



# Numerule

## The Numerule

**SUGGESTED USES FOR TEACHERS**

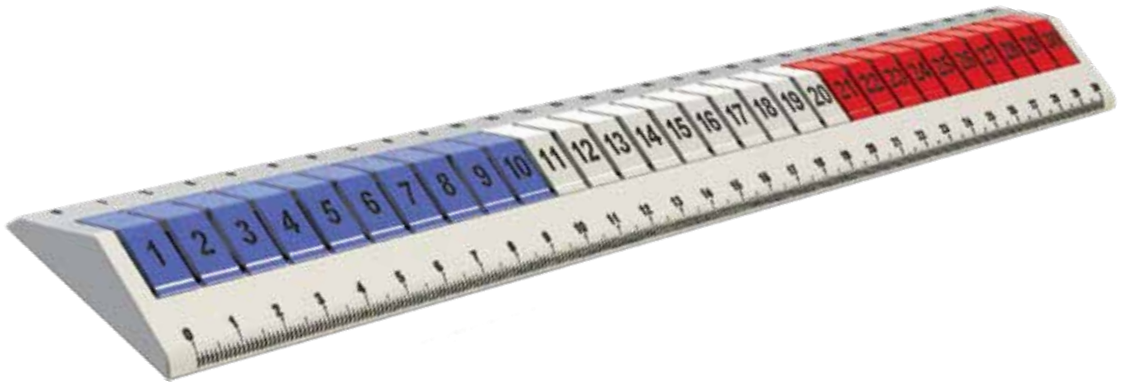
in line with the Australian Level 1 and 2 curriculum

a concrete teaching aid for  
Early Years Numeracy

fast tracking children's  
mathematical learning



# INTRODUCING THE NUMERULE

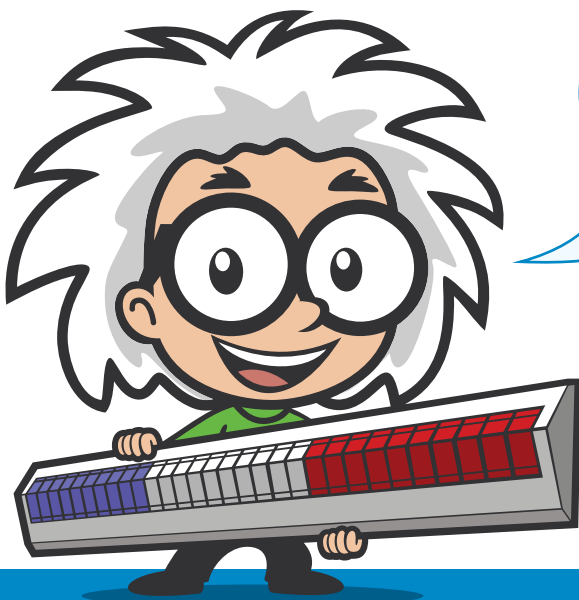


The Numerule is an easy to use educational tool for the lower primary area that simply integrates the multiple uses of an everyday classroom ruler with already existing mathematical concrete aids found in almost every classroom.

The Numerule is an efficient, time saving mathematical tool that stays with the child to assist on an individual basis and in guided group situations. The Numerule is a quality classroom associated aid that can move with the student without mess and wasted time. With the ability to be taken home assisting with homework and strengthening mathematical understanding.

The Numerule has been designed to be a robust everyday ruler with a high impact tactile/concrete feature that can strongly focus students on a variety of key mathematical concepts across the key content strands of the Australian Curriculum.

Students simply press the cm buttons down and to reset they just push back from underneath.



it's the ruler  
you can count on

scan QR code  
and watch our  
video tutorials



# POSITIVE AREAS OF INFLUENCE ACROSS THE CONTENT STRANDS OF THE AUSTRALIAN CURRICULUM

## NUMBER AND ALGEBRA

The Numerule can be used in many circumstances. These include simple place value exploration, counting from a zero and non-zero start (including skip counting), developing basic number facts to 30 using all operations and exploring number patterns and rules.

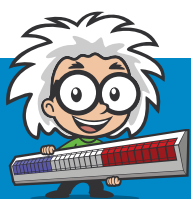
Content Descriptors	Example
Investigate number sequences, initially those increasing and decreasing by 2's, 3's, 5's and 10 from any starting point, then moving to other sequences (ACMNA026).	To skip counting by 3's press in groups of 3. You could start on 5 and continue.



Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line (ACMNA013).	Press any group of numbers under 30 and see where they are located. Possibly extrapolate further with a 1m rule. For example, where does 22 exist on a number line.
--	---



Count collections to 100 by partitioning numbers using place value (ACMNA014).	Discuss digits and how they differ from numbers. Count single digit number until 10 is reached. Slot MAB in to make direct comparisons.
--	---



Content Descriptors	Example
Explore the connection between addition and subtraction (ACMNA029).	Discuss simple addition and subtraction basic number facts to 30 and their turn-around nature through concrete manipulation. Pick a number and explore what you take from it and how you can add it back in a number of combinations.



Solve simple addition and subtraction problems using a range of efficient mental and written strategies (ACMNA030).	Thinking and recording as they go, students should be able to manipulate basic number facts, regrouping and problem solve. For example they can see counting on in concrete terms - $8 + 5 = 13$ (keep 1 x 10 and carry the 3).
---	---



Recognise and represent multiplication as repeated addition, groups and arrays (ACMNA031).	Like skip counting. $3 \times 4 = 12$ $4 + 4 + 4 = 12$
--	--



Recognise and represent division as grouping into equal sets and solve simple problems using these representations (ACMNA032).	Ruler can be used in conjunction with attribute blocks such as $1\text{cm}^3$ connection blocks to make equal sets, compare and relate to repeated subtraction. $30 \div 3$
--	--

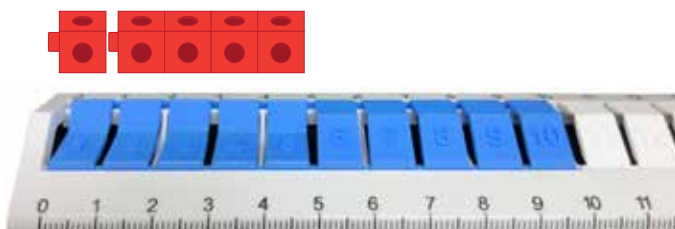


# POSITIVE AREAS OF INFLUENCE ACROSS THE CONTENT STRANDS OF THE AUSTRALIAN CURRICULUM

## MEASUREMENT AND GEOMETRY

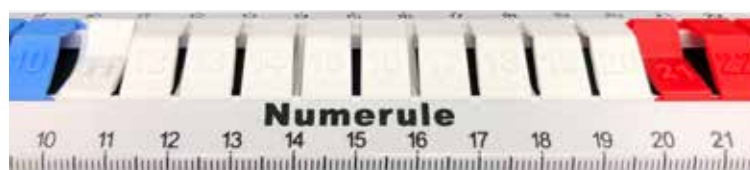
Yes the device is obviously a ruler and can be used as such for introduction of formal units and basic measurement. It can focus attention on formal units and how they relate to the based ten place value system; particularly mm and cm.

Content Descriptors	Example
Measure and compare the lengths and capacities of pairs of objects using uniform informal units (ACMMG019).	Using centicubes or large connecting cubes etc measure and make real comparisons. 1 length and capacity centicube = 1cm, 4 large connecting cubes = 5cm.

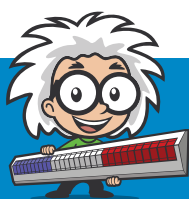
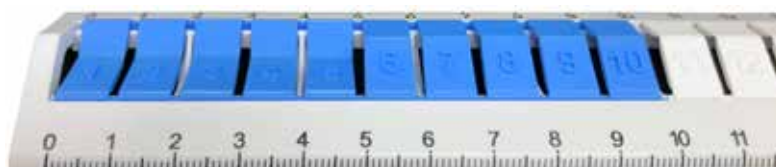


Compare and order several shapes and objects based on length, area, volume and capacity using appropriate uniform informal units (ACMMG037).	As above, however using the Numerule informally for comparing and measuring length strongly links future measurement to cm and mm.
--	--

Use a calendar to identify the date and determine the number of days in each month (ACMMG041).	Moving from date to date forward and backward within a month. Eg: 10 days before the 21st
--	--




Describe and draw two-dimensional shapes, with and without digital technologies (ACMMG042).	Use the Numerule to predefine a measurement for construction of regular polygons. Eg: 5cm for equilateral triangles.
---	---



# STATISTICS AND PROBABILITY

The Numerule is excellent for collecting concrete data. With a number of rulers multiple collections of data can be easily collected and accurately displayed, interpreted and translated by students. This will assist in classification, scale comparison, individual interpretation and group discussions of hard data found. It will also assist in the comparison and analysis of data to explore problems involving probability.

Content Descriptors	Example
Identify outcomes of familiar events involving chance and describe them using everyday language such as 'will happen', 'won't happen' or 'might happen' (ACMSP024).	Use a number of rulers to collect data on events and discuss the out comes. Eg: flip a coin H & T or 1 & 2 etc Will you ever get a leg or 3?



## HEADS OR TAILS

**Numerule**

30		
29		
28		
27		
26		
25		
24		
23		
22		
21		
20		
19		
18		
17		
16		
15		
14		
13		
12		
11	■	
10	■	
9	■	
8	■	
7	■	
6	■	
5	■	
4	■	
3	■	■
2	■	■
1	■	■
0		
	Heads	Tails

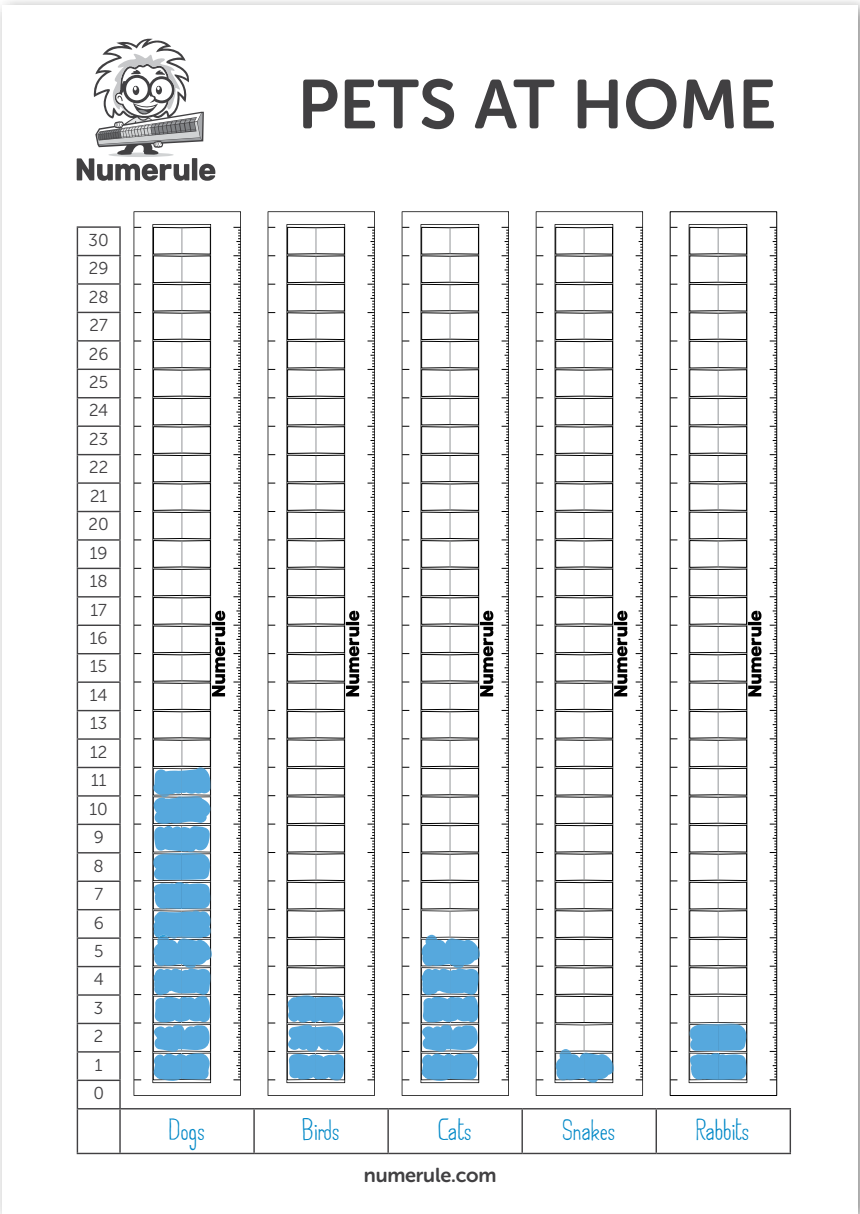
numerule.com

Download the 'Heads or Tails Graph' PDF from [www.numerule.com/downloads](http://www.numerule.com/downloads)

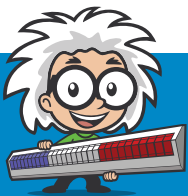
# STATISTICS AND PROBABILITY

The Numerule is excellent for collecting concrete data. With a number of rulers multiple collections of data can be easily collected and accurately displayed, interpreted and translated by students. This will assist in classification, scale comparison, individual interpretation and group discussions of hard data found. It will also assist in the comparison and analysis of data to explore problems involving probability.

Content Descriptors	Example
Create displays of data using lists, table and picture graphs and interpret them (ACMSP050).	Use the attached printable data/graph display chart or board. Collect, discuss and display accurately any simple forms of information. Eg: Birds around the school.



Download the 'Pets at Home Graph' PDF from [www.numerule.com/downloads](http://www.numerule.com/downloads)

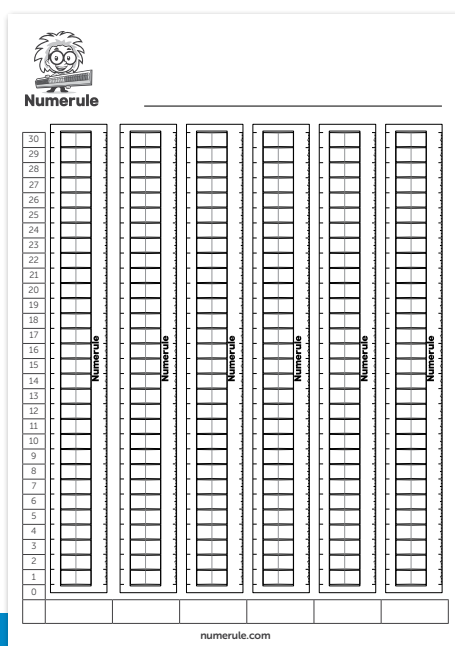




## STATISTICS AND PROBABILITY

The Numerule is excellent for collecting concrete data. With a number of rulers multiple collections of data can be easily collected and accurately displayed, interpreted and translated by students. This will assist in classification, scale comparison, individual interpretation and group discussions of hard data found. It will also assist in the comparison and analysis of data to explore problems involving probability.

Content Descriptors	Example
Choose simple questions and gather responses (ACMSP262).	Use the Numerule to gather responses on simple questions such as 'what is the class favourite pet'? Children collect information about one animal and compare. Eg: Do you like dogs?
Represent data with objects and drawings where one object or drawing represents one data value. Describe the displays (ACMSP263).	Use the Numerule or multiple Numerules to tally information and display rulers to represent the data collections in a simple bar graph. Use the attached printable data/graph worksheet. Transpose data into other formats if necessary.
Identify practical activities and everyday events that involve chance. Describe outcomes as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible' (ACMSP047).	Use the attached printable data/graph display chart or board to assist. Collect information on e.g. the colours of cars passing the school gate or the spin of a dice. Collect information and discuss chance.
Identify a question of interest based on one categorical variable. Gather data relevant to the question (ACMSP048).	Use the data/graph display chart or board to assist. Discuss a variable that is likely around the school such as the variety of birdlife in the playground. Discuss possible species and gather data.
Collect, check and classify data (ACMSP049).	Use the attached printable data/graph display chart or board to assist. Develop a variable data question. 'What is an animal that you think needs protection?' Use multiple 'Numerules' to collect new data to put on the board as new categories arise.



Download the 'Generic Graph' PDF from [www.numerule.com/downloads](http://www.numerule.com/downloads)

# POSITIVE AREAS OF INFLUENCE ACROSS THE CONTENT STRANDS OF THE AUSTRALIAN CURRICULUM

## OTHER WORTHWHILE USES

There are many other powerful and practical uses for the Numerule:

- Practical everyday ruler usage.
- Strong reinforcement of basic number facts to 30.
- Multiple uses for the number-line application (skip counting and patterns).
- It is a simple but effective tool that can follow a student back to their individual work station after focused group sessions.
- It reduces wasted time in the classroom as it is always at the students' fingertips and there is no mess to clean up.
- It is not difficult to manipulate like some attribute blocks and student are able to hold it up to closely scrutinize their concrete thinking.
- MAB measurement comparison and place value use.
- Clear understanding of multiples and factors (excellent for understanding Prime and Composite numbers).
- It is a simple but effective tool that can follow student to and from school in their pencil case to help build strong foundational understanding of maths.

## GAME POSSIBILITIES

The Numerule not only helps to keep track of scores in any number of educational game in the classroom and at home, it can also be used as a gaming device. A few suggestion are made below, however there are bound to be many more that teacher, parents and students can put their minds to.

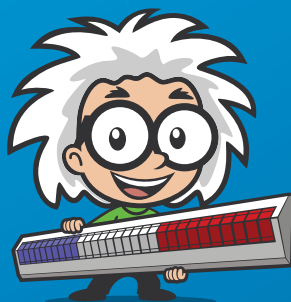
- Ruler BINGO: press an agreed set of numbers instead of having to print out boxes or rule up grids. Concentrate on simple numbers, addition facts, subtraction facts, multiples, factors, times table facts, division facts, add something on, take something off etc. BINGO when all you numbers come up!
- What's your number? Ask questions to reveal the number. Least questions wins.
- Dice games such as:
  - Add to 30
  - Take from 30 (or any number between)
  - Skip by (2,3,4,5) to 30 eg: roll dice '4'  $2 + 2 + 2 + 2$  go to 8







scan QR code  
or visit [www.numerule.com](http://www.numerule.com)  
to watch our video tutorials



# Numerule

[info@numerule.com](mailto:info@numerule.com)  
[www.numerule.com](http://www.numerule.com)