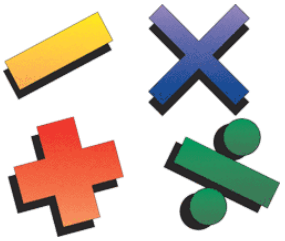
Mathematics Overview of Learning
Week 10-11 Term 1



Black indicates the content descriptor from the beginning of the continuum of learning in each stage (as stated by the Australian Curriculum).

Red indicates the content descriptor aligned with further understanding later in the continuum of learning in each stage (as stated by the Australian Curriculum).

Kindergarten

Length MAe1-9MG (Week 10)
Use direct and indirect comparisons to decide which is longer, and explain their reasoning using everyday language (ACMMG006)

Area MAe1-10MG (Week 11)
Use direct comparison to decide which shape has a larger area and explain their reasoning using everyday language

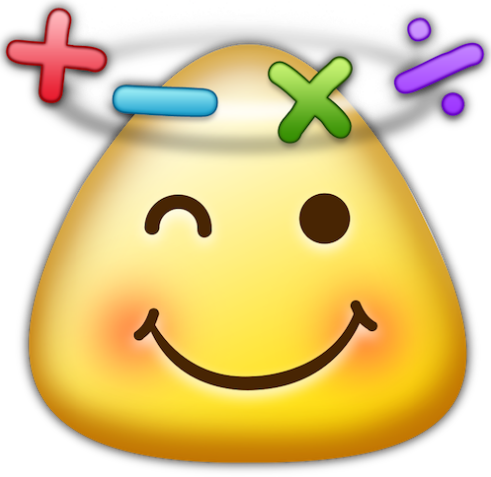
Activities to support learning at home:

(Length)

- **Tall and short.** Discuss the heights of different people in your family.
- **High and low**. Discuss the relative position of objects in your home, e.g. "the clock is up high, but the bin is down low"
- **Guessing Games.**
- ➔ "I am an animal with a tall neck. What am I?"
- ➔ "I spy with my little eye, something that is up high."
- **Incidental activities.** Use opportunities that arise during the day to describe objects as being long, short, tall, high and low. e.g. "Let's walk to the tall tree." "Throw a ball high."

(Area)

- Cover surfaces completely with smaller shapes.
- Draw two shapes on a piece of paper and have your child colour the shape with the biggest or smallest area.



Stage 1

3D Shapes MA1-14MG (Week 10)
Recognise and classify familiar three-dimensional objects using obvious features (ACMMG022)
Describe the features of three-dimensional objects (ACMMG043)

Volume and Capacity MA1-11MG (Week 11)
Measure and compare the capacities of pairs of objects using uniform informal units (ACMMG019)
Compare and order several objects based on volume and capacity using appropriate uniform informal units (ACMMG037)

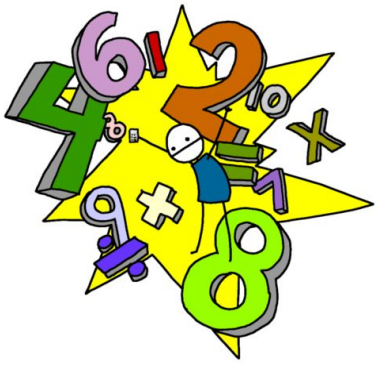
Activities to support learning at home:

(3D Shapes)

- Watch https://www.youtube.com/watch?v=2cg-Uc556-Q to assist with classifying some 3D shapes
- identify and name familiar three-dimensional objects, including cones, cubes, cylinders, spheres and prisms, from a collection of everyday objects.
- Find everyday 3D objects around the home. Help your child classify them as a type of 3D shape (e.g. can = cylinder, cereal box = (rectangular) prism).
- Choose some 3D objects around the home and describe the number of flat surfaces, curved surfaces, faces, edges and vertices, eg 'A can (or cylinder) has two flat surfaces, one curved surface, no faces, no edges and no vertices', 'This cereal box (or prism) has 6 faces, 12 edges and 8 vertices'.
- Barrier Game: Work in pairs, standing back-to-back with your partner who is holding a solid object (3D object). Ask your partner questions to determine the solid, only saying the name of the object when he or she is sure what it is. You could also reverse this and get the person holding the object to describe it using 3D shape terminology (faces, edges, curved surfaces, vertices etc) until the other person guesses the shape.

(Volume and Capacity)

- **How Could I Measure?** Have your child suggest different materials that could be used to measure different containers, e.g. sand, water for cylindrical containers, blocks for rectangular boxes.
- Have your child pack boxes or empty containers with blocks. Then they count the blocks. Discuss with them how they packed the box. Did they use layers, rows and columns (boxes may have been packed in horizontal or vertical layers)?
- http://splash.abc.net.au/home#!/media/29664/what-holds-the-most-
- Using various containers around the home (cups, glasses, jugs, containers etc), have your child experiment with capacity, observing which containers have the greatest and least capacity.
- http://pbskids.org/cyberchase/math-games/can-you-fill-it/
- http://www.abc.net.au/countusin/games/game15.htm



Stage 2

Length MA2-9MG (Week 10)
Measure, order and compare objects using familiar metric units of length (ACMMG061)
Use scaled instruments to measure and compare lengths (ACMMG084)
Use scaled instruments to measure and compare temperatures (ACMMG084)

Area MA2-10MG (Week 11)
Recognise and use formal units to measure and estimate the areas of rectangles
Compare the areas of regular and irregular shapes by informal means (ACMMG087)

Activities to support learning at home:

(Length)

- Have your child build a tower (using blocks) that has to be a specific measurement tall e.g. 38cm or marking out lengths using metres.
- Have your child make a list, under the headings 'centimetres' and 'metres', as many items as they can think of that would be appropriately measured by either.
- Use a tape measure to measure a variety of objects around the home to the nearest centimetre e.g. 1m 38cm. Ask your child to order them from shortest to longest.
- Have your child measure your waist with a ruler. Does this work? Discuss difficulties and how to measure circular objects ie string, ribbon, measuring tape. Children measure a variety of round objects, ie, drink bottles, rubbish bins, etc.
- Using weather websites, view daily temperatures and discuss climate - find highest and lowest temperatures in the state and compare the difference. http://www.weatherzone.com.au/

(Area)

- Build a party room (games with area) http://www.mathplayground.com/PartyDesigner/PartyDesigner.html
- Place one hand on a square-centimetre grid and carefully trace around it. Colour and count the complete squares inside the outline of your hand.

Stage 3

Multiplication and Division MA3-6NA (Year 5 Week 10 - continued from Week 8)
Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental and written strategies and appropriate digital technologies (ACMNA100)

Use estimation and rounding to check the reasonableness of answers to calculations (ACMNA099)

Length MA3-9MG (Year 6 Week 10)
Connect decimal representations to the metric system (ACMMG135)
Convert between common metric units of length (ACMMG136)
Solve problems involving the comparison of lengths using appropriate units (ACMMG137

Area MA3-10MG (Week 11)
Choose appropriate units of measurement for area (ACMMG108)
Calculate the areas of rectangles using familiar metric units (ACMMG109)
Solve problems involving the comparison of areas using appropriate units (ACMMG137)

Activities to support learning at home:

(Multiplication and Division) - continued from Week 8

- TIMES TABLES!!!!! http://www.abcya.com/multiplication_grand_prix.htm
- This link will take you to a page that reviews the area model of multiplication. Review and complete some examples with your child. https://www.khanacademy.org/math/arithmetic/arith-review-multiply-divide/arith-review-place-value-area-models/e/multiplying-2-digit-numbers-with-area-models

(Length)

- Sylvia's classroom has 10 desks. Each desk measures 125cm in width. The desks are placed side by side. Calculate the total width in a) millimetres b)metres
- https://www.youtube.com/watch?v=w7--f3Jf-vo
- 1. Which measurement is the largest? Circle your answer for each pair.
  - ➔ (a) 14 mm or 1 cm (d) 145 m or 145 km
  - ➔ (b) 334 m or 1 km (e) 3.4 cm or 30 mm
  - ➔ (c) 1 m or 990 cm (f) 10 km or 1000 cm
- Tina is making a frame for a portrait she painted at school. She needs 2 pieces of timber 240mm in length and 2 pieces of timber 180mm in length.
  - ➔ 1. What is the total length of the frame in millimetres?
  - ➔ **2.** If Tina cut the pieces from a 1 metre length of frame, how much would be left over?
- FOr optional worksheets, download from the following website https://www.mathworksheets4kids.com/metric.php

(Area)

- Area (and perimeter) worksheets (focus on area of rectangle sheets) https://www.mathworksheets4kids.com/rectangle.php#area
- Key discussion point: Revise the hectare and square kilometre as units of area measure. Explain that the hectare is 10 000 square metres and a square kilometre is 100 hectares.
- Get your child to try different shapes to make 10000 square metres. Eg 100m x100m, 200m x 50m
- Area (and perimeter) worksheets (focus on area of triangle sheets) https://www.mathworksheets4kids.com/rectangle.php#area
- To assist with the above worksheets, compare the area of a triangle with the area of a rectangle with the same dimensions (length and width).
- Reinforce: 'Area of triangle = 12 × base × perpendicular height