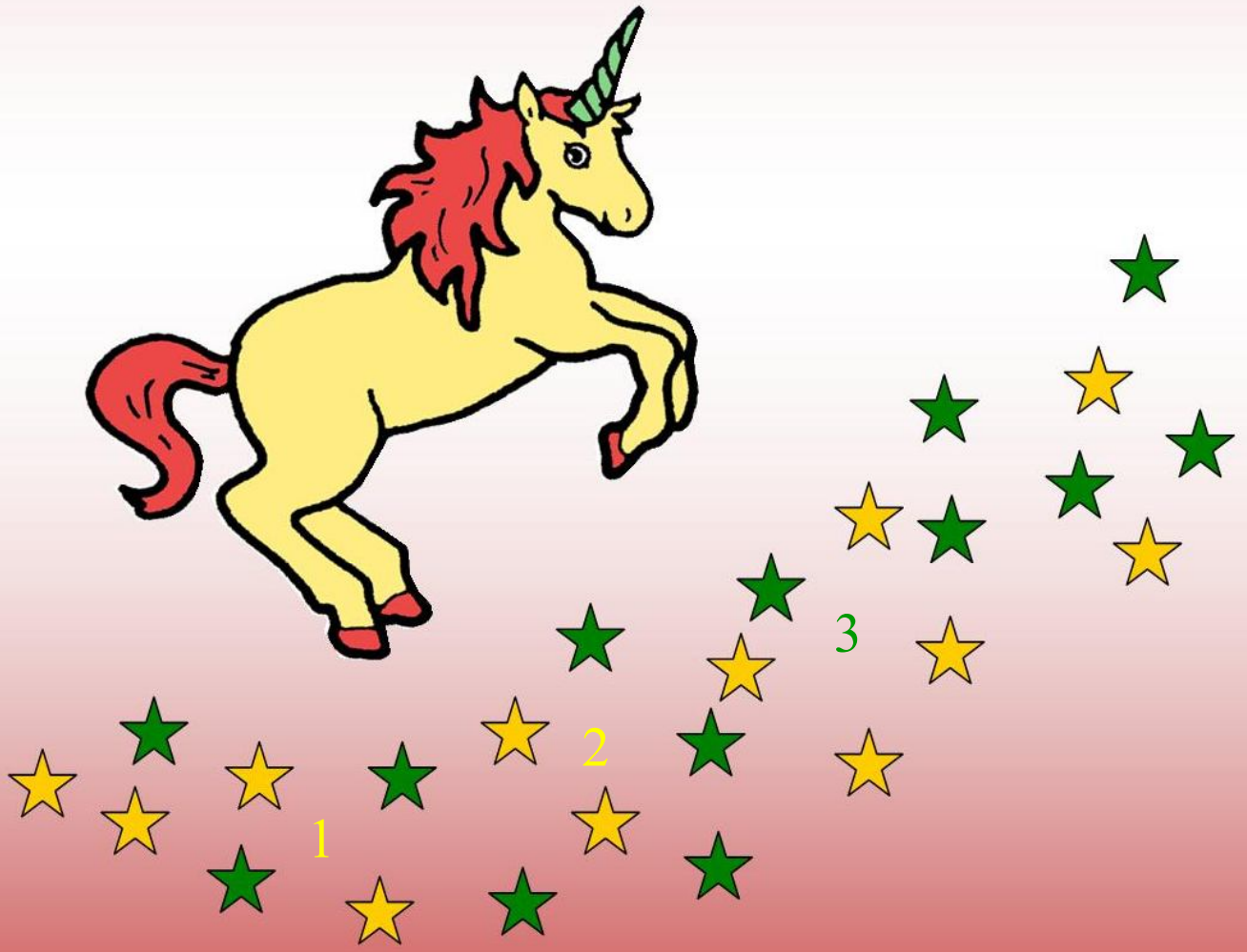
MAGIC NUMBERS
STUDENT BOOK 1

Parents' and Teacher's Guide



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Scope and Sequence

Page Number	Mathematical Skills	Cognitive Skills	Passive Structures	Passive Vocabulary	Active Vocabulary	Classroom Language
Page 1	counting from 1 to 5 in sequence	sequencing	How many?	balls, bicycles	fingers, hand	count, read, circle
Page 2	counting from 1 to 5, writing 1	matching pairs	How many?	trees, flowers	bear	read, write, circle, match, count
Page 3	counting from 1 to 5, writing 2	matching pairs	How many?	cats, snowmen	bear, balloons	read, write, circle, match, count
Page 4	counting from 1 to 5, writing 3	distinguishing between pairs	How many? What is this?	santas, dogs	rabbit, balloons	read, write, circle, count, colour
Page 5	counting from 1 to 5	using a colour key	How many? What is this?	butterfly, stars	blue, green, red, yellow, orange	count, colour
Page 6	counting from 1 to 5, writing 4	distinguishing between pairs	How many? What is/are this/these?	balls, bells	swans	read, write, circle, count, colour
Page 7	counting from 1 to 5	creating a key	How many? What are these? What colour?	boxes	seals, frogs, bees, hippos	colour, count, write
Page 8	counting from 1 to 5, writing 5	matching pairs	How many? What is/are this/these?	ice-creams, airplanes	birds	read, write, circle, match
Page 9	counting from 1 to 5	scanning, creating a key	How many? What colour?	beach house, sea, sand, sky, (palm) trees	birds, dogs, cats	find, count, write
Page 10	revision	matching pairs, distinguishing between pairs	How many?	pumpkins, presents, moons, flags		read, circle, match, count, colour
Page 11	counting from 1 to 10	sequencing	How many?	ships, candles	fingers, hands	count, read, circle
Page 12	counting from 1 to 10, writing from 1 to 6	sequencing	How many? What is/are this/these?		camels, cats	read, write, circle
Page 13	counting from 1 to 6	scanning, creating a key	How many? What are these?	barn, clouds, sky	bulls, chickens, horses, roosters	find, count, write
Page 14	counting from 1 to 10, writing from 1 to 7	sequencing, matching pairs	How many? What is/are this/these?		flowers (tulips), birds (storks)	read, write, circle, match
Page 15	counting from 1 to 10, writing from 1 to 8	sequencing	How many? What is/are this/these?	fruit, women	pears	read, write, circle
Page 16	counting from 1 to 8	matching pairs	How many? What is/are this/these?	carrots, mice, balls, bananas, cherries, snakes, oranges, strawberries, limes, (kernels of) corn, turtles	birds, butterfly, flowers (violets)	count, match

Page 17	counting from 1 to 10, writing from 1 to 9	sequencing	How many?	smiley faces	ladybugs	read, write, colour
Page 18	counting to 10, writing 10	sequencing, matching pairs	How many? What are these?	buses	butterflies, stars	read, write, match, count
Page 19	counting from 1 to 9	gap filling	What's missing?		butterfly	connect, colour, write
Page 20	counting to 10, preview of understanding number relations	differentiating between groups, understanding numbering	How many? What is/are this/these?	chicks, elephants, lions, deer, rabbits, kangaroos, giraffes, monkeys	butterflies, birds, turkeys, goats	circle
Page 21	understanding number relations (the bigger number)	differentiating between numbers, understanding numbering				circle
Page 22	understanding number relations	differentiating between groups, understanding numbering	How many? What are these?		flowers, yellow, blue, purple, pink, white, red, orange	circle
Page 23	understanding number relations (the smaller number)	differentiating between numbers, understanding numbering				circle
Page 24	preview of addition, writing the plus sign	understanding combining numbers	X + Y =?		stars	read, write, add, circle
Page 25	preview of addition, writing the equals sign	understanding combining numbers	X + Y =?			read, write, add
Page 26	preview of addition	matching pairs	X in my head and Y on my fingers. After X			match
Page 27	addition with 1 and 2 systematically	understanding combining numbers	X in my head and Y on my fingers. After X			add, write
Page 28	Addition with 1, 2 and 3	understanding combining numbers	X in my head and Y on my fingers. After X			add, write

Note: This book gives ideas for the methodology that can be applied in class but can be easily used by a parent/guardian to teach one child.

Understanding Scope and Sequence:

- The language stated in the Scope and Sequence is only a guide.
- **Mathematical Skills** are the skills that are directly related to math.
- **Cognitive Skills** are the skills that will help the child in learning in general. The child will use these skills in learning other subjects and not only math.
- **Passive Structures** are the structures that the child is expected to understand but not produce at that point in time. For example, when the teacher asks, "How many balloons are there?", the child is expected to understand the question and answer it. However, the child is not expected to ask that question. Passive language is the way children in general learn. It is one of the early steps to speaking. Later on, that passive structure will become one of the child's active structures.
- Similarly, **Passive Vocabulary** is the vocabulary that the child is expected to understand but not to produce at that point in time.
- **Active Vocabulary** is the vocabulary that the child is expected to understand and produce. In this volume of Magic Numbers, these are the numbers themselves, colours and some of the animal vocabulary.
- **Classroom Language** is the language the child needs in order to follow commands related to learning in general. The child is expected to understand and execute them but not necessarily produce them.

Understanding the Evaluation pages: (Student's Book pages 29 and 30)

- These should be filled in for each page after the child finishes that page. Either the child or the teacher can fill it in. If the child can fill it in then it helps build student autonomy and encourages self-assessment. If the child is too young, then the teacher can fill it in for him/her. Either way, the evaluation pages are a record of a child's progress, not failings.
- You will notice that a skill is evaluated at different stages. This is to check whether the student has improved in that skill.
- The **Date** column shows the teacher the speed at which skills are mastered by that particular group of students. Some pages may take a little longer than others as new skills are introduced.
- Either the teacher or the parent may sign the **Signature** column.

General methodology:

- Make use of the images and colours in the Student's Book to present, practice and revise language items. Each image / colour in the Student's Book was chosen to help teachers do this. This includes the image on the front cover and the images that are at the top of the number pages such as the bear on page 2 and the four swans on page 6.
- The Scope and Sequence chart is to help teachers and parents understand what the students learn from each page and which language is active and which language is passive. In other words, the chart clarifies teachers' and parents' expectations.
- Different skills and language items are introduced and recapped at various stages throughout the Student's Book. This limits the need to use / make extra material other than what is already in the Student's Book.
- Always try to elicit the target language. Eliciting is trying to get the students to say the target language before you tell them. For example, ask, "what is this?" instead of saying "This is a …". If the students do not know, tell them.

- Always drill new language. Drilling is making the children repeat after you. This helps improve their pronunciation and aids their memory. Drilling should be done as a class, in smaller groups and then individually. If a student still cannot produce the language, encourage peer correction.
- Monitoring is vital in lessons. Monitoring is when the teacher goes around, checking that the students are doing the set task correctly. If students have problems, the teacher helps them. Monitoring also limits discipline problems, as the students no longer see exactly where the teacher is and who she/he is looking at.

Understanding the methodology behind task types: (In the order in which they appear)

The commands used in the rubrics are graded to eight vocabulary items that are combined with other commands to give further practice of these commands. For example, you will find "count", "count and colour", "count and write", "find, count and write".

- **Count:** This is the basis on which children learn number sequence. At this stage, it is vital to teach children to mark the objects they count in order not to count them again.
- **Read and Circle:** Reading is the third skill that a child learns. The sequence of skills that is most natural to a child and an adult alike is as follows: listening, speaking, reading and writing. Therefore, to help children learn naturally, we should follow this sequence. There are different types of reading. The first step is recognition of shapes. In other words, at first the child will see "1" as a shape and not as a number. Later on, he/she will learn to recognise "1" as a number. Circling helps the child learn how to form basic shapes using a pencil.
- **Read and write:** This task helps the child practise writing. Arrows show how to form the numbers and tracing over the grey numbers enables them to write the numbers on the second and third lines.
- **Match and circle:** This helps children recognise similar pairs. At this stage, children match items that are of the same quantity and the same kind. For example, two flags and two flags.
- **Circle the correct number**: This helps children count, read and distinguish between pairs.
- **Count and colour:** This helps children read and count, it teaches them how to follow a key and, on some pages, it is a preview of the skill of creating a key.
- **Colour the correct number of squares and write:** This helps children count and learn the skill of creating a key. In addition, writing becomes a more active skill since the result of their counting is translated into writing numbers and not just circling them.
- **Find, count and write**: This gives further practice of creating a key and allows children to develop their visual scanning skills. Scanning skills help students when they become true readers later on. If a child has mastered this skill, he/she is able to do the following: (the following are some - and not all - of the things scanning helps us do)
    1. Leave a reading book mid page and is able to quickly find where he/she stopped.
    2. Quickly go through a text to find specific information. This skill is important in our daily life. We use it when we are searching for phone numbers in a phone book, train / plane schedules and television programmes etc.
- **Count and match:** By this stage, children have learned to mark the items they count so as not to count them twice. They have also mastered how to match pairs. This task develops the skill of matching pairs that are of the same quantity but not of the same kind. For example, two snakes and two birds. This helps children recognise similarities in dissimilar pairs.
- **Connect and colour:** This revises number sequence and gives children a sense of achievement; by using their knowledge of number sequence, they are able to create a picture. The fact that each child will colour his/her own picture using the colour of his/her choice means that the pictures will be different and therefore personalised. Personalisation, in the learning process, is vital for building a child's self-confidence.
- **Write the missing number:** This develops number sequence and teaches the child the skill of gap filling.
- **Circle the group with more / fewer:** The first of these tasks is on page 20. This is also the first time the exercise is numbered. Teachers are encouraged to bring numbering of questions to children's attention.

- Understanding this fact helps children learn to follow sequence which helps avoid their skipping questions on exam papers etc later on. This task type also develops a child's ability to differentiate between groups, which previews the next task type.
- **Circle the bigger / smaller number:** This develops a child's ability to differentiate between numbers and understand the relationship between them.
- **Add and circle the correct number:** This helps children understand how combining numbers result in other numbers. Here children are expected to count each star to reach the correct result. Therefore it is a preview of "true" addition.
- **Add and write:** This first appears on page 27. On page 26, the children were taught "X in my head and Y on my fingers. After X…" (See Scope and Sequence and the note below). "Add and write" is the first "true" addition task the children learn. It develops their understanding of how numbers are combined to make other numbers. This is done systematically in the Student's Book. On page 27, children learn to add 1 to other numbers and then 2 to other numbers. On page 28, children practise addition with 1 and 2 again and are introduced to additions with 3.

Extra notes:

- **"X in my head and Y on my fingers. After X…":**

  This limits children's use of their fingers while doing additions. Children may not be able to produce the whole sentence correctly or at all. They are expected, however, to follow it. This is how this sentence is used: For example, the equation is 3 + 5 =???

  Teacher: "Which is the bigger number?"
  Children: "5"
  Teacher (and children, if possible): " 5 in my head and 3 on fingers. After 5: 6, 7, 8. 3 + 5 = 8"

- **Plural forms:**

  As most of the numbers taught in this book require the use of the plural form, it is advisable to use it. However, as this is not an English book, no grammar should be taught. One way of dealing with plural forms is as follows: (Student's Book page 8)

  Teacher: "What's this?" (Pointing to one of the birds at the top of the page to elicit or give "(a / one) bird"
  Teacher drills "bird".
  Teacher: "How many birds are there?" (To elicit or give "five")
  Teacher drills "five" and says "five birds"

  Note: Teachers and parents should expect some confusion concerning the plural *s* at the early stages of the book. The best method to deal with this when errors occur is to say, "one bird, two birds." Etc.

Sample lesson:

- Hold up the Student's Book (closed) for all the children to see the front cover.
- T: "What's this?" (Pointing to the unicorn on the front cover to elicit or give "(a / one) horse/unicorn"
- Teacher drills "horse/unicorn".
- T: "How many horses/unicorns are there?" (To elicit or give "one")
- Teacher drills "one" and says "one horse/unicorn". Then students open their books page 1.
- T: "What's this?" (Pointing to the hand at the top of the page to elicit or give "(a / one) hand")
- T: "How many hands are there?" (To elicit "one")

- T: Points to the fingers and says “What are these?” (To elicit and drill “fingers”)
- T: “How many fingers are there?” (To elicit and drill “one, two, three, four, five fingers”)
- T points to the numbers at the top of the page to read for and with the students.
- Teacher asks students to look at the first exercise while she/he reads the rubrics. Teacher repeats “count” as she/he points to the number and the balls. “How many balls?” (To elicit and drill “One” & “One ball” etc)
- Teacher asks students to look at the second exercise. Teacher reads the rubrics “Read and circle”. Teacher repeats “circle” as she/he draws a circle on the board.
- Teacher points to the number “1” and asks “What’s this?” (To elicit “1”). Teacher points to the circled bicycle and says “one bicycle” and explains that this is the way to do this exercise. Teacher does the second one with the students then tells them to do the remaining ones in pairs as she/ he monitors. To check answers, teacher says, “How many bicycles?” But expect the answers to be only the quantity and not the word “bicycles”.

Guide for parents:

Help your child realise that numbers are a part of everyday life. This will give more meaning to numbers and will make your child more interested in learning numbers and math. There are several ways to do this. Ask your child to read and/or copy numbers for you. Numbers can be found in many things. The following are some of them:

- Phone books
- Car licence plates
- Streets
- Buildings and flats
- Prices in shops and markets
- Money (small bills and coins)
- Television channels
- Page numbers
- Clocks and watches

Always encourage your child. A child will not learn everything at the same speed. Each child will find certain things easier than others. Praising them for what they do well and helping them with what they have not yet mastered is the key to a child’s healthy attitude towards learning.

Try to work on weaknesses one at a time. For example, if the child has problems with counting from 1 to 5 and has problems writing the numbers as well, do not make the child work on both skills at the same time. In a situation like this, cut up pieces of paper and write the numbers on them (one piece of paper per number). Help your child put the pieces of paper in order until she can do it by herself. When you feel confident she has learned the number sequence, start helping her with writing the numbers. Remember to use the sequence that is more natural for the child to follow in order to learn: speaking, listening, reading and writing.