

Petersfield Infant School

Maths Workshop Year 1

Spring 2023



ncetm.org.uk

Key principles

- ▶ **EVERY** child can learn and enjoy maths
- ▶ Understanding is built **step-by-step** to ensure **all** children can make good progress
- ▶ Children are encouraged to approach mathematical challenges with **positivity and confidence**

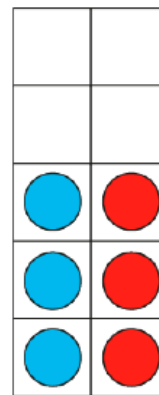
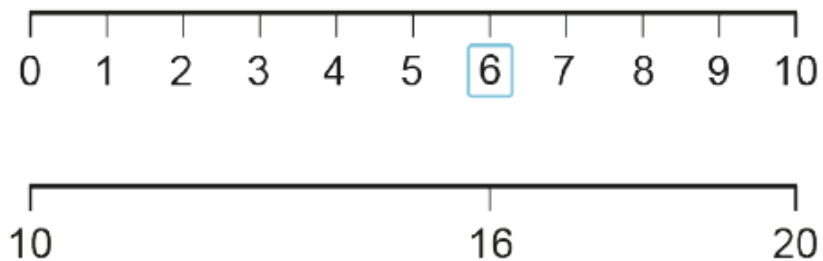


Aims for children in maths for Year 1

- ▶ Make good progress within the **National Curriculum**
- ▶ Develop a **deep knowledge** of maths
- ▶ Be **confident** in communicating their ideas
- ▶ Develop a **positive attitude** to maths and willingness to 'have a go'

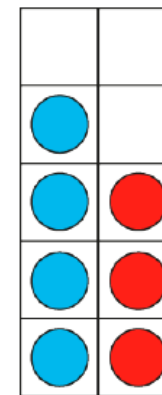
Areas of maths in Year 1

- ▶ **Number:** Whole numbers, counting and place value within 100
- ▶ **Addition and subtraction:** Focusing on numbers within 20
- ▶ **Multiplication and division:** Focusing on counting in 2s, 5s and 10s

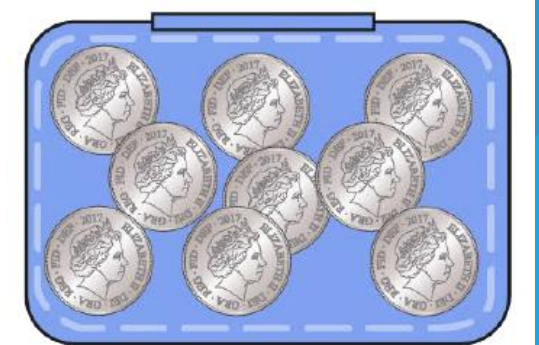


$$3 + 3 = 6$$

so



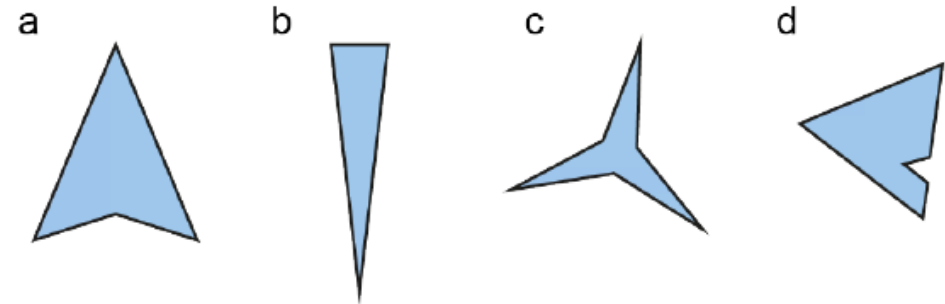
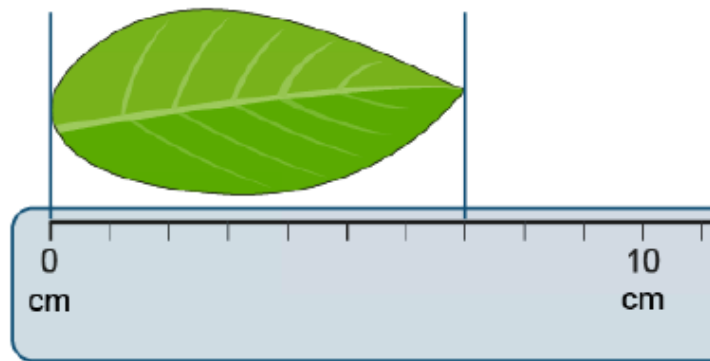
$$4 + 3 = 7$$



10p coins

Areas of maths in Year 1

- ▶ **Measurement:** Comparing and describing different aspects such as length, weight, volume and time
- ▶ **Geometry:** Properties of 2D and 3D shapes and describing position and direction



How children learn maths in Year 1

- ▶ All children experience the same shared mathematics together in **daily focused lessons**
- ▶ **Practical experiences** underpin mathematical learning
- ▶ Experience **multiple ways** to approach and solve problems
- ▶ Daily opportunities to practise **fluency** in important **number facts**

Daily focused maths lessons

In a typical lesson, children will...

- ▶ **think about** and **discuss** questions and ideas
- ▶ complete **short tasks**
- ▶ experience and give **demonstrations** and **explanations**
- ▶ think, reason and apply their knowledge to **solve problems**

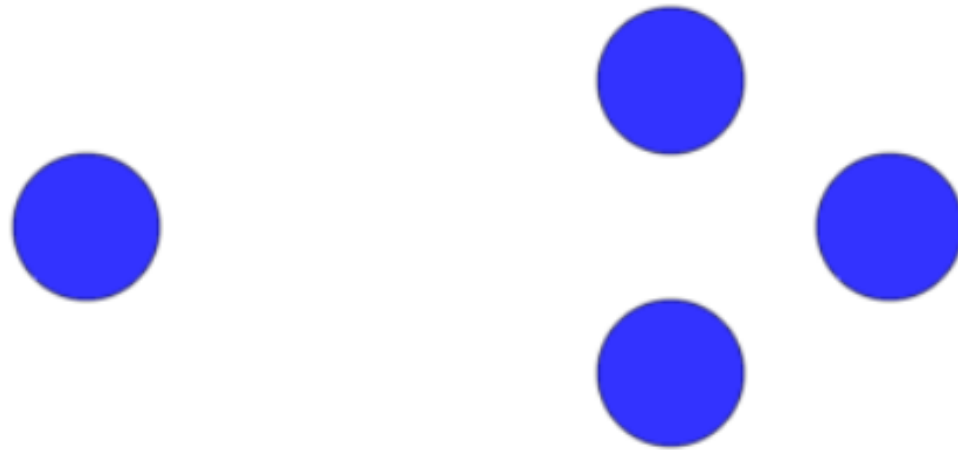
Daily focused maths lessons

- ▶ An emphasis on **deep** and **secure understanding**, not superficial learning
- ▶ Where a child grasps a concept quickly, they are challenged to think more deeply through **reasoning**, **making connections** and **noticing patterns**, rather than moving onto new content from other year groups
- ▶ When a child needs it, they are given additional support to address any areas they are finding trickier

Subitising



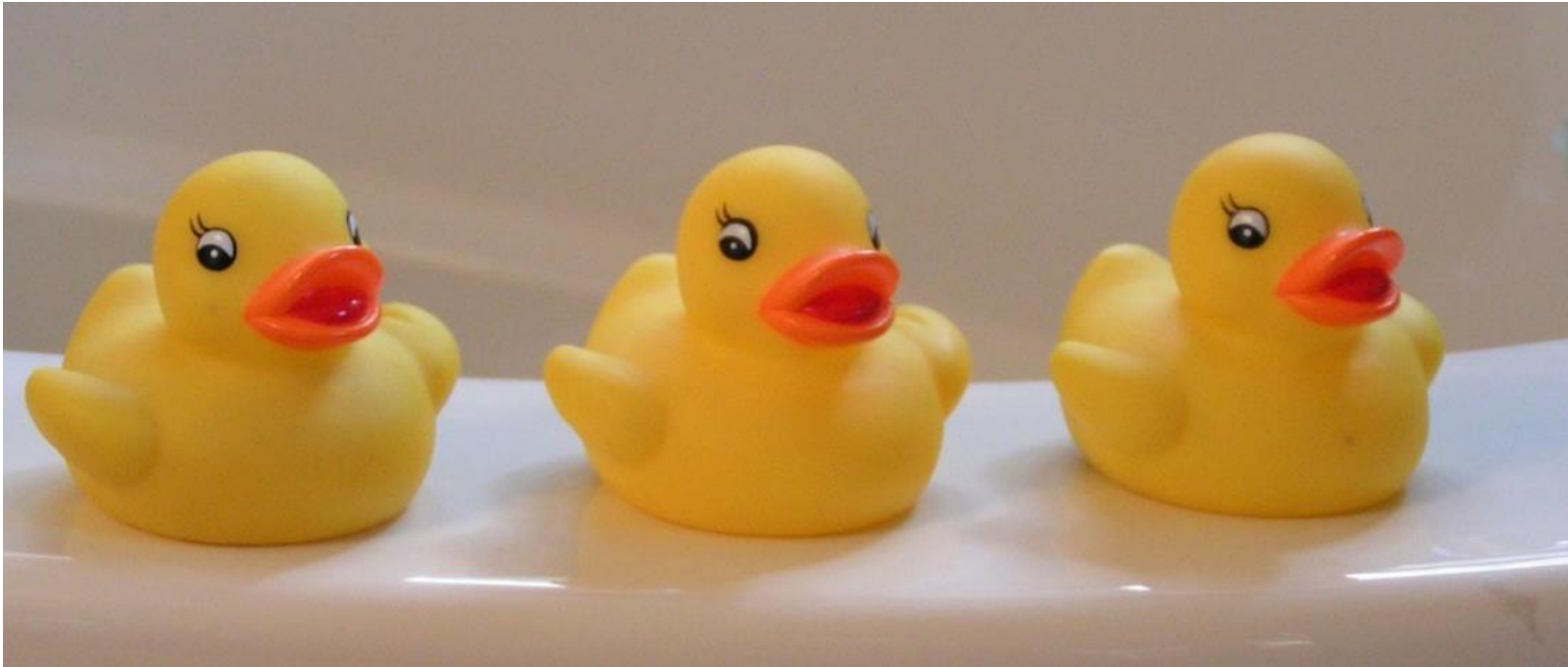
Subitising



Subitising



Subitising



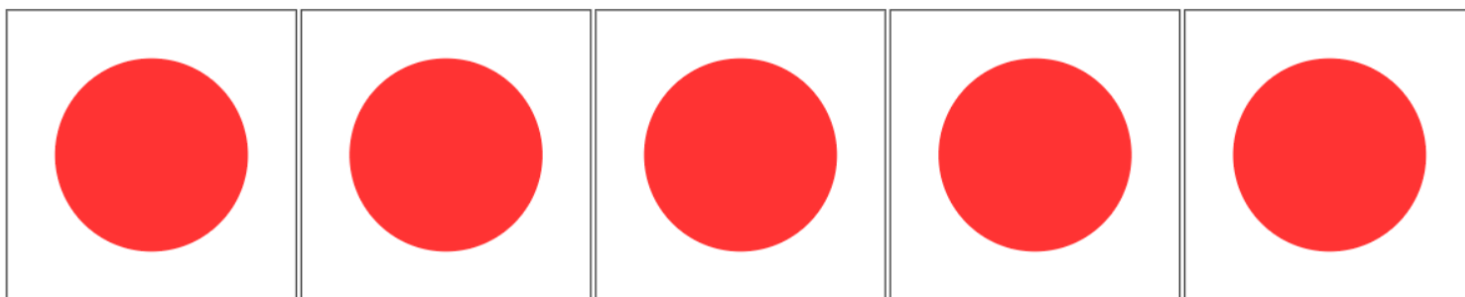
“I can see three ducks!”

Subitising

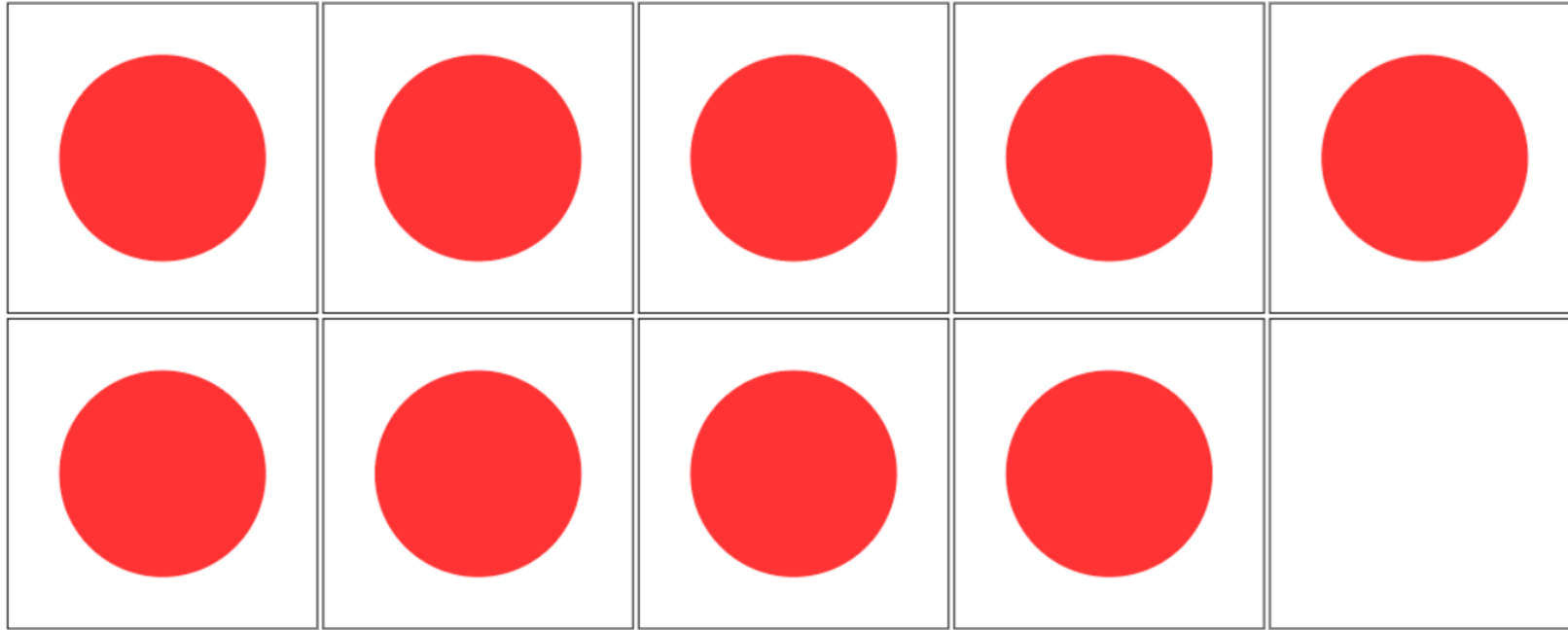


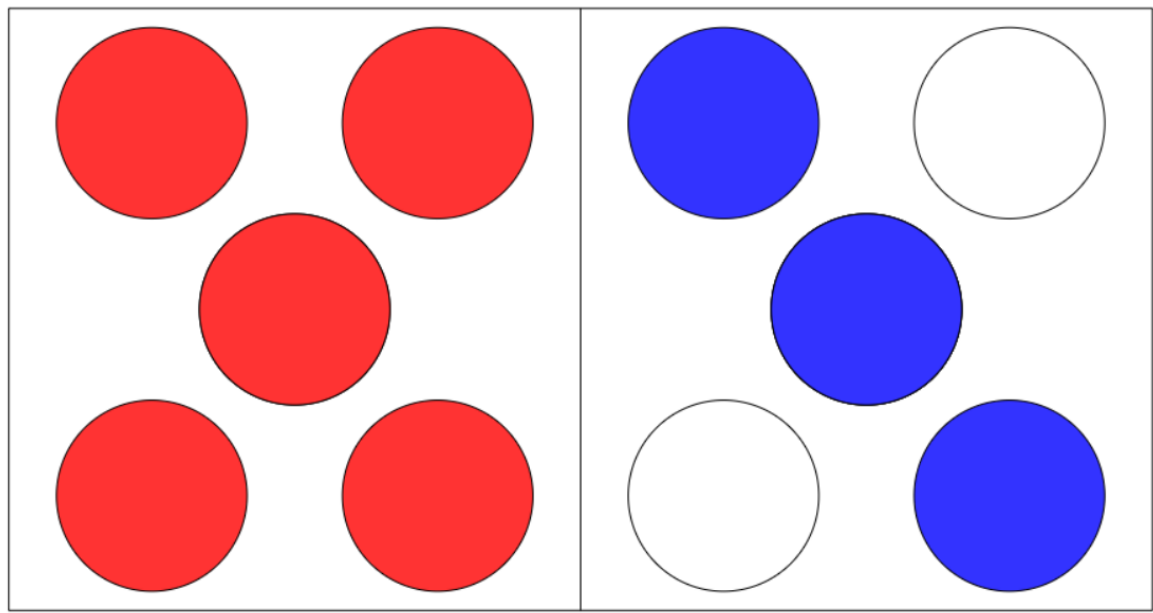
“I can see four ducks...because I can see one duck and three baby ducks and I know that makes four!”











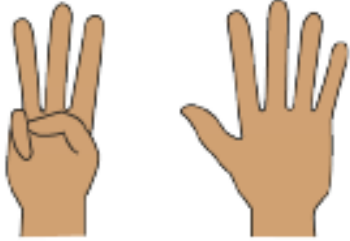


Figure 15: 8 represented as 3 fingers and 5 fingers

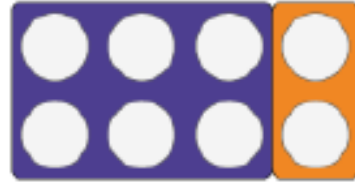


Figure 16: 8 represented as 6 and 2 with base 10 number boards

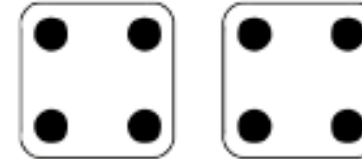


Figure 17: 8 represented as two 4-value dice



Figure 18: 8 represented as 2 rows of 4



Figure 19: 8 represented as tally marks: 5 and 3



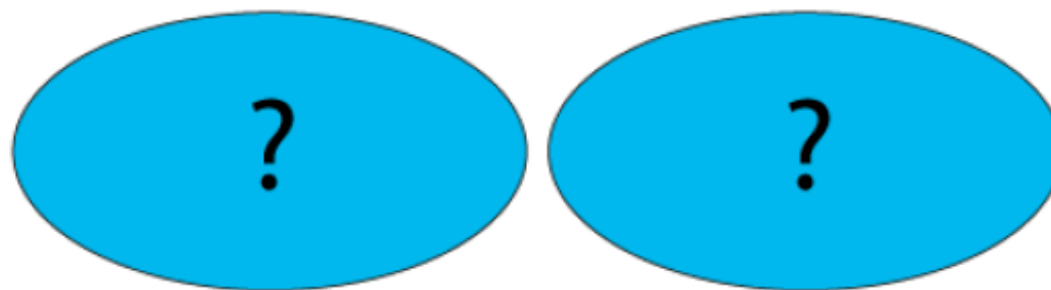
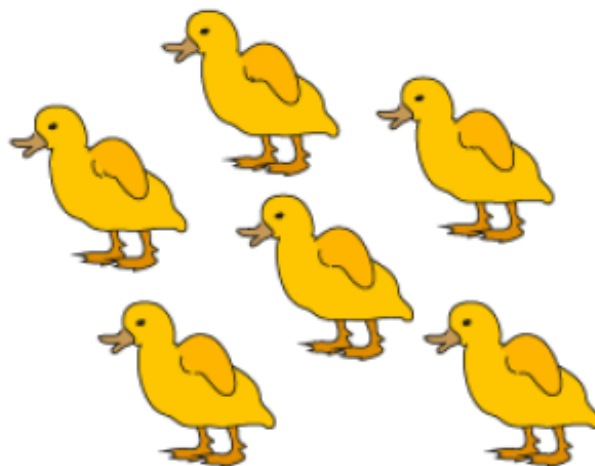
Figure 20: 8 represented on a bead string: 7 and 1

Daily focussed maths lessons

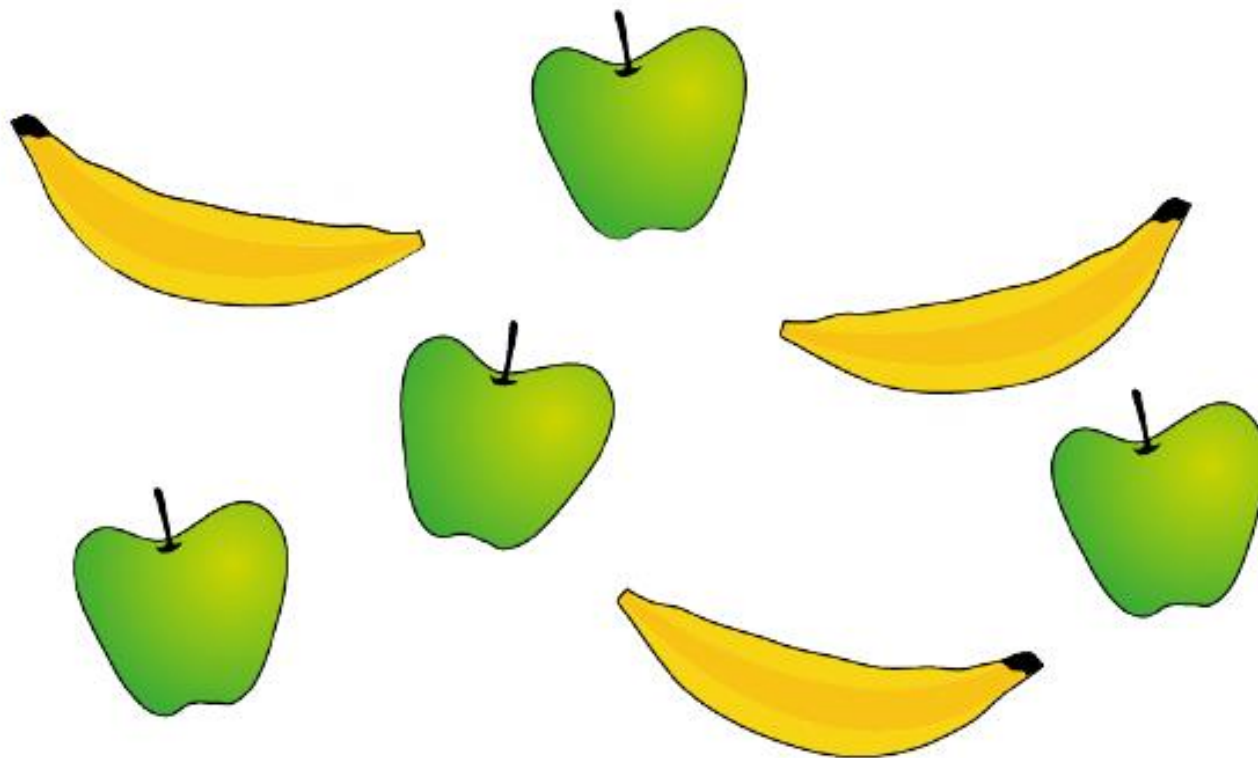


<https://www.ncetm.org.uk/classroom-resources/lv-a-year-1-lesson-on-difference-as-a-form-of-subtraction/>

Mother duck is in the water with her 6 ducklings. There are 2 ponds. How many ducklings could be in each pond?



Which equation matches the picture? Can you explain your choice?



$$3 + 3 = 6$$

$$8 = 4 + 3$$

$$4 = 3 + 1$$

$$4 + 3 = 7$$

Which of these shapes are (or are not) triangles? Explain how you know.

a



b



c



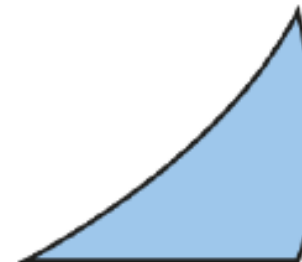
d



e



f



How can you help?

- ▶ Portray confidence, enjoyment and positivity in sharing mathematics with children
- ▶ Avoid promoting negative attitudes such as:
“I can’t do maths” or “I never liked maths at school”
- ▶ See and explore mathematical opportunities everywhere
- ▶ Model a ‘can-do’ attitude towards problem solving and encourage resilience when challenges occur

Spatial reasoning



<https://earlymaths.org/wp-content/uploads/2022/01/SRToolkitposter6to7.pdf>



Numberblocks

Sing along and learn all about numbers with the Numberblocks!

On **iPlayer**

Choose an episode

Maths Leader: Sam	R.E. P.S.H.E.
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Mathematics at Petersfield Infant School Foundation Subjects ▾

At Petersfield Infant School we follow a 'teaching for mastery' approach, which is used by the leading schools in the world. Our school is part of a nationwide program run by the NCETM (National Centre for the Excellence of Teaching in Mathematics), which is the leading authority on the teaching of mathematics.	Video Tutorials E-Safety Eco-School	the leading nated by g of mathematics.
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The mastery approach sets high expectations for every child and ensures that all children develop a positive and confident attitude to mathematics. The learning journey follows the Early Years Foundation Stage (EYFS) and the National Curriculum and is broken down into small, logical steps at a pace that allows the whole class to master each aspect fully before moving on to the next. The teacher provides regular opportunities for children to engage in deep mathematical thinking, including for those who have grasped a concept more rapidly, while ensuring that children's misconceptions can be addressed early.

Petersfield Infant School Mathematics Calculation Guide

Children begin to record in the context of play or practical activities and problems.

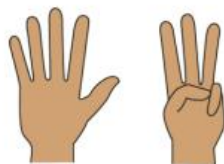
Children continue to explore mathematics practically while also developing more formal recording and representation.

Addition

Year R

Children begin to relate addition to combining two groups of objects. Activities include:

- Counting with numbers from one to 20, placing them in order and saying which number is one more or one less than a given number
- Use stories, games and songs to begin using language for addition
- Begin to record in the context of play and practical activities
- Solve simple word problems using their fingers



- Use the language of one more when adding one to group
- Count forwards along a number line



Year 1

Mental Fluency

Children will develop fluency in the following addition facts:

- Count to 100 in 1s, beginning with 0 or 1, or from any given number
- Add two 1-digit numbers, spotting doubles or pairs to 10
- Add ten to any 1-digit number
- Represent and use number bonds within 10

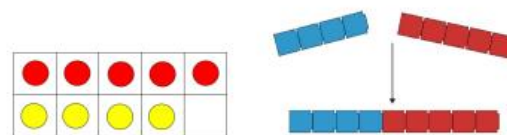
Calculation

Children are taught to:

- Understand and represent numbers to 100 as tens and ones



- Use objects to count and combine numbers, using the language of 'parts' and 'whole'. E.g. "Four is a part, five is a part, nine is the whole".

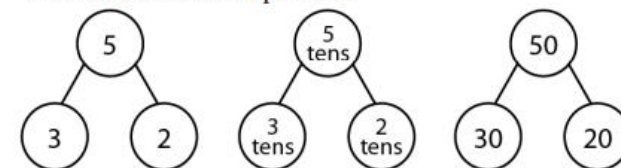


Year 2

Mental Fluency

Children will develop fluency in the following addition facts:

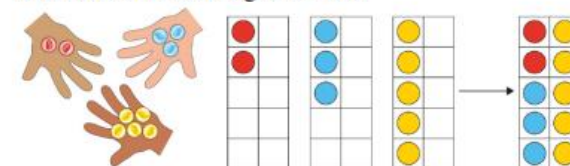
- Count on in steps of 2, 3, and 5 from 0, and in tens from any number, to and across 100
- Recall and use all addition facts to 20 fluently, and derive and use related facts up to 100



Calculation

Children will develop their use of the representations from Year 1, while being taught to:

- Add two or three 1-digit numbers




- Add a 1-digit number to any 2-digit number using number facts, including bridging multiples of 10

- Count on in 10s and 1s



Building 'Number Sense'

Children need to have plenty of experience and opportunities to explore number to help them to develop 'number sense'. This is the ability to be able to see and manipulate numbers in different ways. The following activities and games can be used at home to support your child.

- Throwing numbers: Tell your child a number – can they quickly hold up that many fingers? You could also play this game by rolling a dice.
- Bunny ears: Similar to 'throwing numbers', but child holds up their fingers on their head like 'bunny ears' – e.g. 7 could be made with 3 fingers on one hand and 4 on the other. Can they do the same number in a different way? How many ways can they find?
- Board games played with dice, like snakes and ladders.
- Roll a dice – can you do an action that number of times? E.g. hop on one leg or clap.
- Arrange objects such as counters in patterns like those found on a dice . Can you arrange the same number in a different way? Ask 'what's the same; what's different?'.