NCCA

Primary Mathematics Toolkit – Support material

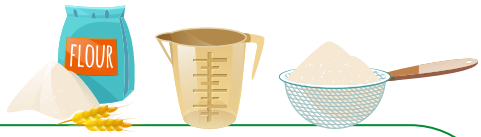
Sets and operations – Suggestions for learning at home

Why learning about sets and operations is important?

Sorting and matching sets in the early years helps develop visual skills, thinking and memory skills, language and problem solving. Combining and separating objects into groups/sets is an important first step to addition and subtraction. Addition, subtraction, multiplication and division are important skills that are applied to many maths concepts e.g. it will support children to work flexibly and efficiently with large numbers, decimals, fractions and percentages. A good knowledge of number operations can give children a sense of independence and teach them to be resourceful in real-life situations.

IDEAS TO SUPPORT LEARNING

- Present your child with a box of separated pairs of socks. Provide empty baskets, one for each member of the family. Work with your child to organise, sort, pair and place the socks in the correct boxes.
- Challenge your child to tidy and sort similar type toys into equal sized groups. Explore with your child ways of finding the total number of toys gathered e.g. we have five bundles of toys and there are six toys in each bundle. How could we calculate the total?
- Involve your child with preparing ingredients for baking/cooking. Sort and group similar type items together. Create number stories based on the ingredients e.g. *how many vegetables do we need altogether. If we use the carrots first, how many vegetables will be left then?*
- Involve your child in laying the table for dinner e.g. discuss how addition and multiplication can be used to identify the total number of knives/forks/spoons needed.
- Examine a calendar. Look for patterns. Challenge your child to calculate how many days in two weeks/three weeks, how may days until school holidays etc.
- Involve your child when shopping for groceries. Challenge your child to estimate the cost of a number of items given the unit cost e.g. *we need six oranges. One orange costs 50c. How much will they cost altogether?*
- Show and talk to your child about a bill e.g. *an electricity bill. Examine the unit cost and discuss how the total is calculated using multiplication.*
- Encourage your child to use number operations to quickly count plants, fruits, vegetables, and flowers in the garden or park.



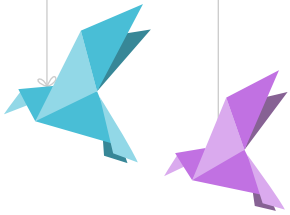
BOOKS

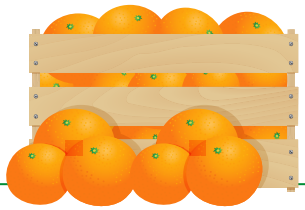
- *Simon Sock* by Sue Hendra (3–5 years)
- *Kipper's Toybox* by Mick Inkpen (4–8 years)
- *Ten Red Apples by* Pat Hutchins (2–5 years)
- *Handa's Surprise* by Eileen Browne (2–4 years)
- *365 Penguins* by Jean Luc Fromental (5–7 years)
- *What Comes in 2's, 3's, and 4's* by Suzanne Aker (48 years)
- *Bean Thirteen* by Matthew McElligot (5–8 years)
- *Multiplying Menace* by Pam Calvert (7–10 years)
- *The Multiplying Menace divides* by Pam Calvert (7–10 years)
- *One Hundred Hungry Ants* by Elinor Pinczes (6–8 years)

** Your local library provides a wide range of free books and resources which support in developing children's mathematical learning*

GAMES / ACTIVITIES

- *Jenga*: record number facts on Jenga blocks. Build the tower using the Jenga Blocks. Challenge your child to answer the number fact on the blocks as they are removed from the tower.
- Hopscotch: using chalk, draw out hopscotch squares on the ground and in each square, write number facts to be answered e.g., 36÷6
- Treasure Hunt: place number fact cards around the house. Challenge your child to search for the cards and answer the number facts on each card.
- Toss a multiplication soccer ball: Write random numbers in the white spots on a soccer ball. Toss the ball to another person and have them look at the numbers closest to their thumbs. Multiply the two numbers together and say the answer out loud.
- *Bus Stop* by Orchard Toys
- *Multiplication Bingo* by Junior Learning
- *Magic Maths* by Orchard Toys
- *Array Problem Matching* by Smart Kids





WEBSITES

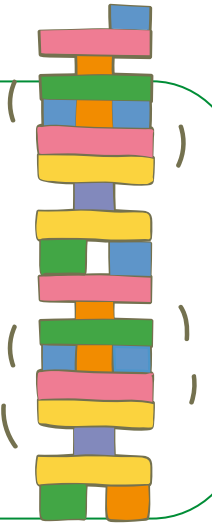
NRICH https://nrich.maths.org/8955

NZMaths https://nzmaths.co.nz/user/2908/planning-space/teaching-multiplication-and-division

**Useful terms to search online: primary, learning, maths, addition, subtraction, multiplication, division, operations, problems, tasks*

ARTS AND CRAFTS

- Chalk drawings: draw equal sets of favourite objects on the ground using chalk e.g. *types of cars, types of animals, types of cakes etc. Create number sentences for each drawing.*
- Origami – dividing paper: challenge your child to divide sheets of paper into different divisions e.g. *thirds, quarters, fifths etc.*
- Multiplication Spider: pre-cut eight small holes into the bottom of a water bottle. Insert four pipe cleaners through the holes to make the spiders legs. Decorate the legs with beads. Each leg must be exactly like the others. Twist the pipe cleaners back on themselves to secure the beads. Write multiplication sentences based on the spiders e.g *8 x 2, 8 x 3 etc.*



YOUR OWN IDEAS