Contents

Introduction

Hello! We hope you enjoy using this book and that the ideas in it help add to your toolbox of resources for teaching mathematics. This revised edition also includes a CD resource exploring how numbers are normally used during the day to measure time and money.

About the series

The main idea behind *Using Stories to teach Maths Ages 4 to 7*, is to provide a way of looking at the maths that the children have to learn in school, from a fresh angle. This means that their learning can be enhanced by looking at maths ideas in different ways. Using the stories can be a fun way of helping the children with their learning and their revision. It also helps children to understand maths by encountering it in different contexts, such as the imaginary situations in the stories and in real-life situations. Every different way in which a child (or an adult!) comes across a maths concept, enhances a child's ability to learn and understand the concept and to remember it. The age categories we have put each story in are of course only a guide – as all children are different and they can be of interest and use to older or younger children using the same or different contexts.

By making maths fun, the barriers to learning that they often create ("I can't do maths", "maths is boring" or similar phrases that they may have picked up from others) can be dissolved and the children gain more confidence and facility to understand and use mathematical concepts. This can lead to a far more positive approach and attitude to the rest of their mathematical learning. Having used these stories and poems in many schools around the UK, we are confident that the children will enjoy engaging with them and learning from them.

Inevitably, over the years, the maths curriculum has changed and been modified. However, as the core skills and concepts children need to learn at any age are essentially the same, we have been able to link the stories to the new curriculum. For this reason we hope that the stories and poems can provide a resource for initiating or supporting work to cover the Programmes of Study for each year group.

Therefore, in the teachers' notes accompanying each piece we quote the Programmes of Study and supporting Notes and Guidance specified within the new curriculum. In the teachers' notes we also suggest follow-up work, often incorporating worksheets or the illustrations that accompany the pieces, which you can use to create a whole lesson, or several lessons, around each piece. Of course, suggested lesson plans are only a guide and so you can pick and choose the suggestions and ideas that will work best in your school, with your class etc.

Reading the stories

We recommend that you read the children the story twice. The first time as a story in its truest sense – a story they can listen to and enjoy as a piece of narrative, without it being broken up and dissected as it's told. Hopefully the enjoyment they get from the story will enhance their enjoyment of the mathematics they are learning.

However, on the first reading of the story, they may have been so involved in the plot etc. that they miss some of the maths ideas that are used in the story. So, on the second reading you can get the children to focus on the maths ideas woven into the story, by stopping at the points where a new concept enters into the narrative and discussing its role in the story, using an enlarged copy. This also means that the children will be able to enjoy seeing – and learning from! – the illustrations as well and many of the children will enjoy reading the story with you.

Using the lesson plans

Within the planning we have added reference statements headed **WALT**, **WILF** and **TIB** as these or similar systems are often used to ensure lessons are focused, objective led and in context for the learner. They help summarise the purpose of the lesson, what is required of the children in order for them to successfully learn that lesson and why what they are learning is important.

WALT stands for "We Are Learning Today."

WILF stands for "What I'm Looking For."

TIB stands for "This Is Because."

The worksheets are designed to support the learning the children are making in mathematics. We recognise that completing them will often require literacy skills, which in some cases the children will not have at the required level. In order that the work remains focused on mathematics, we suggest that you or your classroom assistants etc. scribe for such children so that their capability in mathematics is not held back by specific difficulties with literacy.

Story	Maths topic(s) covered	EYFS Curriculum links	Curriculum links Year One Programme of Study (PS) Notes & Guidance (NG)	Curriculum links Year Two Programme of Study (PS) Notes & Guidance (NG)
How the numbers got their shape	Numbers 1-10	Numbers	Number (number and place value) (PS & NG)	Number (number and place value) (PS & NG)
The numbers learn their order	Numbers 1-10 Odd & Even numbers	Numbers	Number (number and place value) (PS & NG)	Number (number and place value) (PS & NG)
One to twenty poem	Numbers 1-20	Shape, space and measures	Number (number and place value) (PS & NG)	Number (number and place value) (PS & NG)
How Sir Cylinder saved Prince Pyramid	Comparatives in shape, space and measure	Numbers	Measurement (PS)	
The numbers have a quarrel	Exploring patterns and relationships in the numbers 1-9	Numbers	Number (number and place value) (PS & NG)	Number (number and place value) (PS & NG)
Ten's problem	Exploring patterns and relationships in the numbers 11-19	Numbers	Number (number and place value) (PS & NG)	Number (number and place value) (PS & NG)
Joins and splits	Problems solving using simple addition and subtraction	Numbers	Addition and subtraction (PS & NG)	Addition and subtraction (PS & NG)
Bernice the octopus buys a watch	Ordinal numbers Ordering and timing of events	Shape, space and measures	Number (number and place value) (PS & NG) Measurement (PS & NG)	Number (number and place value) (PS & NG) Measurement (PS)
All shapes and sizes	3D shapes		Geometry (properties of shapes) (PS & NG) Position and movement (PS & NG)	Geometry (properties of shapes) (PS & NG) Position and movement (PS & NG)
Primitive place value	Place value Simple fractions		Number (number and place value) (PS & NG) Fractions (PS & NG)	Number (number and place value) (PS & NG) Fractions (PS)

Story	Maths topic(s) covered	EYFS Curriculum links	Curriculum links Year One Programme of Study (PS) Notes & Guidance (NG)	Curriculum links Year Two Programme of Study (PS) Notes & Guidance (NG)
Chariot champions	Multiplication as repeated division & Kinaesthetic method of learning times tables		Multiplication and division (PS & NG)	Multiplication and division (PS & NG)
The king-sized take away pizza	Problem solving using subtraction		Addition and subtraction (PS & NG)	Addition and subtraction (PS & NG)
My problem with pirates	Problem solving of more than one step using addition and subtraction and simple multiplication		Addition and subtraction (PS & NG) Multiplication and division (PS & NG)	Addition and subtraction (PS & NG) Multiplication and division (PS & NG)
Exciting times at the "Painthorpe Times"	Problem solving involving multiplication		Multiplication and division (PS & NG)	Multiplication and division (PS & NG)
Hugh the ostrich detective	Problem solving involving multiplication		Multiplication and division (PS & NG)	Multiplication and division (PS & NG)
Sailors setting standards	Standard and non-standard measures		Measurement (PS & NG)	Measurement (PS & NG)

How the numbers got their shape

Early Years Foundation Stage targets

Numbers
Count reliably with numbers from 1 to 20, place them in order.

Links to curriculum

Year One
Number (number and place value)
Count to and across 100. (PS)

Count, read and write numbers to 100 in numerals. (PS)

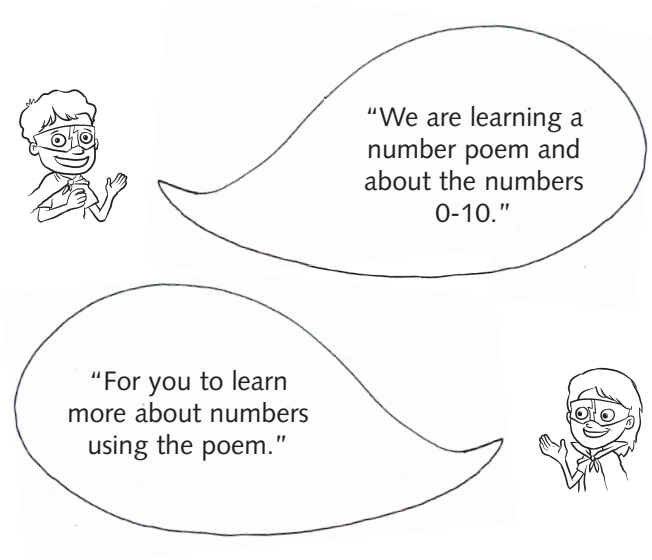
Read and write numbers from 1 to 20 in numerals and words. (PS)

Pupils practise counting (1, 2, 3) until they are fluent. (NG)

Year Two
Number (number and place value)
Read and write numbers to at least 100 in numerals and in words. (PS)

Using a range of representations, pupils practise counting, reading, writing and comparing numbers to at least 100. (NG)

Lesson plan



To introduce the poem, it may be useful to explain some of the facts about the Wise Wizz of Woo explained in the introduction, especially that he lived before numbers existed and in fact it was the Wise Wizz of Woo who realised that we need things called 'numbers' to count with. The Wise Wizz of Woo then had to decide what shape to draw each number and zero when a number was missing. This poem is about how he decided on each different shape.

You could then read the poem to the children, showing them the illustrations as you do so. Naturally, usually being young and enthusiastic, the children get the idea and chant the name of each number as you reach it. This means that the first thing you could do is teach the children the poem "off by heart." Certainly it has been our experience that the children love doing this.

You could teach the children to remember which picture goes with each number by presenting them to the children in different orders. They could then play games in groups where the pictures or the numbers are in the wrong order and put them in the correct order against their matching numbers/pictures, which are in the right order.

The children could be given the pictures relating to the numbers in the puzzle form given in the resource section and join up the pieces to make the pictures, which they then place in numbers in order, using the number cards.

Further ideas

The children could be asked to see if they can think of other words apart from those used in the poem, which rhyme with each number. Perhaps they could make up a class/group poem.

The children could make up the shapes of the numbers using sticks etc. Also, with reference to the poem, they could suggest other ways the different numbers were invented and also be asked to guess how and when the Wizz invented '10' based on the clues in the illustration.

Resource section

- Number cards with symbol and name on, 1-9 plus zero and 10.

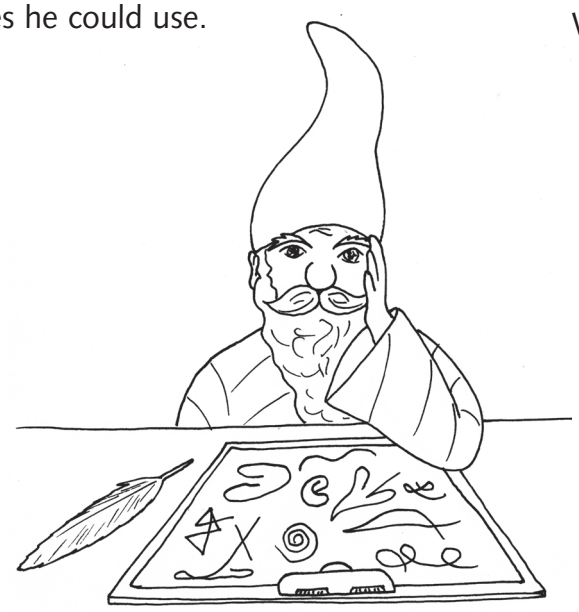
How the numbers got their shape

In the far far distant past, so long ago even teachers hadn't been invented (hurray!), lived a clever Wizz called "The Wise Wizz of Woo". The Wizz was so clever he invented numbers to do jobs for us like counting and adding up.

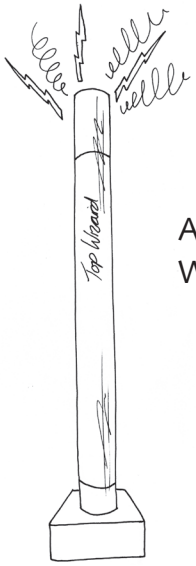
Numbers are such a useful invention and we are so used to using them that we take them for granted. But as they were new when the Wise Wizz of Woo invented them, he didn't know what shape to draw them. The way he worked out what shape they should be was written as a story by the ancient poets. Some clever teachers digging deep into ancient piles of paperwork have only recently re-discovered this poem – so you are some of the first in thousands of years to find out how the numbers became the shapes they are today.

In times long gone by,
(Before you and I.)
The Wise Wizz of Woo,
Invented numbers for you.

But as numbers were new,
He knew not what to do.
He looked round him for clues,
Of shapes he could use.

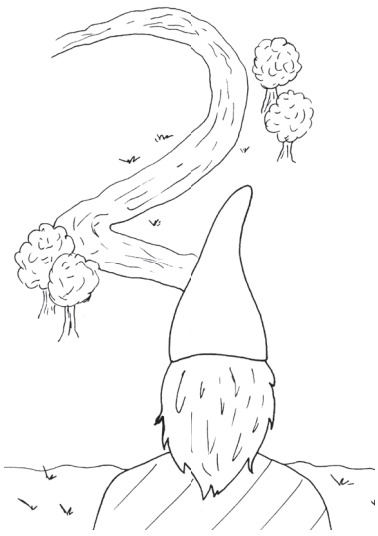


A dancing hero,
Was how he made ZERO.

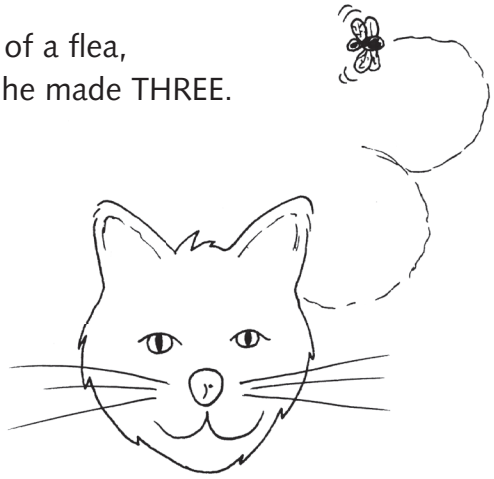


A wand that he'd won,
Was how he made ONE.

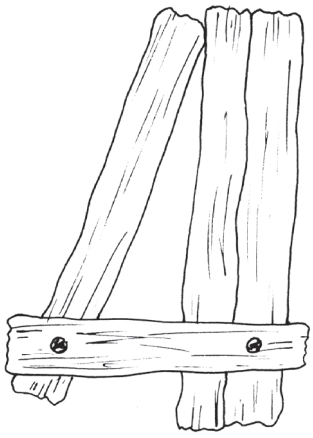
A river of blue,
Was how he made TWO.



The flight of a flea,
Was how he made THREE.

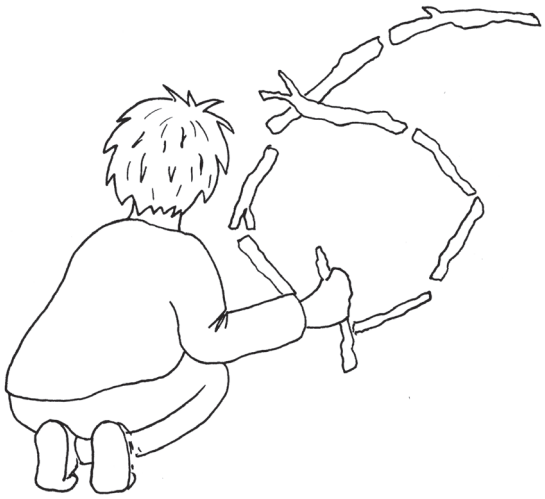


The farmer's barn door,
Was how he made FOUR.



A bird's swooping dive,
Was how he made FIVE.

A pattern of sticks,
Was how he made SIX.



He looked up to Heaven,
And that's how he made SEVEN.