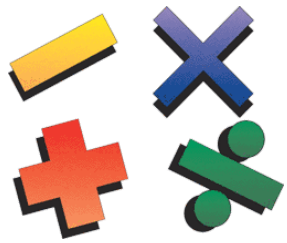
Mathematics Overview of Learning
Week 10-11 Term 1



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.**

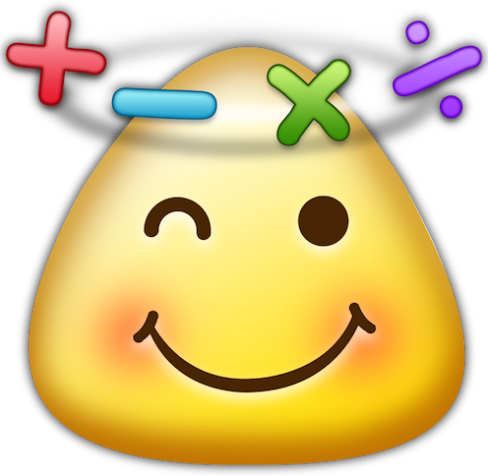
➔ "I am an animal with a tall neck. What am I?"

➔ "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 laters, rows and columns (boxes may have been packed in horizontal or vertical layers)?
- 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.
- **Extension**: Measuring Capacity
  http://www.iboard.co.uk/iwb/Measure-Capacity-Simple-114

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)

(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 (continued for Week 10)
Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental and written strategies and appropriate digital technologies (ACMNA100)
Select and apply efficient mental and written strategies, and appropriate digital technologies, to solve problems involving multiplication and division with whole numbers (ACMNA123)

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

Time MA3-13MG (Week 11)
Compare 12- and 24-hour time systems and convert between them (ACMMG110)
Determine and compare the duration of events
Interpret and use timetables (ACMMG139)
Draw and interpret timelines using a given scale

Activities to support learning at home:

(Multiplication and Division) - continued from Week 8/9

- 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
- Try getting your child to draw a 5x5 grid containing multiplication number sentences that will give an answer between 1 and 50. The answers may be the same, but the number sentences must all be different.
- If you would like your children to complete some worksheets, head to the following website, download and print a variety of multiplication worksheets. https://www.thoughtco.com/multiplication-word-problem-worksheets-4122998

(Time)

- Tell the time accurately using 24-hour time, eg '2330 is the same as 11:30 pm'
- Have students make a clock face with the twelve-hour markings shown in the inner circle and the twenty-four markings on an outer circle. Use this to convert between am/pm notation and 24-hour time.
- 24 hour snap - http://www.bbc.co.uk/skillswise/game/ma25time-game-24-hour-snap
- Try this problem: David has a lot of homework to do. He starts his reading homework at 3:45 and ends at 4:30. Then he does math from 4:30 until 5:00. Lastly, he studies for a science test from 5:00 - 5:30. How much total time did David spend on his homework and studying?
- Look at real-life timetables -

➔ e.g. Sydney trains http://www.sydneytrains.info/timetables/#landingPoint
➔ TV guide https://au.tv.yahoo.com/tv-guide/
➔ Ask a variety of questions about different scenarios involving these timetables. *(Please note: interpreting a timetable is often one of the more challenging skills and requires constant explanation and assistance!!)*

- Add and subtract time mentally using bridging strategies, eg from 2:45 to 3:00 is 15 minutes and from 3:00 to 5:00 is 2 hours, so the time from 2:45 until 5:00 is 15 minutes + 2 hours = 2 hours 15 minutes

Websites to further develop times tables recall:
http://tablestest.com/
http://www.topmarks.co.uk/maths-games/7-11-years/times-tables