Dyslexia Outreach
Specialist Teaching Team

Maths Difficulties and Dyscalculia

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Dyscalculia or Maths Learning Difficulties?

Dyscalculia
a SpLD whose core feature is a problem with sense of number

Other SpLDs
which do not include a problem with sense of number but which may have an impact upon mathematics learning

Maths learning difficulties arising from lack of appropriate teaching, environmental factors or other medical conditions

Dyscalculia

Dyscalculia is a specific and persistent **difficulty in understanding numbers** which can lead to a diverse range of difficulties with mathematics. It will be **unexpected in relation to age, level of education and experience** and **occurs across all ages and abilities.**

Mathematics difficulties are best thought of as a **continuum**, not a distinct category, and they **have many causal factors**. **Dyscalculia falls at one end of the spectrum** and will be distinguishable from other mathematics issues due to the **severity of difficulties with number sense, including subitising, symbolic and non-symbolic magnitude comparison, and ordering**. It can occur singly but can also **co-occur with other specific learning difficulties**, mathematics anxiety and medical conditions.

(BDA & SASC 2021)

A domain specific deficit in sense of number:

Subitising

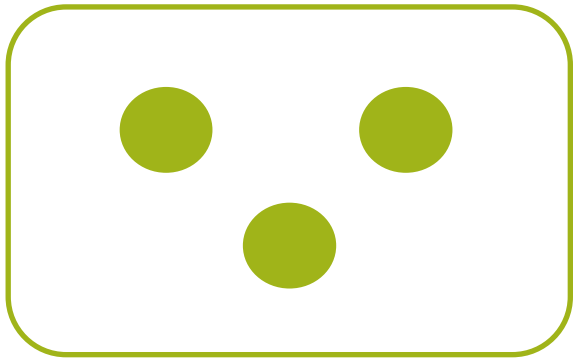
Ordering (Cardinality & Ordinality)

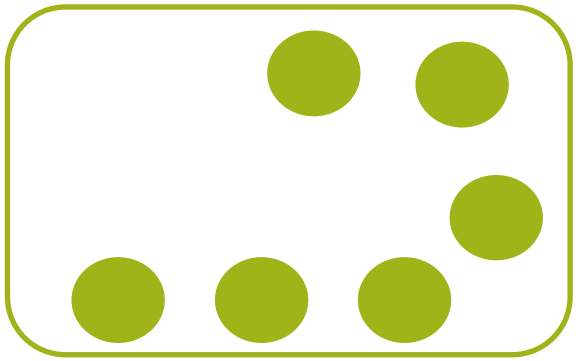
Estimation

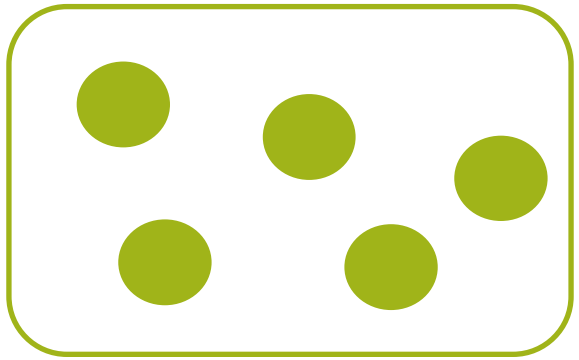
Symbolic & Non-symbolic Magnitude

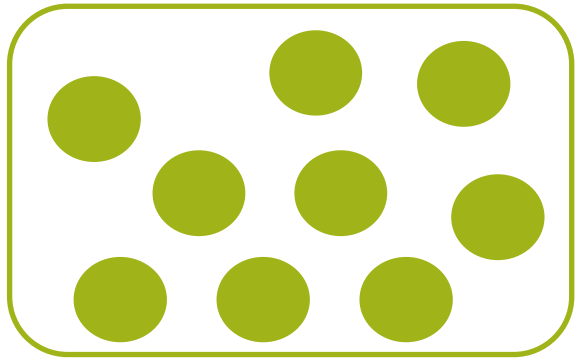
Understanding numerical relationships

Subitising

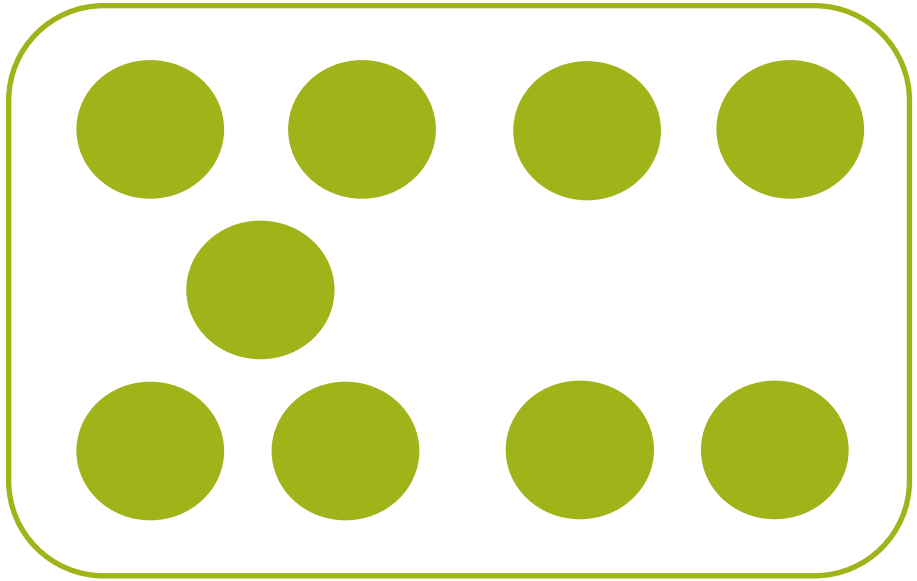


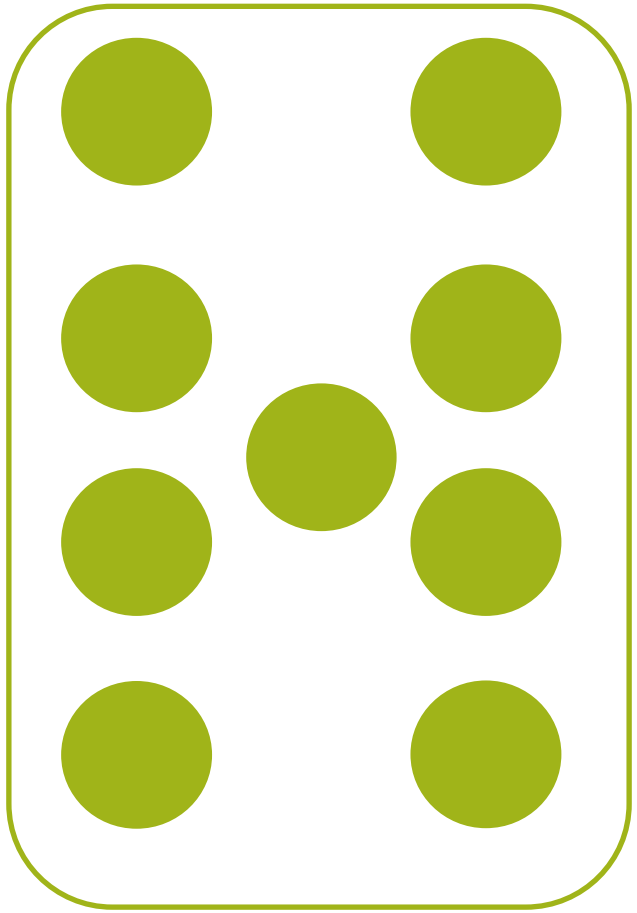






Subitising





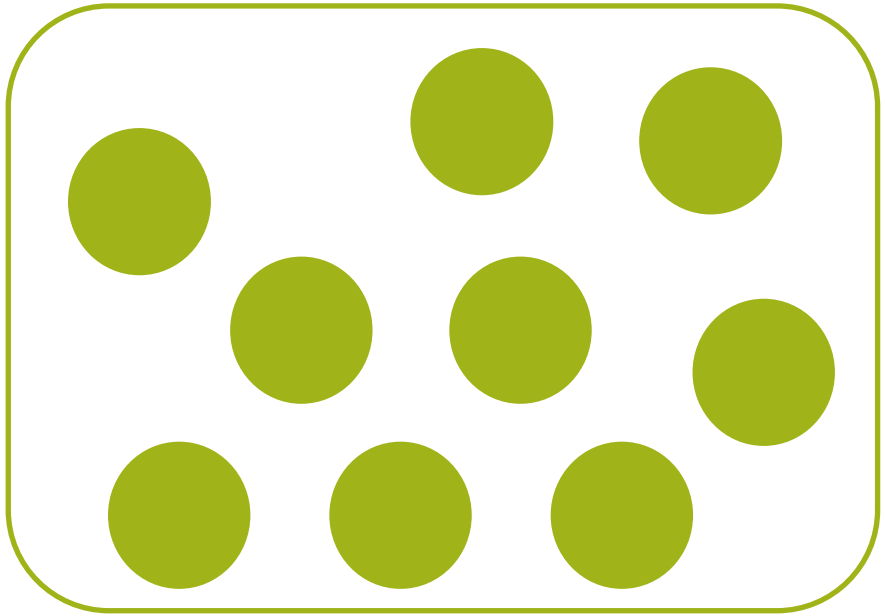
Magnitude

Non-symbolic magnitude:

Symbolic magnitude:

3 7

A



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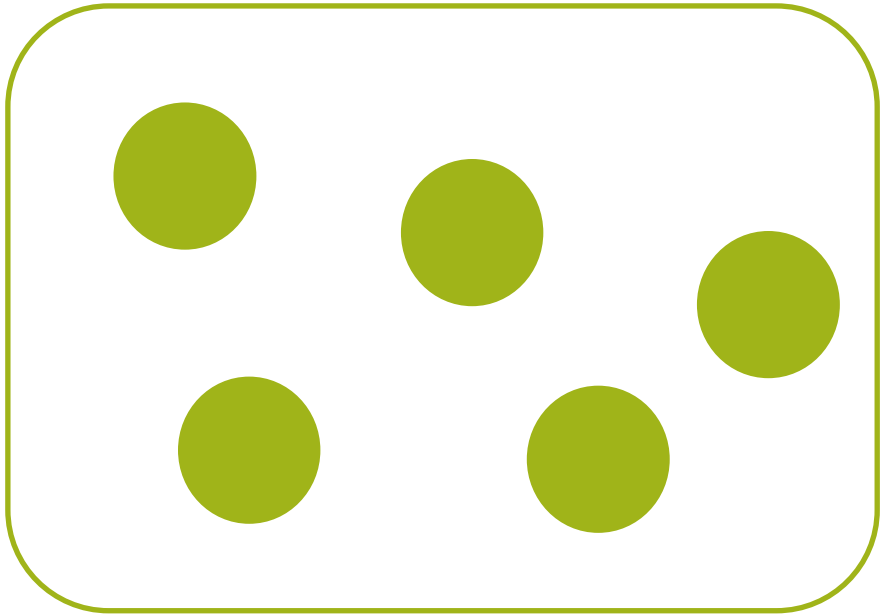

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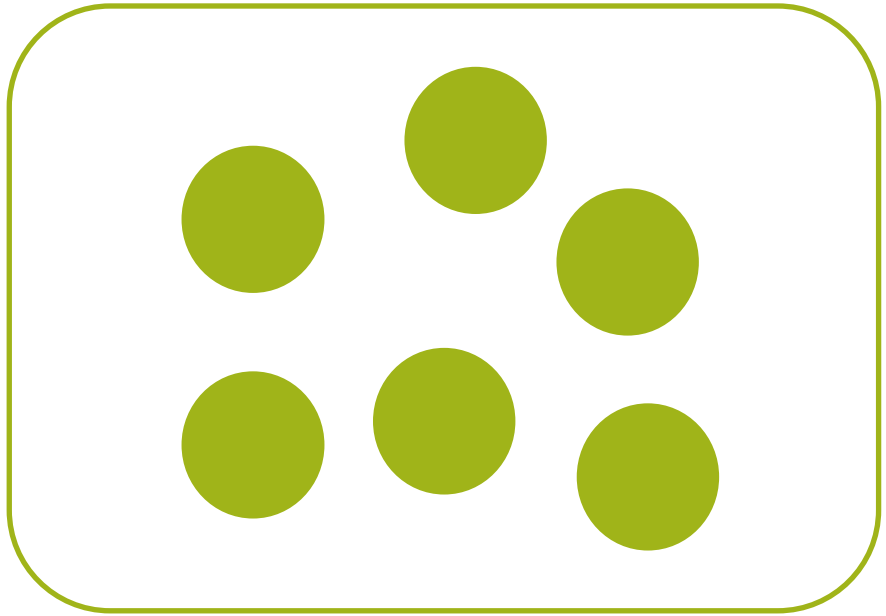

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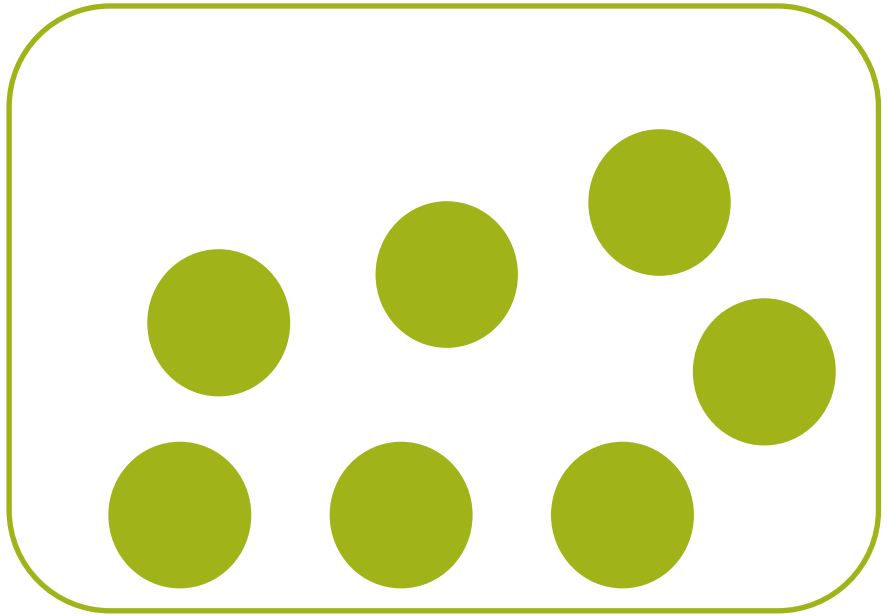
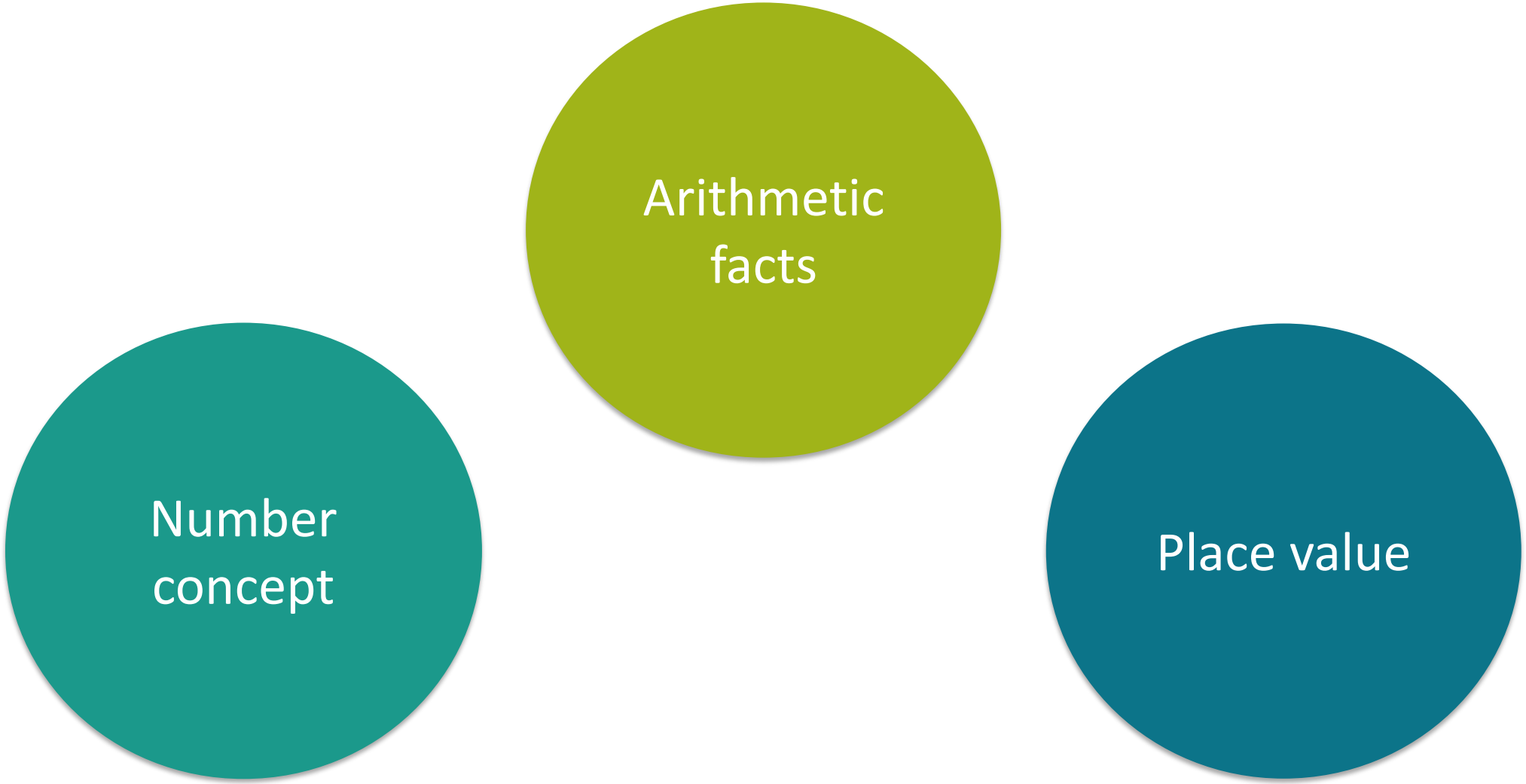


Numerical Stroop

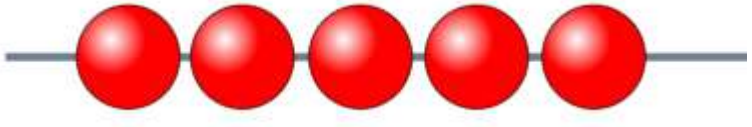
5 4 3 9

7 6 2 8

Developing Numbersense



Number Concept



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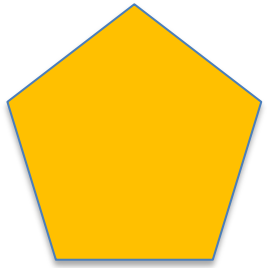
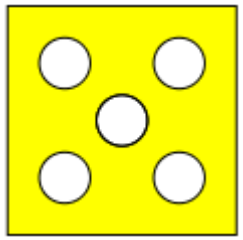
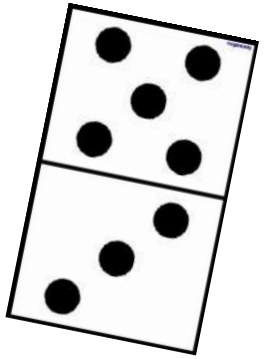
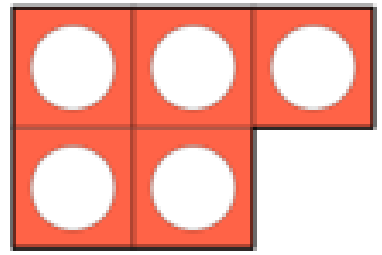
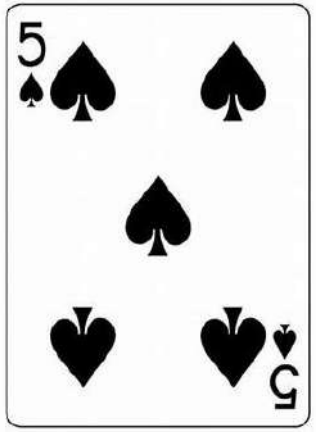
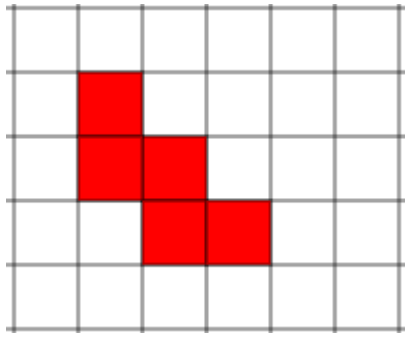


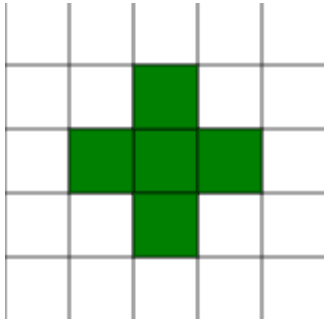


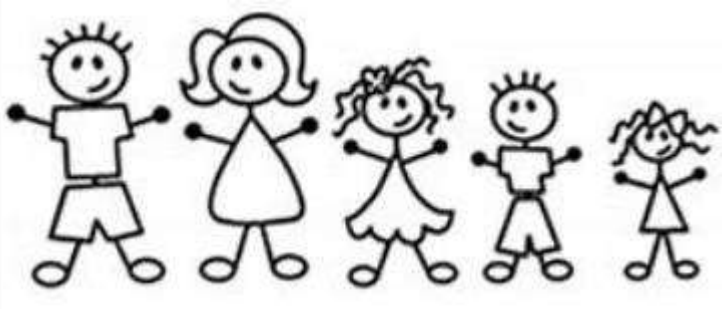












Arithmetic facts

2 = 1 + 1

3 = 2 + 1 = 1 + 2

4 = 3 + 1 = 1 + 3 = 2 + 2

5 = 4 + 1 = 1 + 4 = 3 + 2 = 2 + 3

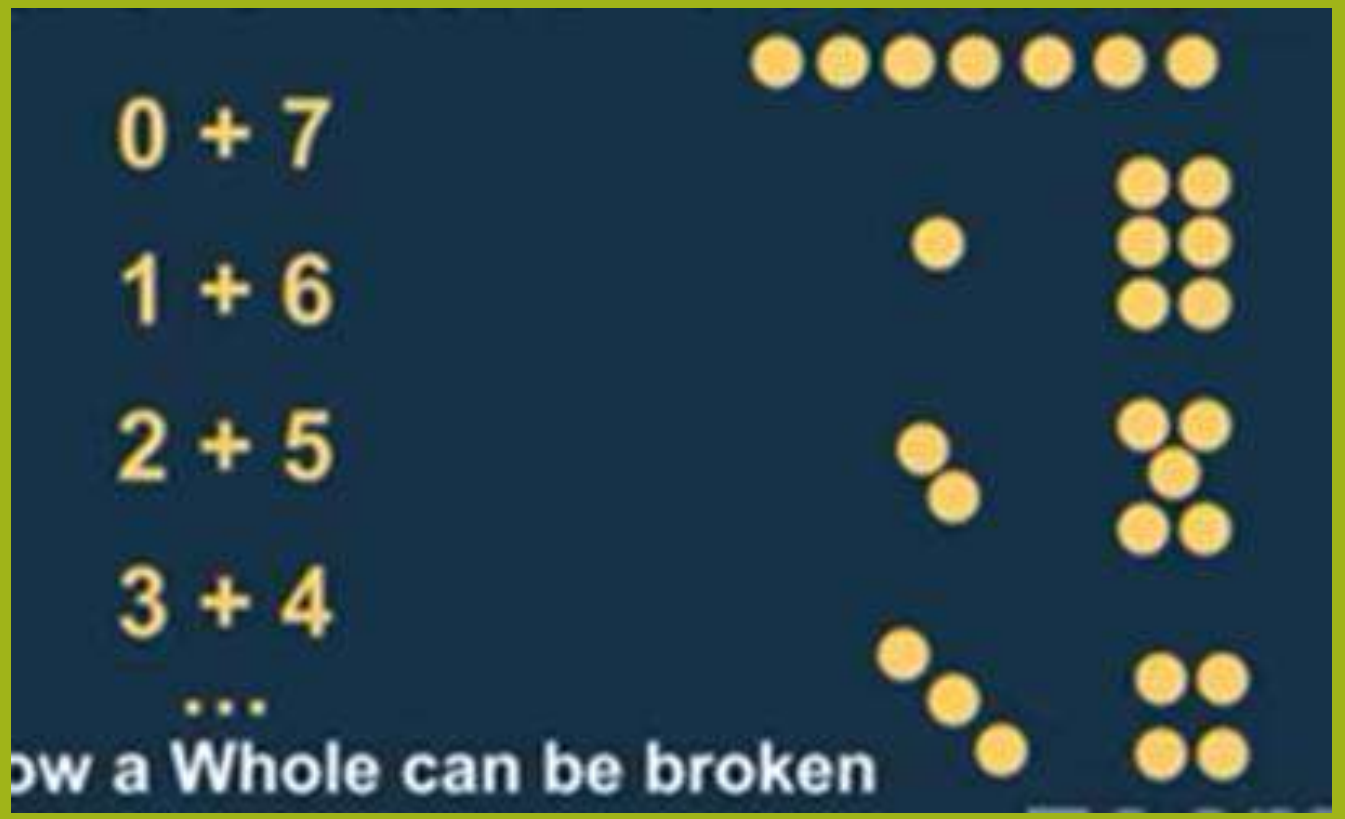
6 = 5 + 1 = 1 + 5 = 4 + 2 = 2 + 4 = 3 + 3

7 = 6 + 1 = 1 + 6 = 5 + 2 = 2 + 5 = 4 + 3 = 3 + 4

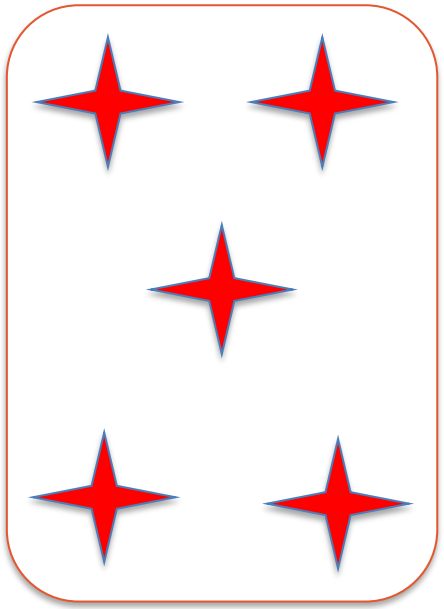
9 = 8 + 1 = 1 + 8 = 7 + 2 = 2 + 7 = 6 + 3 = 3 + 6 = 5 + 4 = 4 + 5

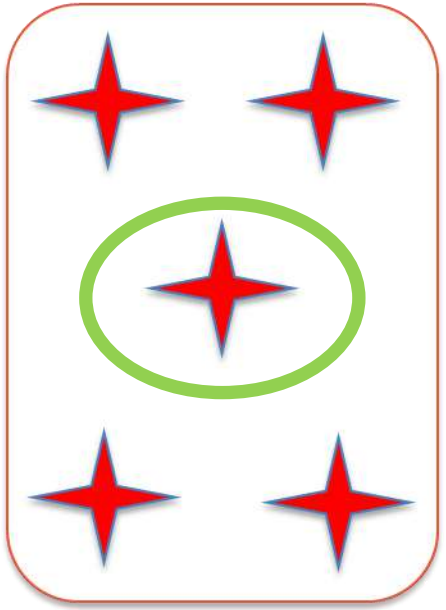
10 = 9 + 1 = 1 + 9 = 8 + 2 = 2 + 8 = 7 + 3 = 3 + 7 = 6 + 4 = 4 + 6 = 5 + 5

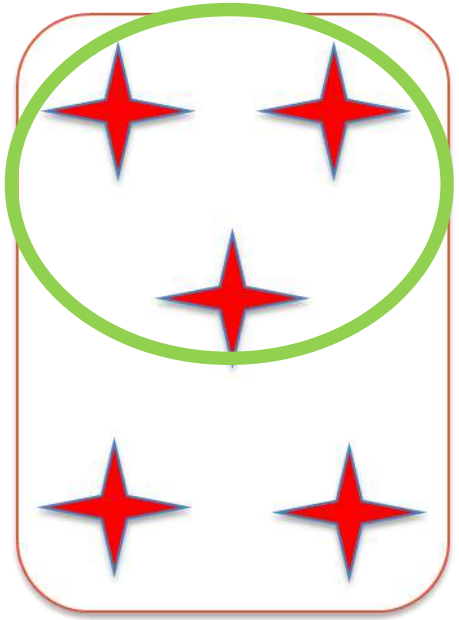
Arithmetic facts

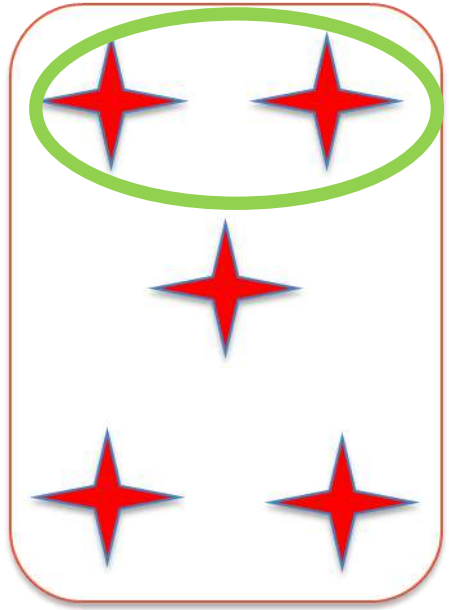


Visual Cluster Cards

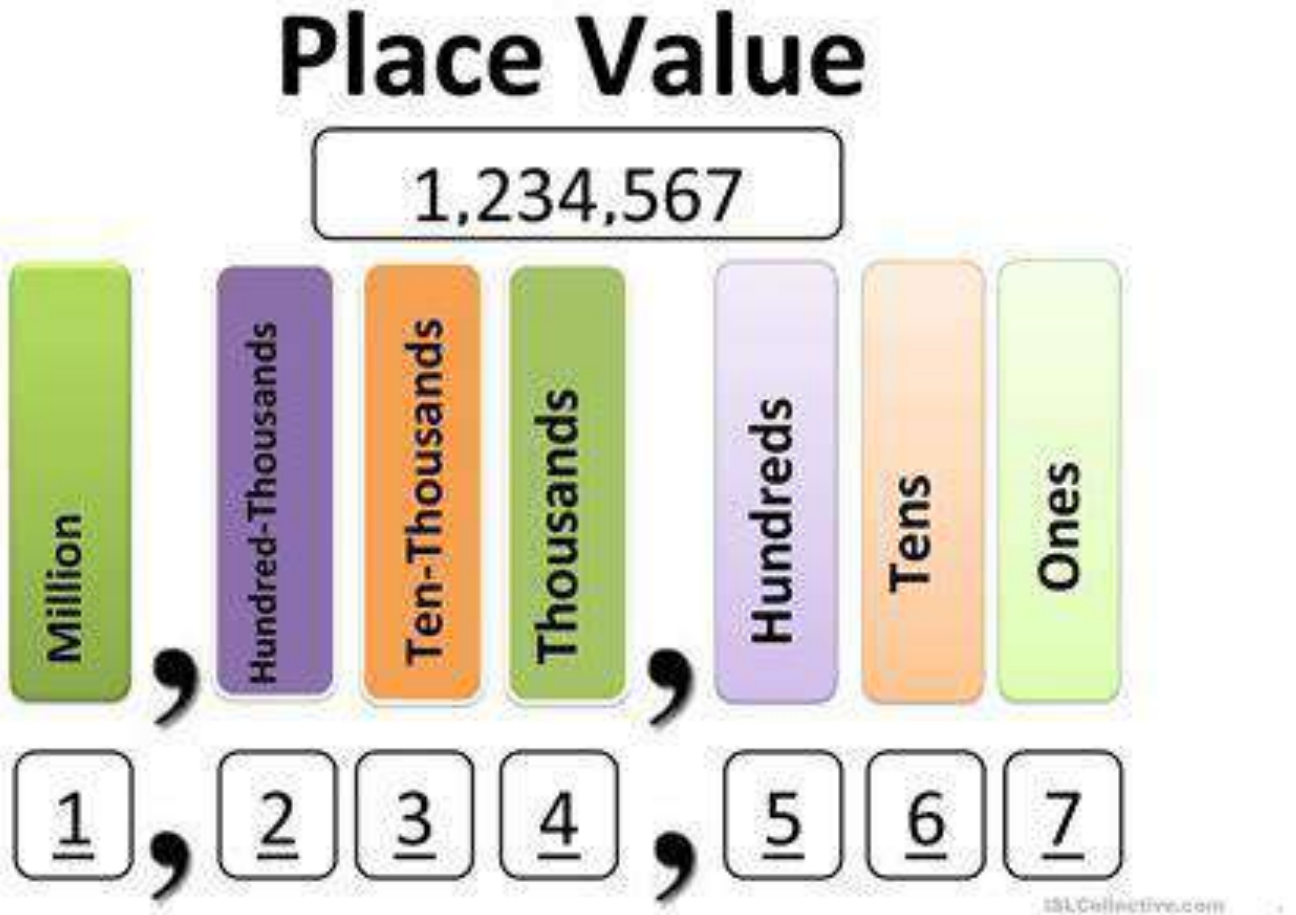




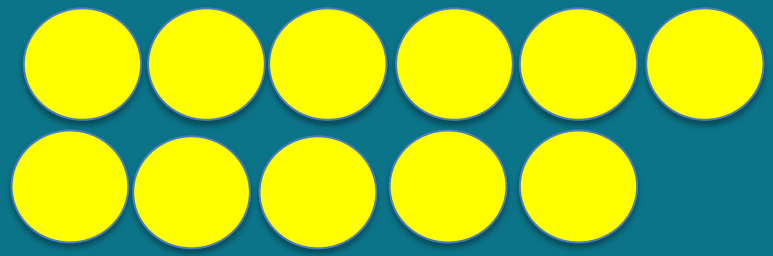




Place Value


Place Value
1,234,567
Million
Hundred-Thousands
Ten-Thousands
Thousands
Hundreds
Tens
Ones
1 , 2 3 4 , 5 6 7

Relationships and Inverse

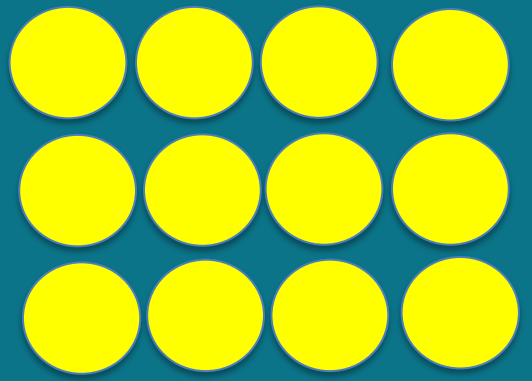


6 + 5 = 11

5 + 6 = 11

11 – 5 = 6

11 – 6 = 5



3 x 4 = 12

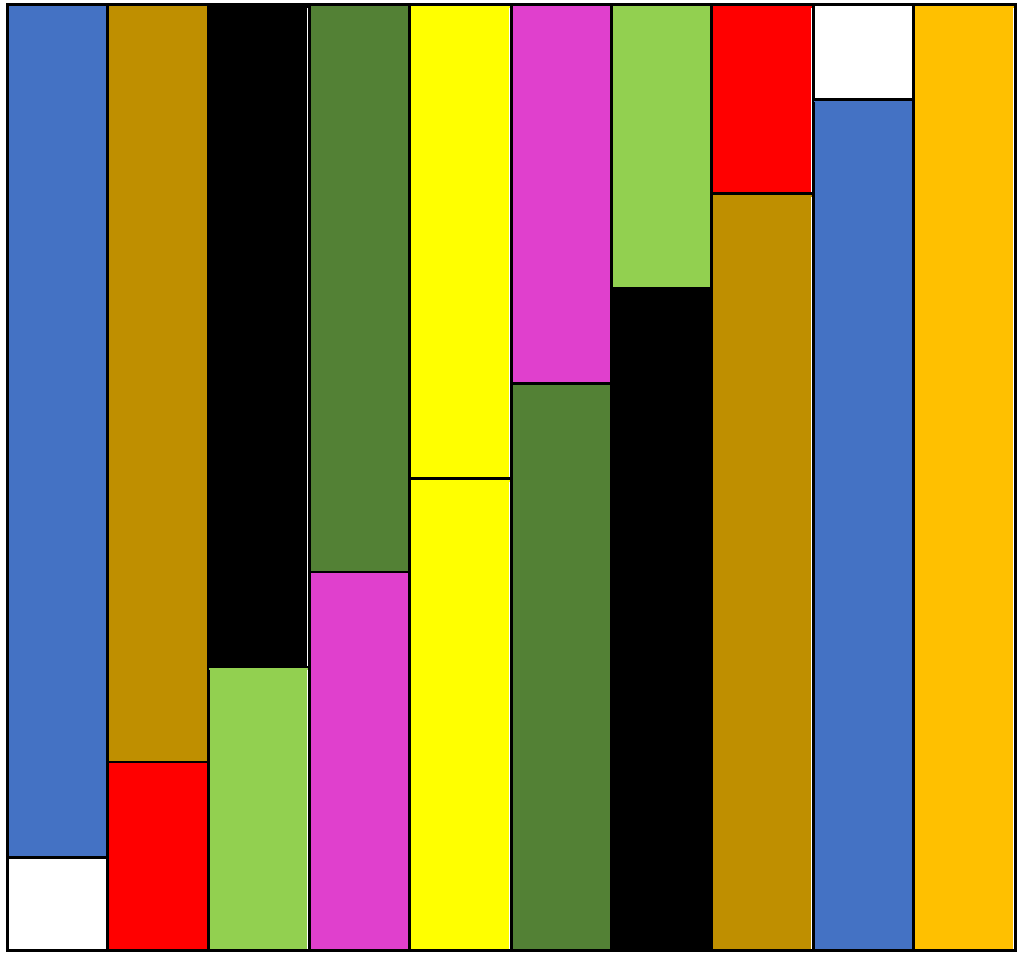
4 x 3 = 12

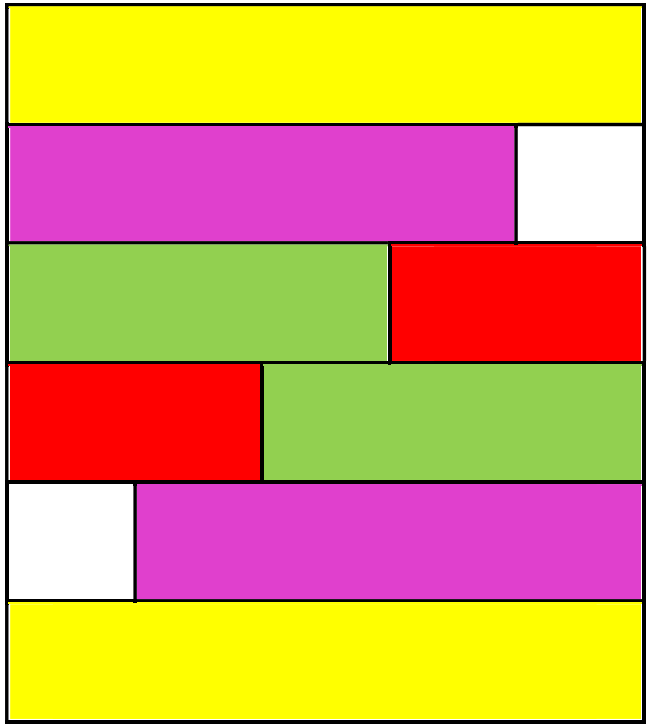
12 ÷ 3 = 4

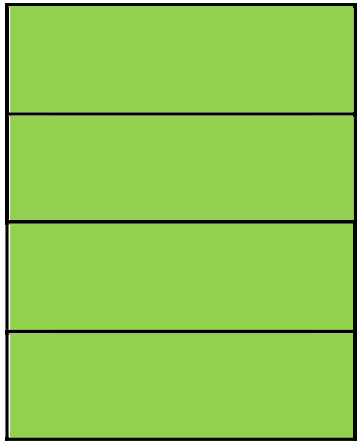
12 ÷ 4 = 3

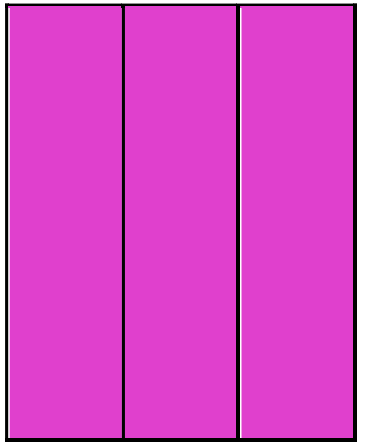
Cuisenaire Rods

Cuisenaire Rods

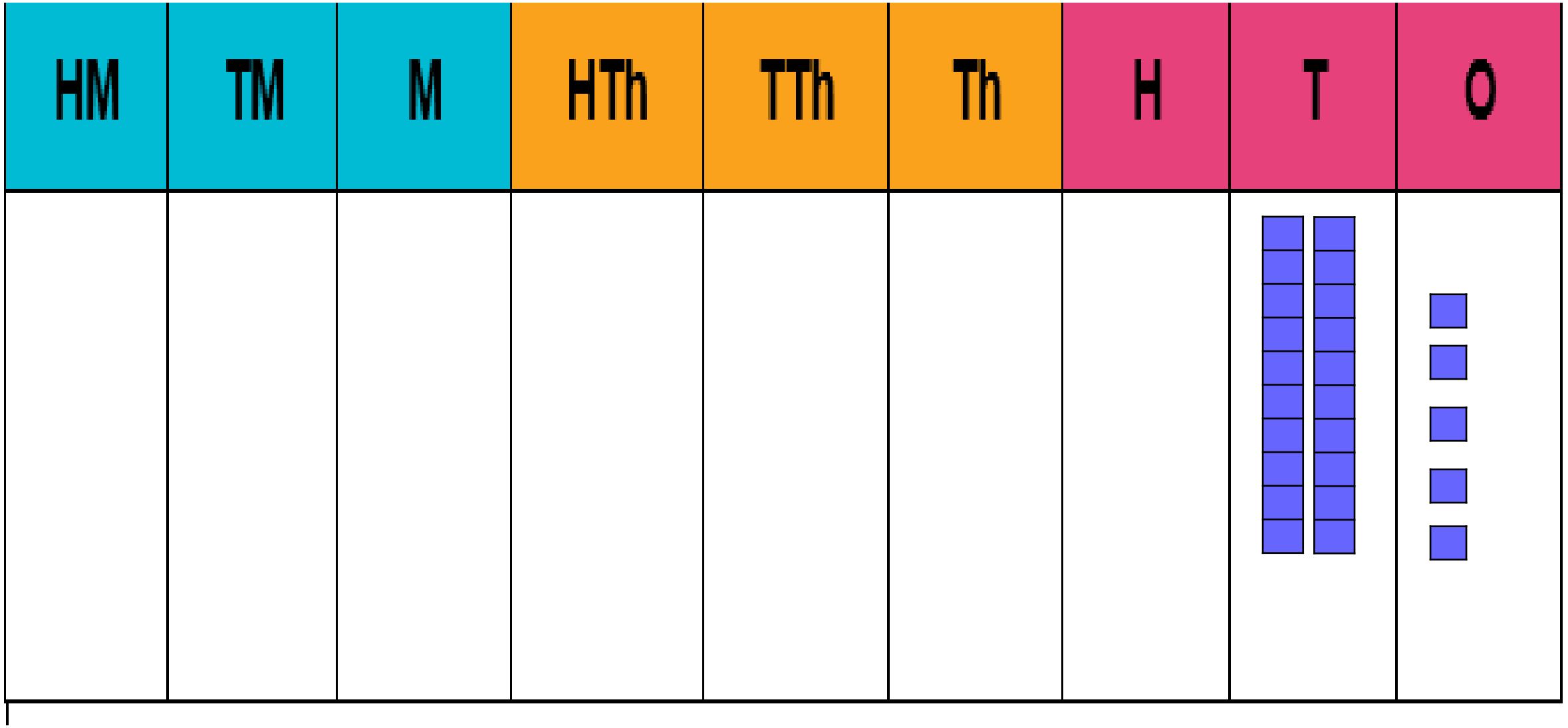




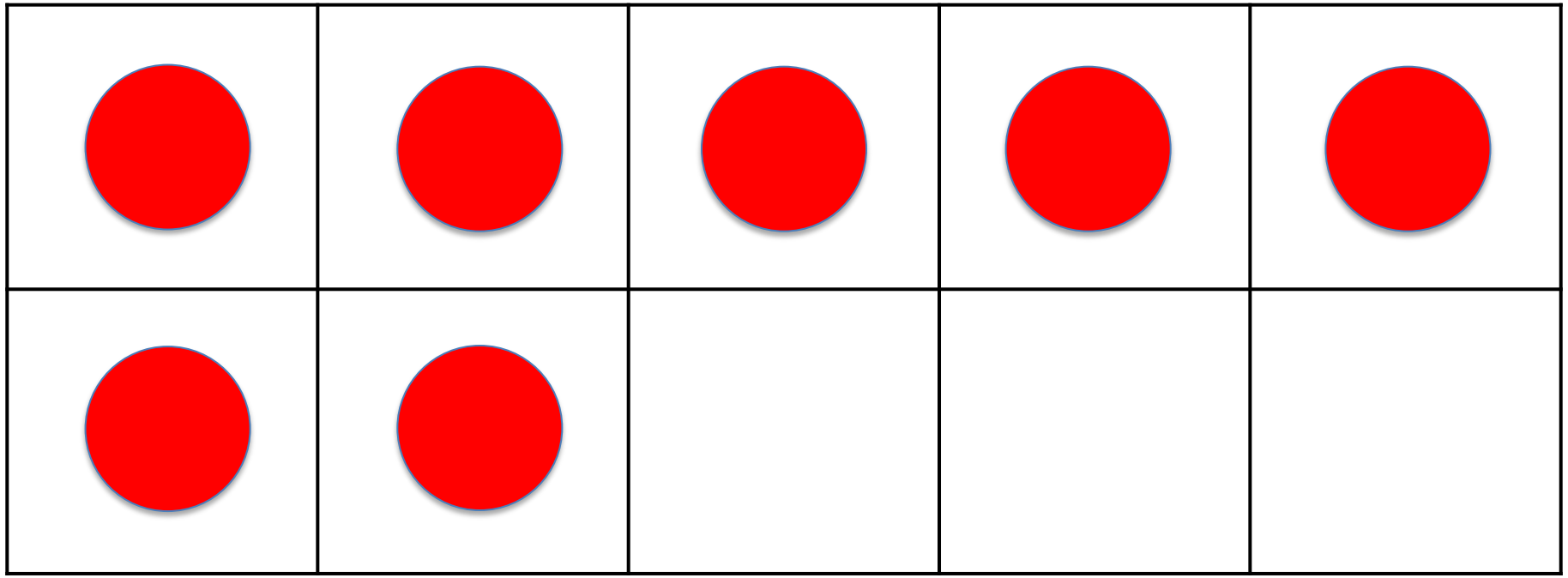




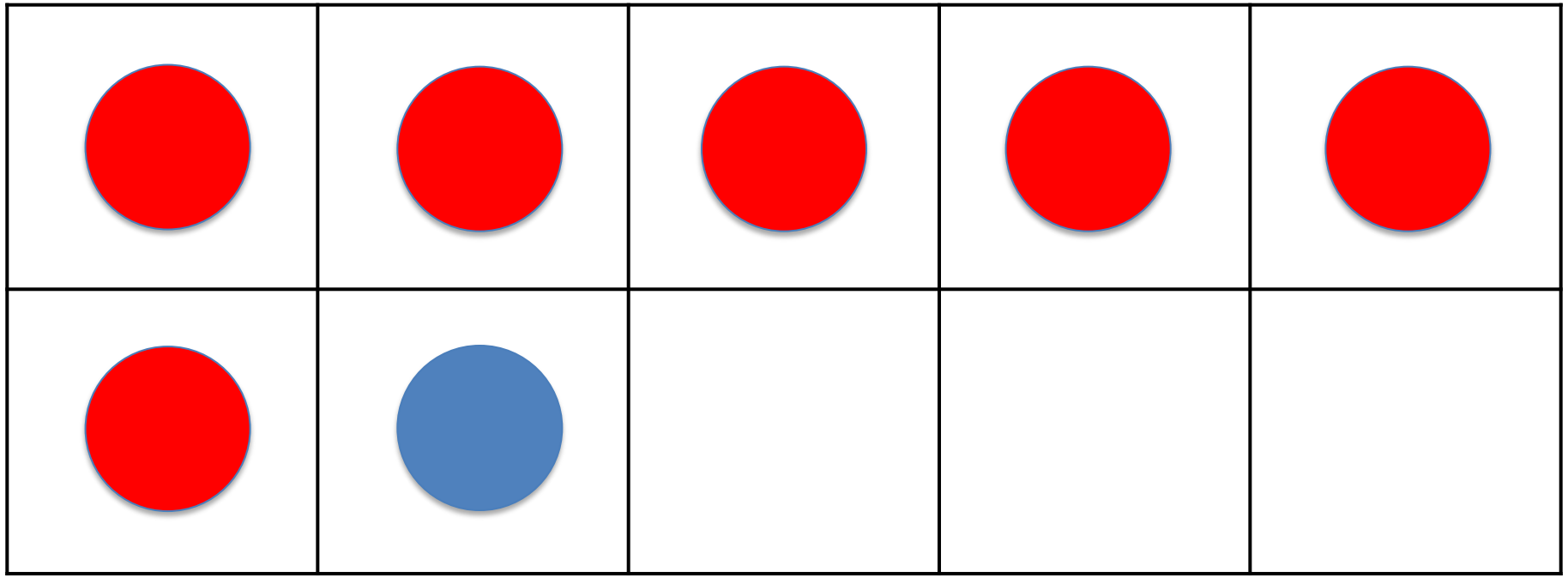
Dienes/Base 10



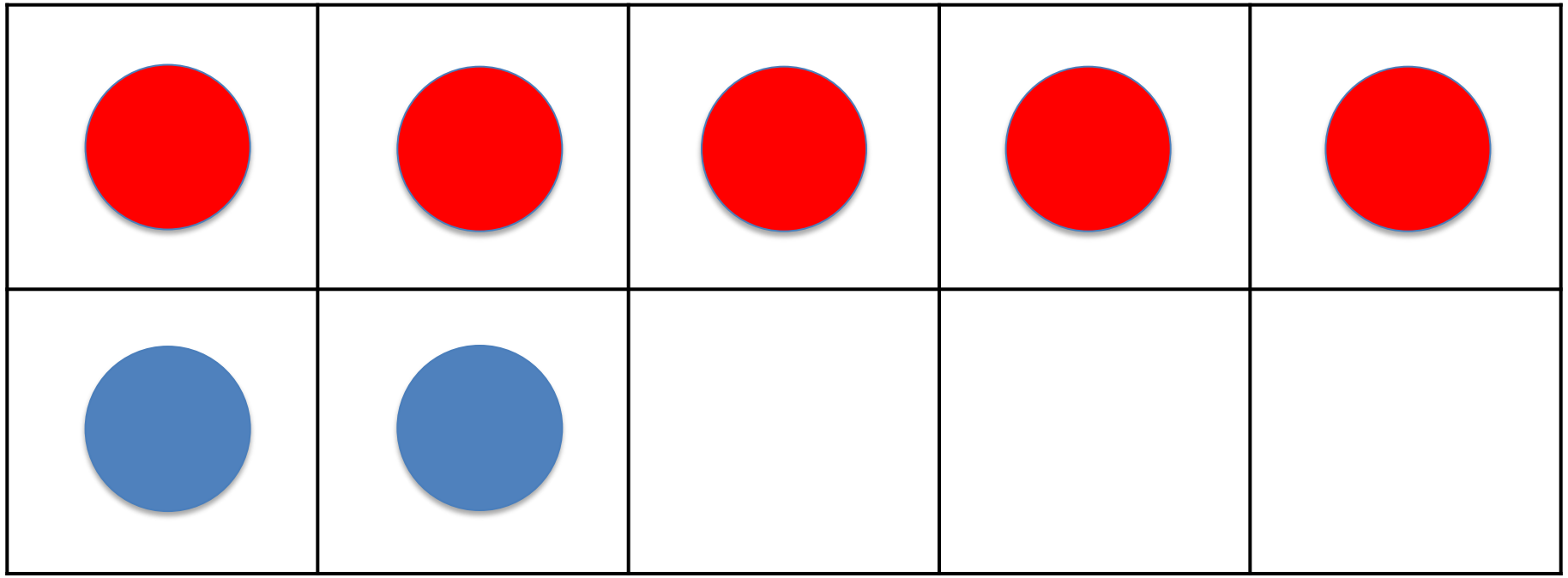
2-colour counters & 10 frames



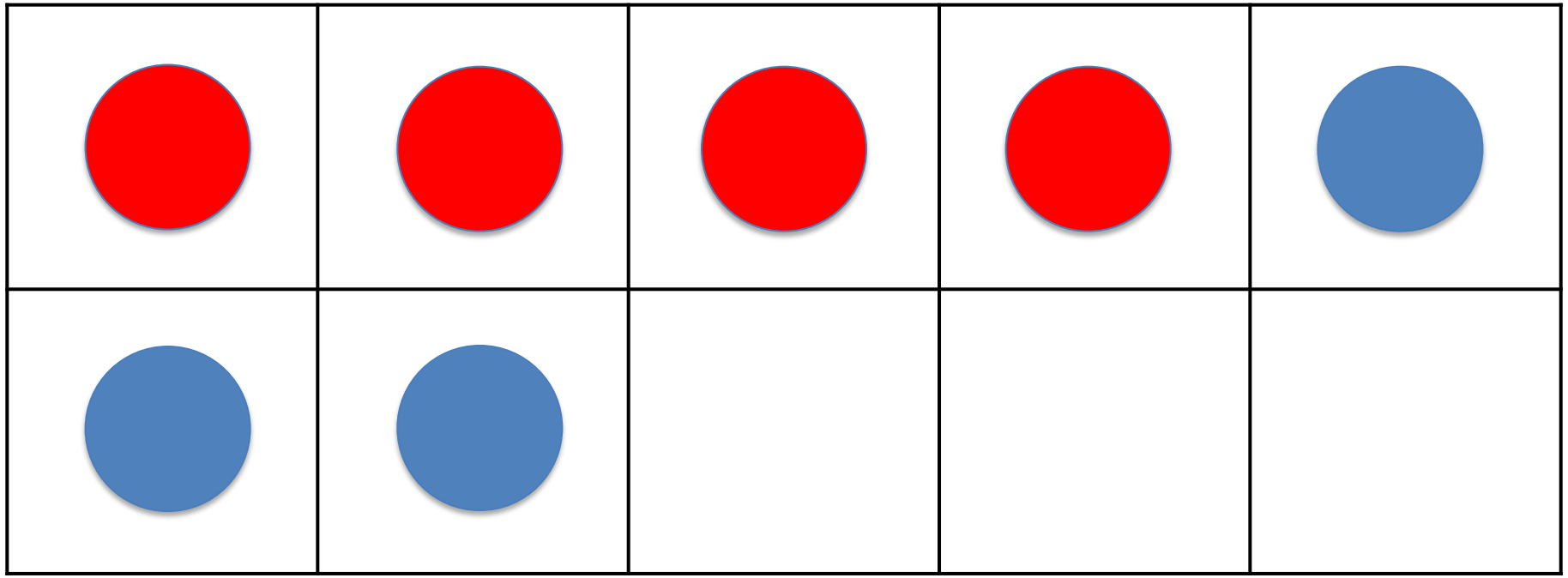
2-colour counters & 10 frames



2-colour counters & 10 frames



2-colour counters & 10 frames



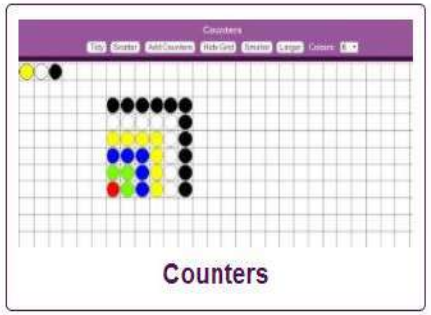
Place Value Charts

HM	TM	M	HTh	TTh	Th	H	T	O

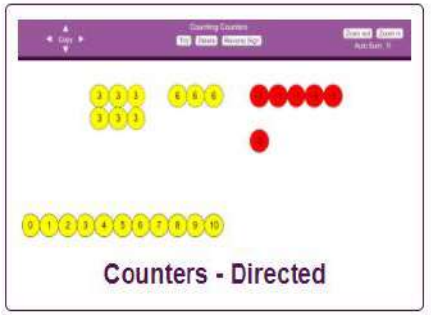
Place Value Charts

HTh	TTh	Th	H	T	O	.	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
						.			

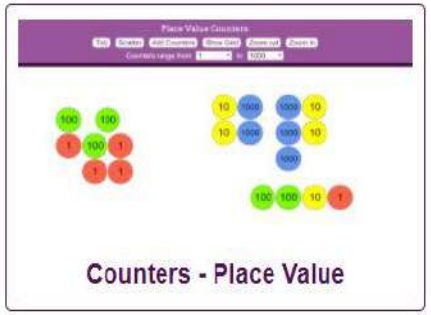
Mathsbot



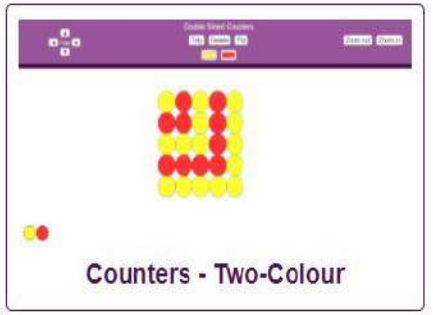
Counters



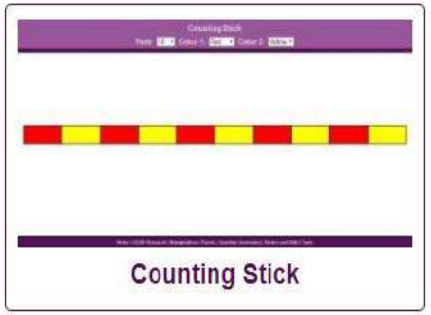
Counters - Directed



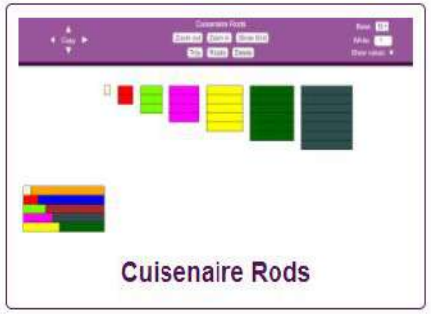
Counters - Place Value



Counters - Two-Colour

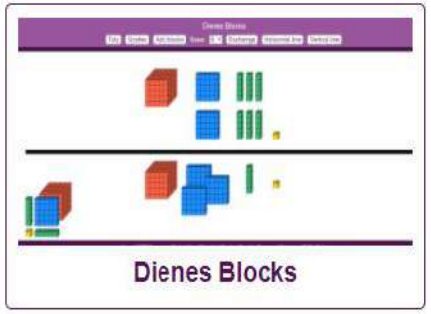


Counting Stick

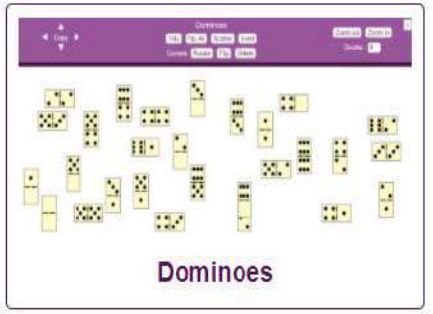


Cuisenaire Rods

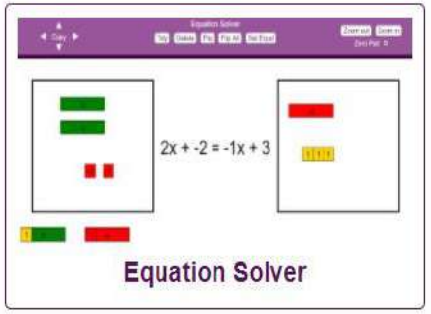
Dice



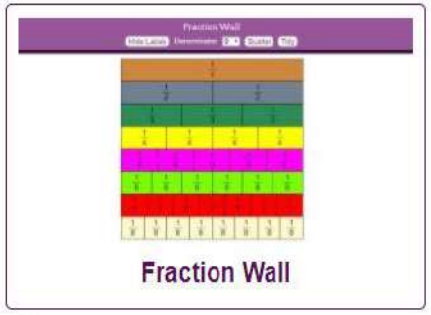
Dienes Blocks



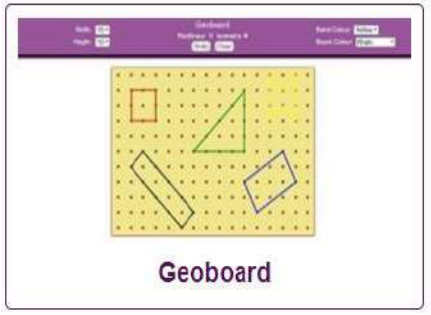
Dominoes



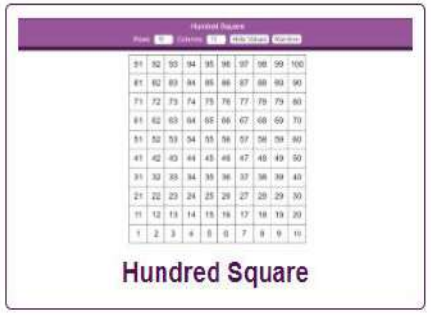
Equation Solver



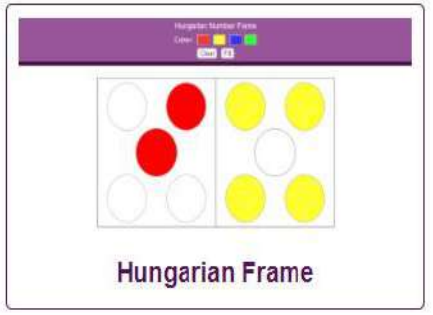
Fraction Wall



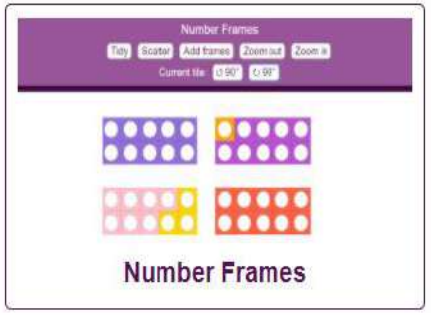
Geoboard



Hundred Square



Hungarian Frame



Number Frames

Recommended Websites

MathsBot.com - Tools for Maths Teachers

Mathematicsforall

https://mathsfourall.com/wp-content/uploads/2021/04/Visual-Cluster-Cards.pdf

youcubed - Inspire ALL Students with Open, Creative Mindset Mathematics

www.stevechinn.co.uk

https://qa.understood.org/

White Rose Maths | Free Maths Teaching Resources | CPD Training