Booragul Public School NSW Syllabus for the Australian Curriculum – Measurement & Geometry

Length

Outcomes

Early Stage 1

› describes mathematical situations using everyday language, actions, materials and informal recordings MAe-1WM

› uses concrete materials and/or pictorial representations to support conclusions MAe-3WM

› describes and compares lengths and distances using everyday language MAe-9MG

Language

length, end, end-to end, side-by-side, long, longer than, longest, short, shorter than, shortest, high, higher than, highest, tall, taller than, tallest, low, lower than, lowest, the same as, near, nearer, far, further, close, closer.

NUMERACY CONTINUUM

Measurement

Knowledge of the structure of units in length, area and volume.

Syllabus pp51 & 52

In Early Stage 1, students develop an awareness of the attribute of length and some of the language used to describe length. Students develop an awareness of the attribute of length as comparisons of lengths are made.Early Stage 1 focuses on one-to-one comparisons and the importance of accurately aligning one end of each of the objects to be compared. When students are asked to compare the lengths of two objects of equal length and can consistently say that the objects are equal in length though their relative positions have been altered, they are *conserving* length. This is an important concept and develops over time.

Once students can compare two lengths, they should then be given the opportunity to order three or more lengths. This process requires students to understand that if A is longer than B, and B is longer than C, then A is longer than C.

Length and distance are distinct concepts. The term 'length' is generally used to describe a measure from end to end of a drawn interval, a two-dimensional shape or a three-dimensional object. The term 'distance' is generally used to describe the lineal space between two things, places or points. Activities should focus on both concepts.

Emergent structure

Attempts direct comparison without attending to alignment.
May attempt to measure indirectly without attending to gaps of overlaps.

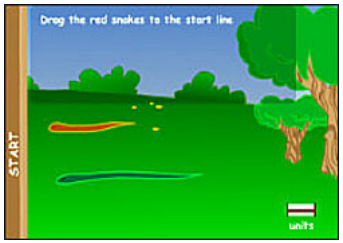
Direct alignment

Directly compares the size of two objects (alignment).

Transitive comparison

Directly compares the size of three or more objects (transitivity).
Uses indirect comparison by copying the size of one of the objects.

Teaching and Learning Activities	Notes/ Future Directions/Evaluation	Date
Am I taller or shorter? Students move independently around the classroom and identify three objects that are taller than or shorter than them. Record by drawing and labelling. Alternatively, students choose a reference such as their desk and find three things that are shorter than, longer than, higher than their desk. Cut two pieces of string the same length. Have two students stretch them out to compare lengths and ensure each is the same. Ask one student to curl one piece of string into a ball. Ask the students if the length has changed. How do we know? Discuss the fact that length doesn't change just because it has been moved or has changed shape.		
Heights Milestones in Maths Big book 1, p1 "Meet Oger's Family" Use questioning to discuss the height of each member. Discuss the meanings of the language being used to compare the height of each family member. Children of different heights stand back to back to find who is 'tall' and 'short'. Make a class height chart.		
Longer than, shorter than our string Students in pairs are given a piece of string. They then move around the classroom to find as many objects as they can that are the same length as, longer than or shorter than the string. Students record their findings by drawing and labelling. Ask students what they found out when they were measuring?		
Order the group Order from longest to shortest, three or more lengths which students have to straighten out and lay side by side, e.g. a skipping rope, a length of string and a rolled up streamer. Record and label the lengths as *longest* and *shortest*. Report the results using comparative language.		

Short and long paths and towers Students use wooden blocks to make paths around the classroom or make towers of different heights and discuss whether they have made short paths or long paths or short or tall towers.		
Straws in order Given a number of straws of different lengths, students put them in order from longest to shortest. Straws are used because they will not stand up so students have to decide which end will be the baseline.		
Who is tall, who is short? Students choose a classmate to stand beside. Students compare their heights by looking in a mirror or by asking another pair of students to assist. “Who is tall?” “Who is short?” Discuss how students worked out who was tall and who was short. Would it change if you compared yourself with others in the class? Ask different students to come out the front and do a direct comparison of their heights. Have one student step on a short, safe platform and compare their heights. Have the heights changed? Who is the tallest now? Discuss the need for both students to be on level ground.		
<u>Using Technology to Teach Mathematics</u> **Plasticine Snakes-ES1** Estimate and select the snake that you think is the longest, either the red or green. Drag the top snake to the starting line. Click and drag a measuring unit below the snake. 		

Mathletics: • Compare Length • Everyday length **Ideal Resources:** •		
<u>Story Books</u> - Milestones in Maths - Knee high Nigel by Laurence Anolt - Six feet long and three feet wide by Jeannie Billington and Nicola Smee - A piece of string is a wonderful thing by Judy Hindley and Chamberlain - Rosie's walk by Pat Hutchins - How big is a foot by Rolf Myller - Big and small by Jim Pipe		
Other Activities		