BLOOMSM4TH

Makes Maths Fun

Level 7

LENGTH

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

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BLOOMSM4TH Makes Maths Fun

Level 7

Length

Level 7 is designed for students in their seventh year at school often called Year 6. Students will select and use the appropriate unit and device to measure lengths, distances and perimeters.

Knowledge: Students will collect skipping ropes from home and around the school and measure how long they are in metres and centimetres.

Students who demonstrate proficiency in this activity move on to Comprehension.

STOP

Students stop here as they require additional teacher support to master this activity.

Comprehension: Students will calculate the perfect length skipping rope for them.

Students who demonstrate proficiency in this activity move on to Application.

STOP

Students stop here if time has run out or they require additional support with this activity.

Application: Students will solve a skipping rope riddle.

Students who demonstrate proficiency in this activity move on to Analysis.

STOP

Students stop here if time has run out or they require additional support with this activity.

Analysis: Students will use the school property line to record a class ran.

Students who demonstrate proficiency in this activity move on to Synthesis.

STOP

Students stop here if time has run out or they require additional support with this activity.

Synthesis: Students will use street maps to calculate how far they could run from the school.

Evaluation: Suggested questions provide a starting point for discussions related to Length.

Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.

All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

Name: _____

Knowledge

Collect at least 10 different skipping ropes from home and around the school and record below how long these are in centimetres and in metres.

Skipping Rope	Length Centimetres	Length Metres
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Now add up all these lengths to find the total length of skipping rope measured:

Length - Level 7 - Students will use the appropriate unit and device to measure lengths and perimeters.

Name: _____

Comprehension

When skipping, a perfectly sized rope makes it far more likely that you will clear the rope every time. As a general rule the perfect sized rope is your current height plus 95cms. Complete the table below to find the perfect length rope for you and 8 of your classmates.

Student	Height	Height + 95cm = Perfect Rope Length
You:		
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Now take the ropes that you measured in the knowledge section and see if any are your perfect rope length.

Using this rope, a considerably shorter and a considerably longer rope try skipping for 1 minute and record below what you find.

Note: If there are no ropes the exact length for you take a longer rope and tie a knot in the rope at the correct point to shorten the rope to make it perfect.

Shorter Rope	Perfect Length Rope	Longer Rope

Let's Try This Again

Progress To Application

Name: _____

Application

See if you can solve this skipping rope riddle. There is space below to show your working out.

Once I had a skipping rope but some of it got hurt.
It fell into the fire and the plastic got very burnt.
My skipping rope was cut in half, half was thrown away.
The other half was cut again one third along the way.
The final part (1.2m) is what I can now skip.
How long was the original rope before it got the snip?

Show your working in the space below:

Name: _____

Analysis

Use a trundle wheel to measure the outside perimeter of the school. Spaces have been provided to break the perimeter up into shorter lengths if needed. Space has also been provided to compare your length with that of a classmate to ensure accurate measurement.

Length Description	Your Length	Classmate 1	Classmate 2
1.			
2.			
3.			
4.			
5.			
Total Perimeter Length			

Average perimeter Length: _____

Your Length + Classmate 1 + Classmate 2 ÷ 3

$$\frac{\text{\_\_\_\_\_} + \text{\_\_\_\_\_} + \text{\_\_\_\_\_}}{3}$$

If every member of the class walked the perimeter of the school how far, as a group, would you have walked?

Perimeter Length x Students in Class = _____ metres = _____ kilometres.

Let's Try This Again

Progress To Synthesis

Name: _____

Synthesis

Using the information from the Analysis sections and a street map such as Google Maps or SixMaps calculate how far the class could walk from the school if you each walked the length of the school's perimeter.

Measure this in at least 4 directions from the school both 'as the crow flies' and around obstacles such as buildings. Record a location destination such as corner of Mathew and Flynn St or Ocean St Police Station to show where you could get to.

Destination	Direct Distance	Avoiding Obstacles

Paste a map of your findings in the space below.

Evaluation

The following questions and activities are provide as a starting point for fun discussions related to Length. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Length activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.

When measuring the skipping ropes in the Knowledge task try using both a standard 30cm ruler and a fabric dress makers ruler and see which is easier to use for measuring.

How accurate were the groups when using the trundle wheel? Why did variations occur?

How else could the school's perimeter distance have been measured?

Compare the actual distance measured to the map of the school used for display purposes such as fire drills how accurate is the display map?

If time permits have students walk a section of the perimeter of the school and see how many steps it takes to walk this length. This can be used to calculate how long each student's stride is.

In the Synthesis section suggest why certain locations could and couldn't be reached using the distance calculation and which locations could be reached by car and on foot using the classes' total.