



Makes Maths Fun

Level 3 DATA & GRAPHING

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

By Rachel McCann (B.Teach; B.Ed Hons; M.ED (Special Ed.))

Data and Graphing

Level 3 is designed for students in their third year at school often called Year 2. The Data and Graphing strand allows students to gather and organise data using column and picture graphs and interpret the results.

Knowledge : Students will make a six coloured spinner and use tally marks to record the results of 30 spins. This data will then be converted into a column graph.



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



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

Comprehension: Students will measure the length of 10 lines and will record these length onto a pictograph which they will then convert to a bar graph.



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



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

Application: Students will generate measurement data by measuring the length of 15 pencils to the centimeter. This data will then be used to create a graph of progressive length.



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



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

Analysis: Students will use the tally mark information given to create a bar graph from which they can solve simple put-together and compare problems.



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



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

Synthesis: Students will play "Greater Than" and create a progressive graph of the results so they can see who is winning after 10 games and 20 games.

Evaluation: Suggested questions provide a starting point for discussions related to data and graphing.



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: _____

Spinning Up Data (Page 1)

Spin your spinner 30 times and use tally marks to record the results below.

Red		Blue	
Orange		Purple	
Yellow		Black	
Green		White	

Graph your tally mark results on the grid below.

Colour Spinner Results								
20								
19								
18								
17								
16								
15								
14								
13								
12								
11								
10								
9								
8								
7								
6								
5								
4								
3								
2								
1								
	Red	Orange	Yellow	Green	Blue	Purple	Black	White

1. Which colour was spun most often? _____
2. Which colour was spun least often? _____
3. Where any colour not spun at all? _____
4. Why do you think these results occurred? _____



Let's Try This Again

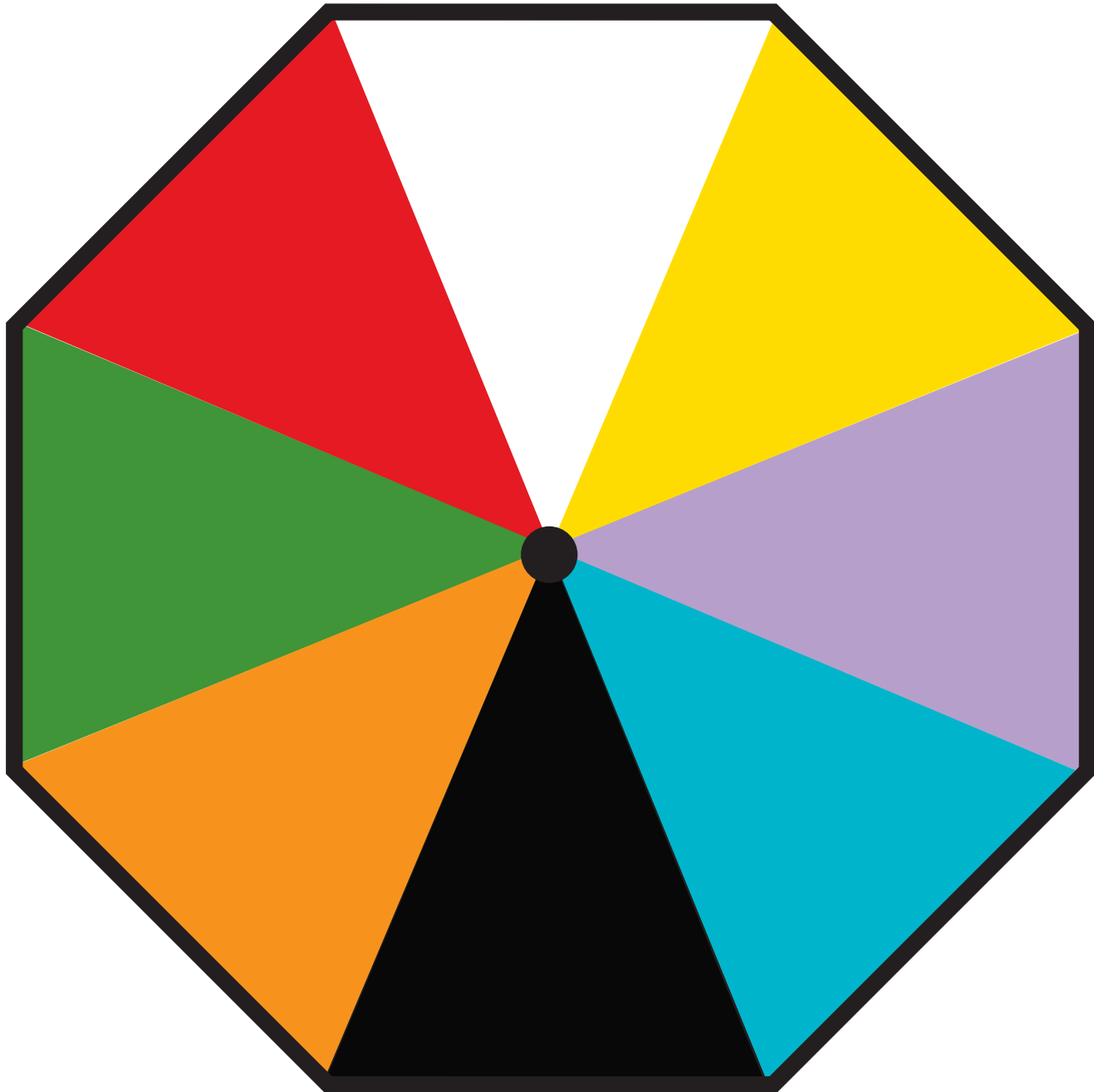


Progress To Comprehension

Name: _____

Spinning Up Data (Page 2)

Copy the spinner below onto cardboard and attach the pointer using a split pin.



Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation

Data and Graphing - Level 3 - Students will create and interpret column and picture graphs.



Let's Try This Again















Progress To Comprehension

Name: _____

Measuring Data

Measure each line and record it on the table.

1. _____	_____ cm	11. 	_____ cm
2. 	_____ cm	12. 	_____ cm
3. _____	_____ cm	13. 	_____ cm
4. 	_____ cm	14. _____	_____ cm
5. _____	_____ cm	15. 	_____ cm
6. _____	_____ cm	16. 	_____ cm
7. _____	_____ cm	17. 	_____ cm
8. 	_____ cm	18. _____	_____ cm
9. 	_____ cm	19. _____	_____ cm
10. 	_____ cm	20. 	_____ cm

Line Length	Tally Marks	Line Length	Tally Marks
2cm		4cm	
3cm		5cm	

Line Length Results				
7				
6				
5				
4				
3				
2				
1				
	2cm	3cm	4cm	5cm

- Which line length occurred most often? _____
- Which line length occurred least often? _____
- How many more 3cm lines were there than 4cm lines? _____



Let's Try This Again






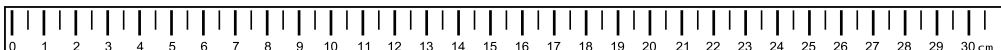
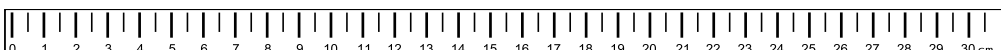
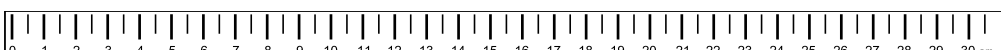

Progress To Application

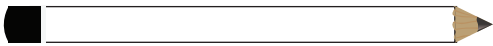


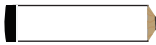
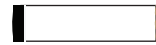
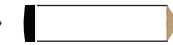


Name: _____

Real Measurements

Select 15 coloured pencils and use the rulers below to measure each. Colour each ruler according to the length and colour of the pencil to create a horizontal bar graph and then answer the questions below.

1.		_____ cms
2.		_____ cms
3.		_____ cms
4.		_____ cms
5.		_____ cms
6.		_____ cms
7.		_____ cms
8.		_____ cms
9.		_____ cms
10.		_____ cms
11.		_____ cms
12.		_____ cms
13.		_____ cms
14.		_____ cms
15.		_____ cms

1. Which colour was the longest? 
2. Which colour was the shortest? 
3. Where any colours the same length?    

Data and Graphing - Level 3 - Students will create and interpret column and picture graphs.

Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation



Let's Try This Again









Progress To Analysis

Name: _____

Using Data

Graph the tally mark information onto the grid below.



Title: _____						
20						
12						
8						
4						
2						
						

1. Give the table a title and fill in the missing numbers on the side (be careful).
2. What was the most popular item sold? _____
3. What was the least purchased item? _____
4. How many people bought apples? _____
5. How many people bought hot chips? _____
6. How many more people bought cup cakes than lollipops? _____
7. How many people bought sandwiches and apples? _____
8. If sandwiches were \$4.50 each how much did people spend on sandwiches? _____



Let's Try This Again



Progress To Synthesis

Name: _____

Greater Than

You will need:

1 die

How to play:

1. Player 1 rolls the die twice.
2. Player 1 places the first number in the tens column and the second number in the ones column.
3. Player 2 rolls the die twice.
4. Player 2 places the first number in the tens column and the second number in the ones column.
5. The player with the larger or greater number wins. If both numbers are the same neither player wins and the round must be played again.

	Player 1	Player 2	Winner		Player 1	Player 2	Winner
1.				11.			
2.				12.			
3.				13.			
4.				14.			
5.				15.			
6.				16.			
7.				17.			
8.				18.			
9.				19.			
10.				20.			
Current Winner:				Overall Winner:			

Knowledge
Comprehension
Application
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Data and Graphing - Level 3 - Students will create and interpret column and picture graphs.



Let's Try This Again



Progress To Evaluation

Data and Graphing Discussion

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



Look at the results from 'Spinning Up Data' and discuss what a fair spinner is as opposed to a loaded spinner. Discuss ways the spinner could be manipulated to produce a different set of data results.



Look at many to one representations and why these are useful when graphing large numbers of results.



Discuss when tally marks are needed rather than merely colouring in a graph table as you collect the results.



Discuss the need for a table to have a heading and what this lets the reader know. The axis in these graphs have not been labeled which could also be discussed and why these are not as necessary as a heading.



Using 'Greater Than' discuss progressive tables such as fund raising thermometers and how, like in the game, knowing where you are at can boost people's confidence or mark out what needs to be done to achieve a desired result.

