DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES

Number: Statistics Level 1 (NE / Year 0) Teacher Booklet

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Level 1/New Entrant teacher booklet: Number: Statistics

Task 1	How do we all get to school in the morning?				
	Represent your thinking.				
Big ideas	Ideas and questions about a specific topic can be investigated				
8	through collecting data and using it to answer the questions.				
	Data can vary in different ways (e.g., an object can be different				
	sizes and colours) and it can be organised in different ways and				
	different characteristics (categorical, numerical)				
	Data can be represented and communicated in multiple ways				
	including data visualisations.				
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:				
	 posing and answering questions 				
	 gathering, sorting, and counting, and displaying category 				
	data.				
	 discussing the results. 				
	NA1-1: Use a range of counting, grouping, and equal-sharing				
	strategies with whole numbers and fractions.				
	NA1-4: Communicate and explain counting, grouping, and equal-				
	sharing strategies, using words, numbers, and pictures.				
Learning Outcomes:	• Collect, sort, and count data.				
Students will be able	• Display category data using different representations				
to:					
Mathematical	Statistics, data, organise, display, sort, classify, represent.				
language					
Sharing	Select students to share who use a variety of ways of representing				
back/Connect	indicating different levels of sophistication including grouping,				
	drawing representations in a line, using numbers and drawing, o				
	words and numbers. If students do not use words or numbers, then				
	model this for the class. Draw a table and ask students to suggest				
	what headings could be used and what to put in each column to				
	make it clear. Record the data in a tabular form.				
	Connect:				
	How can the total number of students be found from the				
	recordings? [Ask students to find the total number of students				
	from their own recording and from the table and check these are				
	the same]				
Teacher Notes	• Choose a topic of interest to your students and class (this				
	could be linked to your inquiry topic). For example, this				
	could be ways to get to school pets favourite playground				
	equipment breakfast food				
	Bagin with your whole close by asking the students a				
	• Degin with your whole class by asking the students a question about the topic (a.g. How do you get to achecila)				
	question about the topic (e.g., How do you get to school?)				
	that will generate category data and find out the $3-4$ mo				
	common categories by taking a count.				

	 Each student then shows which category relates to them by drawing a picture on a large sheet of paper or the whiteboard. Launch the task by re-wording the question (e.g., What is the most common way students come to school in our class?). Ask the students to draw or write something that would show everyone what they found out in response to the question. Notice student solution strategies that may include differing levels of organisation from drawing all the responses, grouping and ordering these, using numbers to represent. During the large group sharing back, support students to notice how the responses can be grouped and how the number in each category can be found. 			
Independent Tasks	This is the favourite fruit of children in Room 1.			
	How many children have each fruit as their favourite? Represent what you have found using two different recordings.			

Anticipations	
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Task 2	In our classroom, how many students have the same favourite					
	activity on the playground?					
	Represent what you have found.					
Big ideas	Ideas and questions about a specific topic can be investigated					
	through collecting data and using it to answer the questions.					
	Data can be represented and communicated in multiple ways					
	including data visualisations.					
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:					
	 posing and answering questions. 					
	 gathering, sorting, and counting, and displaying category 					
	data.					
	 discussing the results. 					
	NA1-1: Use a range of counting, grouping, and equal-sharing					
	strategies with whole numbers.					
Learning Outcomes:	• Collect, sort, and count data.					
Students will be able	• Display category data using different representations.					
to:	• Using grouping strategies to count and sort.					
Mathematical	Statistics, data, organise, display, sort, classify, represent.					
language						
Sharing	Select students to share who use a variety of ways of representing					
back/Connect	indicating different levels of sophistication including grouping,					
	drawing representations in a line, using numbers and drawing,					
	words and numbers, or tables of data.					
	Connect:					
	How are your representations the same?					
	How are your representations different?					
	Which ones most clearly show the number of children for each					
	activity at the playground?					
	What statements can you make about favourite playground					
	equipment?					
Teacher Notes	• Choose a topic of interest to your students and class (this					
	could be linked to your inquiry topic). For example, this					
	could be favourite playground equipment, games, pets,					
	breakfast food.					
	• Begin with your whole class by asking the students a					
	question about the topic (e.g., What is your favourite					
	activity at the playground?) that will generate category					
	data and find out the $3-4$ most common categories by					
	taking a count					
	• Each student then shows which category (of the 3 - 4)					
	relates to them by representing their response (nicture					
	word letters) on a large sheet of paper or the whiteheard					
	word, retters) on a large sheet of paper of the winteboard.					

	• Launch the task by re-wording the question (e.g., How				
	many students in this class have each activity at the				
	or write something that would show everyone what they				
	found out in response to the question				
	 Notice student solution strategies that may include 				
	• monce student solution strategies that may include differing levels of organisation from drawing all the				
	responses grouping and ordering these using numbers to				
	represent.				
	 During the large group sharing back support students to 				
	notice how the responses can be grouped and how the				
	number in each category can be found				
Independent Tasks	Oliana is finding out which tiare members of her dance group like				
	for their 'ei katu. These are the colours they have chosen.				
	How many shildren have each flower as their forewrite?				
	How many children have each flower as their favourite?				
Anticinations	Represent what you have found using two different recordings.				
Anucipations					



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Task 3	What did the children in this class have for breakfast today?					
	How can you collect data to answer this question?					
	Record your results to present to the class.					
Big id oos	Lan you represent this in different ways?					
Dig lucas	through collecting data and using it to answer the questions					
	Data can vary in different ways (e.g., an object can be different					
	sizes and colours) and it can be organised in different ways and by					
	different characteristics (categorical, numerical).					
	Data can be represented and communicated in multiple ways					
	including data visualisations.					
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:					
	 posing and answering questions. asthering conting and counting and displaying astagony. 					
	- gamering, sorting, and counting, and displaying category data					
	discussing the results.					
	NA1-1: Use a range of counting, grouping, and equal-sharing					
	strategies with whole numbers.					
Learning Outcomes:	• Collect data to answer a question.					
Students will be able	• Record, sort, count, and display the data collected.					
to:	• Communicate the results of the investigation.					
	• Using grouping strategies to count and sort.					
Mathematical	Statistics, data, organise, display, sort, classify, represent.					
language						
Sharing	For the first aspect of the task, select students to share who use					
back/Connect	different ways of representing each breakfast food,					
	drawings/icons, symbols or words.					
	For the second aspect of the task, select students to share who					
	drawing representations in a line, using numbers and drawing					
	words and numbers, or tables of data.					
	Connect:					
	What parts of the representation make it easy to see the results?					
	Redraw your representation so that it is easier to see the results.					
Teacher Notes	• Choose a topic of interest to your students and class (this					
	could be linked to your inquiry topic). For example, this					
	could be breakfast food, sports, toys.					
	• Before you launch the task, ask students to make a					
	drawing from memory that shows how many students in					
	this class had each activity at the playground as their					
	favourite [previous task].					

	• Launch the task by asking students to suggest ways to			
	collect the data and then allowing each student to collect			
	and record the data in the way they have suggested.			
	• Support students to find a way to represent each type of			
	breakfast food. Facilitate them to notice the advantages			
	and disadvantages of different ways of representing.			
	• Notice whether students recognise that it is easier to use			
	small, simple symbols and have them organised in a line			
	for each different category, so it is easier to compare them.			
	For the independent task, collect food wrappers or ask			
	children to draw a picture of their morning tea.			
Independent Tasks	What did the children in this class have for morning tea			
	yesterday?			
	How can you use the data to answer this question?			
	Record your results to present to the class.			
	Can you represent this in different ways?			
Anticipations				

Task 4	These are the pets that children from Tui class have at home.					
	A A A A A A A A A A A A A A A A A A A					
	3.					
	Complete the table:					
	Dogs					
	Cats					
	Draw a representation to show this data.					
	Picture credit: 'https://www.freepik.com/vectors/pet-icon'>Pet icon vector created by macrovector - www.freepik.com					
Big ideas	Ideas and questions about a specific topic can be investigated					
	Data can vary in different ways (e.g., an object can be different					
	sizes and colours) and it can be organised in different ways and by					
	different characteristics (categorical, numerical).					
	Data can be represented and communicated in multiple ways					
	including data visualisations.					
	Patterns can be noticed, described, and analysed in sets of data					
	Predictions can be made through using sets of data					
	Outcomes can have different likelihoods, and these can vary.					
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:					
	 posing and answering questions. 					
	 gathering, sorting, and counting, and displaying category 					
	data. discussing the results					
	NA1-1: Use a range of counting, grouping, and equal-sharing					
	strategies with whole numbers and fractions					
Learning Outcomes:	• Record, sort, count, and display the data collected.					
to:	• Communicate the results of the investigation.					
	Osing grouping strategies to count and sort.					
Mathematical	Statistics, data, organise, display, sort, classify, represent, table,					
language	most, least.					

Sharing back/Connect	 Select students to share who have used the same symbol or icon to represent all the cats and a different one for all the dogs and a student whose picture shows that there are more cats than dogs without having to count or read the number. If no students have developed a representation that shows this, model how it could be recorded. Connect: 					
	Remove data and representations and ask students to make a drawing from memory to report the results of the investigation. Ask the students to compare their representation to their classmates and discuss which shows data most clearly. Have students repeat the drawing until the data is shown clearly.					
Teacher Notes	Notice students who might draw each animal separately					
	and differently or those who realise that the same					
	icon/symbol can be used to represent each cat and the					
Independent Tasks	same icon/symbol can be used to represent each dog. Hamuera wanted to see how many bees and birds were in his					
	garden. This is what he saw:					
	Complete the table:					
	Bee					
	Birds					
	Draw a representation to show this data.					
Anticipations						

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Task 5	What food do you have for lunch?					
	Record the results in a table and make a representation to show					
D • • 1	the data.					
Big ideas	Ideas and questions about a specific topic can be investigated					
	Data can be represented and communicated in multiple wave					
	including data visualisations.					
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:					
	 nosing and answering duestions. 					
	 gathering, sorting, and counting, and displaying category 					
	data.					
	 discussing the results. 					
	NA1-1: Use a range of counting, grouping, and equal-sharing					
	strategies with whole numbers and fractions.					
	NA1-4: Communicate and explain counting, grouping, and equal-					
I	sharing strategies, using words, numbers, and pictures.					
Charming Outcomes:	• Collect data to answer a question.					
to:	• Record, sort, count, and display the data collected.					
	• Use tally-marks and picture graphs to represent data.					
	• Use groupings of five to add numbers.					
	• Using grouping strategies to count and sort.					
Mathematical	Statistics, data, organise, display, sort, classify, represent, table,					
language	most, least, tally-marks, picture graphs.					
Sharing	Select students to share who have used different representations					
back/Connect	and presentations but focus on students who have used a symbol					
	or drawing that is quick to make and the clearest to read.					
	Comments					
	Connect:					
The share Notes	How many items of food do we have altogether?					
Teacher Inotes	• Choose a topic of interest to your students and class (this					
	could be linked to your inquiry topic). For example, this					
	could be food in their lunchbox, pets at home, or sports					
	they play. It should be a topic where students will give					
	multiple answers.					
	• During the launch, ask the students what food they have in their lunghbox and make a list on the heard of all the					
	their lunchbox and make a list on the board of all the					
	to record this quickly and model the use of tally marks					
	Record on a table with the type of food tally marks and					
	number [support students to count in fives]					
	Type of food Tally Number					

	• Notice students who use a quick simple symbol and also				
	notice how they align the symbols to make it easier to				
	read.				
	• During the connect, support students to notice that they				
	n	eed to use a simple	e symbol, draw the	correct number, and	
	h	ave them in rows	and lined up vertica	lly.	
	• F	For the independen	t task, provide stud	ents with a set of	
	tł	nree or four object	s (types of toys, dif	ferent coloured	
	b	locks, shapes).			
Independent Tasks	Record t	he different sets or	n the table using tal	ly marks and	
•	numbers		C	•	
		Types of toys	Tally	Number	
		Cars			
		Blocks			
		Teddies			
			1		
	Make a r	representation to sl	now the data as clea	arly as possible.	
Anticipations					
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Task 6	Draw a picture graph that shows the data of the food in
	lunchboxes.
	Draw another picture graph that only uses one symbol.
	What statements make you make about that data?
Big ideas	Ideas and questions about a specific topic can be investigated
_	through collecting data and using it to answer the questions.
	Data can vary in different ways (e.g., an object can be different
	sizes and colours) and it can be organised in different ways and by
	different characteristics (categorical, numerical).
	Data can be represented and communicated in multiple ways
	including data visualisations
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:
	 nosing and answering questions.
	 gathering, sorting, and counting, and displaying category
	data
	 discussing the results.
	NA1-1: Use a range of counting, grouping, and equal-sharing
	strategies with whole numbers and fractions.
	NA1-4: Communicate and explain counting, grouping, and equal-
	sharing strategies, using words, numbers, and pictures.
Learning Outcomes:	• Record, sort, count, and display the data collected.
Students will be able	• Use picture graphs and grid paper graphs to represent data.
to:	 Make statements about data that has been collected to
	answer a question
	 Use groupings of five to add numbers
	 Ose groupings of rive to add numbers. Count in groups
	• Count in groups.
Mathematical	Statistics, data, organise, display, sort, classify, represent, table,
language	most, least, same, picture graphs.
Sharing	Select students to share who develop representations that show the
back/Connect	data clearly. This should include a simple symbol that is uniform
	and has similar spacing and alignment.
	Connect:
	Use the grid paper to make a representation of the data.
Teacher Notes	• During the launch, re-visit the previous task with the
	students and let them look at the picture graphs that were
	developed. Ask them to discuss what helps to make the
	nicture graph clear and easy to see. Challenge them to
	develop a picture graph that is better than what they
	develop a picture graph that is better than what they developed vector dev
	uevelopeu yesteluay.
	• Have grid paper available for the connect.
	• Facilitate the students to notice that using a uniform
	simple symbol and using similar spacing and alignment
	makes the graph easier to read.

Independent Tasks	The chart below shows how students in Room One get to school.
	Transport Tally
	How many students are in Room One?
	Draw a picture graph that shows how students in Room One get to
	What statements can you make about how students in Room One
	get to school?
Anticipations	

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Task 7	What sports do you play?			
	Record the results in a table.			
	Make two representations to show the data			
Rig ideas	Ideas and questions about a specific topic can be investigated			
Dig lucas	through collecting data and using it to answer the questions			
	Data con yorw in different ways (o g, on chiest can be different			
	Data can vary in different ways (e.g., an object can be different			
	sizes and colours) and it can be organised in different ways and by			
	different characteristics (categorical, numerical).			
	Data can be represented and communicated in multiple ways			
~	including data visualisations.			
Curriculum links	S1-1: Conduct investigations using the statistical enquiry cycle:			
	 posing and answering questions. 			
	 gathering, sorting, and counting, and displaying category 			
	data.			
	• discussing the results.			
	NA1-1: Use a range of counting, grouping, and equal-sharing			
	strategies with whole numbers and fractions.			
Learning Outcomes:	• Collect data to answer a question.			
Students will be able	• Record, sort, count, and display the data collected.			
to:	• Use tally-marks to represent data.			
	• Use groupings of five to add numbers.			
	• Use picture graphs to represent data.			
	• Use grid paper to represent data			
	 Ose grid paper to represent data. Make statements shout data that has been collected to 			
	• Make statements about data that has been confected to			
	answer a question.			
	• Count in groups.			
Mathematical	Statistics, data, organise, display, sort, classify, represent, table,			
language	most, least, same, picture graphs.			
Sharing	Select students to share who develop representations that show the			
back/Connect	data clearly. This should include a simple symbol that is uniform			
	and has similar spacing and alignment.			
	Connect			
	Use the grid paper to make a vertical representation of the data			
Tanahar Natas	Chappen a targe of interpost to your students and along (this			
reacher notes	• Choose a topic of interest to your students and class (this could be linked to your inquiry topic). For example, this			
	could be mixed to your inquiry topic). For example, this			
	could be sports they play, pets at nome, favourite games. It			
	should be a topic where students will give multiple			
	answers.			
	• During the launch, ask the students sports they play and			
	make a list on the board of all the different types of sports.			
	Ask students to record the results using tally marks.			
	Record on a table with the type of sport, tally marks and			
	number:			

		Type of	sport	Tally		Number
	•	Notice stu	idents who	o use a unifo	orm simp	ple symbol with
	similar spacing and alignment.					ronnocontations
	 Expect students to develop at least two representations. Have grid paper evailable 					representations.
Independent Tasks	Have grid paper available. The chart below how many different toys were sold from 2Cheap.					
	in one of	day.	no w many		<i>ys</i> ere	
		•	Toys s	old in a day		
	Mot	orbike	ð 6	F F	ð s	ð s
	D	olls			2.	
	D	uck	ا ک	ے ک		
	с	ars		i		
	Record	the data of	on a table:			
		Type of	tov	Tally		Number
		Motorbi	toy ke	Tally		Inullidel
		Doll	ĸe			
		Duck				
		Car				
	Make a	picture g	raph of the	e data.		
Anticipations	what s	tatements	can you m	iake about tr	ne data?	



Task 8	Central so	occer clu	ıb wants	s to buy	vice blo	cks for	the players for an
	end of season treat. They have taken a survey of two teams to find						
	out their favourite flavours.						
	Favourite ice-block flavours						
	10						
	8	<u> </u>					
		-					
	6			-11111.			
	of dents						
	Nu Stu						
	2					11111	-
							-
	0	Pineannle	Raenherny	Orange	Lemonade	Watermelor	ļ
		r meappie	Raspberry	Ice-block	flavours	Watermeior	
	Malas sta				. 1	1 1.4.	1
	Make statements using 'I notice' about the data showing favourite						
	ICE-DIOCK	navours	5.				
	Make stat	tomonta	· (T	1	, 1	ul 1.4	
			$11c1n\sigma$	wonde	r anom	r the dat	a showing
	favourite	ice-bloc	using 1 k flavoi	wonde	er about	t the dat	a showing
Big ideas	favourite	ice-bloc	using 1 k flavou	wonde irs.	$\frac{1}{(e, g)}$ about	$\frac{1}{0}$ object of	a showing
Big ideas	favourite Data can	ice-bloc vary in o colours	using 1 k flavou different and it c	wonde irs. t ways (can be c	(e.g., an	object	a showing can be different ferent ways and by
Big ideas	favourite Data can sizes and different	ice-bloc vary in o colours) characte	tising 'I k flavou different and it c ristics (wonde urs. t ways (can be o categor	(e.g., an organise	object (ed in dif	a showing can be different ferent ways and by
Big ideas	favourite Data can sizes and different Data can	ice-bloc vary in o colours) characte be repre	k flavou different and it c ristics (c sented a	wonde ars. t ways (can be c categor and con	(e.g., an organise ical, num	object of d in difference of in difference of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object of the object o	a showing can be different ferent ways and by). nultiple ways
Big ideas	favourite Data can sizes and different Data can including	ice-bloc vary in o colours) characte be repre	k flavou different and it c ristics (of sented a sualisatio	wonde <u>ars.</u> t ways (can be o categor and con ons.	(e.g., an organise ical, num	object of ed in dif merical) ated in n	a showing can be different ferent ways and by). nultiple ways
Big ideas	favourite Data can sizes and different Data can including Patterns c	ice-bloc vary in o colours) characte be repre data vis can be no	different different and it c ristics (sented a sualisatio	wonde <u>ars.</u> t ways (can be c categor and con ons. lescribe	(e.g., an organise ical, num nmunica	object of ed in diff merical) ated in n	a showing can be different ferent ways and by). nultiple ways l in sets of data
Big ideas	favourite Data can sizes and different Data can including Patterns c and by us	ice-bloc vary in o colours) characte be repre data vis can be no ing data	k flavou different and it c ristics (of sented a sualisation oticed, d visualis	wonde ars. t ways (can be c categor and con ons. lescribe sations.	(e.g., an organise ical, nu nmunica	object (ed in dif merical) ated in n	a showing can be different ferent ways and by). nultiple ways l in sets of data
Big ideas Curriculum links	favourite Data can sizes and different Data can including Patterns c and by us S1-1: Con	ice-bloc vary in o colours) characte be repre data vis can be no sing data nduct in	different different and it c ristics (d sented a sualisation oticed, d visualis	wonde <u>ars.</u> t ways (can be c categor and con ons. lescribe sations. ons usi	(e.g., an organise ical, num nmunica ed, and a	object of ed in diff merical) ated in n analysed	a showing can be different ferent ways and by). nultiple ways I in sets of data al enquiry cycle:
Big ideas Curriculum links	favourite Data can sizes and different Data can including Patterns c and by us S1-1: Con	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct in osing and	different different and it of ristics (of sented a sualisation oticed, do visualis vestigation	wonde irs. t ways (can be c categor ind con ons. lescribe sations. ons usi ring qu	(e.g., an organise ical, num nmunica ed, and a ing the s estions.	object of ed in diff merical) ated in n analysed	a showing can be different ferent ways and by b. nultiple ways I in sets of data al enquiry cycle:
Big ideas Curriculum links	favourite Data can sizes and different Data can including Patterns c and by us S1-1: Con ga	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct in osing ano athering,	using 1 <u>k flavou</u> different) and it c ristics (d sented a sualisation oticed, d visualis vestigation d answe sorting	wonde <u>ars.</u> t ways (can be c categor and con ons. lescribe sations. ons usi ring qu , and co	(e.g., an organise ical, num nmunica ed, and a ing the s estions.	object of ed in diff merical) ated in n analysed statistica and dis	a showing can be different ferent ways and by). nultiple ways I in sets of data I enquiry cycle: playing category
Big ideas Curriculum links	favourite Data can sizes and different Data can including Patterns c and by us S1-1: Con ga da	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct inv osing and athering, ata.	using T k flavou different) and it c ristics (d sented a sualisatio bticed, d visualis vestigati d answe sorting	wonde ars. t ways (can be o categor and con ons. lescribe sations. ons usi ring qu , and co	(e.g., an organise ical, num nmunica ed, and a ing the s estions.	object of ed in dif merical) ated in n analysed statistica and dis	a showing can be different ferent ways and by b. nultiple ways I in sets of data al enquiry cycle: playing category
Big ideas Curriculum links	favourite Data can sizes and different of Data can including Patterns of and by us S1-1: Con ga da da u	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct in osing and athering, ata.	different different and it c ristics (d sented a sualisation oticed, d visualis vestigation d answe sorting g the results	wonde <u>ars.</u> t ways (can be c categor and con ons. lescribe sations. ons usi ring qu , and co ults.	(e.g., an organise ical, num nmunica ed, and a ing the s estions. ounting,	object of object of ed in diff merical) ated in n analysed statistica and dis	a showing can be different ferent ways and by). nultiple ways I in sets of data I enquiry cycle: playing category
Big ideas Curriculum links	favourite Data can sizes and different of Data can including Patterns c and by us S1-1: Con • pc • ga da • di NA1-1: U	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct inv osing and athering, ata. scussing Jse a ran	different different and it c ristics (d sented a sualisation biced, d visualis vestigation d answe sorting g the results age of co	wonde <u>urs.</u> t ways (can be o categor und con ons. lescribe sations. ons usi ring qu , and co ults. ounting phers a	(e.g., an organise ical, num nmunica ed, and a ing the s estions. ounting, , groupi nd fract	object of ed in dif merical) ated in n analysed statistica and dis ng, and ions	a showing can be different ferent ways and by 0. nultiple ways I in sets of data al enquiry cycle: playing category equal-sharing
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Big ideas Curriculum links Learning Outcomes: Students will be able	favourite Data can sizes and different of Data can including Patterns c and by us S1-1: Con ga da da di NA1-1: U strategies NA1-4: C sharing st	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct inv osing and athering, ata. scussing Use a ran with wh Commun trategies lake a sta	using T k flavou different) and it c ristics (d sented a sualisation bticed, d visualisation to ticed, d to t	wonde <u>ars.</u> t ways (can be of categor and con ons. lescribe sations. ons usi ring qu , and co ults. ounting nbers a d expla words. about of with st	(e.g., an organise ical, num nmunica ed, and a ed, and a ing the s estions. ounting, , groupi nd fract in coun data disp	object of ed in dif- merical) ated in n analysed statistica and dis ng, and ions. ting, gro	a showing can be different ferent ways and by). nultiple ways I in sets of data al enquiry cycle: playing category equal-sharing puping, and equal- on a graph. data displayed on
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Big ideas Curriculum links Learning Outcomes: Students will be able to:	favourite Data can sizes and different of Data can including Patterns c and by us S1-1: Con • ga da • di NA1-1: U strategies NA1-4: C sharing st	ice-bloc vary in o colours) characte be repre data vis can be no ing data nduct invosing and athering, ata. scussing Use a ran with wh Commun trategies lake a sta gree or o graph.	using T <u>k flavou</u> different) and it c ristics (d sented a sualisation oticed, d visualisation oticed, d oticed, d ot	wonde <u>ars.</u> t ways (can be of categor and con ons. lescribe sations. ons usi ring qu , and co ults. ounting. about of with st the size	(e.g., an organise ical, num neunica ed, and a ed, and a ing the s estions. punting, , groupi nd fract in coun data disp tatemen	object of object of ed in diff merical) ated in n analysed statistica and dis ng, and ions. ting, gro played of ts about	a showing can be different ferent ways and by). nultiple ways I in sets of data al enquiry cycle: playing category equal-sharing ouping, and equal- on a graph. data displayed on

Mathematical language	Statistics, data, most, least, same, more, less.					
Sharing back/Connect	Select students to share who are able to provide justification and evidence for the statements that they make.					
	Connect:					
	Look at the graph showing favourite juice flavours.					
	Favourite juice flavours					
	8					
	6-					
	Number					
	2++++++++++++++++++++++++++++++++++++++					
	0 - Orange Apple Tomato Mango Pineapple					
	Juice flavours					
	Here are some statements about the data. Do you agree or disagree with the statement? Make sure you explain why.					
	1) Apple juice is the most popular.					
	 The same number of people like mango juice and pineapple juice. 					
	3) Lots of people like tomato juice.4) One more nerven shaqee apple ivice then erenge					
	juice.					
Teacher Notes	• Ask students to make statements about the graph. If					
	questioning.					
	• Record student statements on pieces of paper and when					
	statement and say whether they agree or disagree with a					
	 Notice students who provide reasons for their statements. 					
Independent Tasks	These are the pets that one class of children have at home:					



Task 9 (optional	Sophie Pascoe i	is an inspira	ational athlete	e. She has won a lot of			
task)	medals for swir	medals for swimming at the Paralympics.					
	<u>2008</u> 3 Gold 1 Silver		<u>2018</u> 3 Gold 2 Silver				
	<u>2012</u> 3 Gold 3 Silver	2020 2 Gold r 1 Silver 1 Bronze					
	Record the diffe table using tally	Record the different medals that Sophie Pascal has won on the table using tally marks and numbers.					
	Medal Gold		Tally	Number			
	Silver	2					
	Make a represe	ntation to s	how the data	as clearly as possible.			
Big ideas	Data can vary in different ways (e.g., an object can be different sizes and colours) and it can be organised in different ways and by different characteristics (categorical, numerical). Data can be represented and communicated in multiple ways including data visualisations.						
Curriculum links	 S1-1: Conduct investigations using the statistical enquiry cycle: posing and answering questions. gathering, sorting, and counting, and displaying category data. discussing the results. NA1-1: Use a range of counting, grouping, and equal-sharing strategies with whole numbers and fractions. NA1-4: Communicate and explain counting, grouping, and equal-sharing strategies, using words. 						
Learning Outcomes: Students will be able to:	 Record, Use tally Use groot Use pict Use grict Make st answer and Compared 	sort, count y-marks to upings of fi ture graphs d paper to re ratements al a question. re sets.	, and display represent data ve to add nur to represent d epresent data pout data that	the data collected. a. nbers. data. has been collected to			

Level 1/New Entrant teacher booklet: Number: Statistics

Mathematical	Statistics, data, organise, display, sort, classify, represent, table,
language	most, least, same, picture graphs.
Sharing	Select students to share who develop representations that show the
back/Connect	data clearly. This should include a simple symbol that is uniform
	and has similar spacing and alignment.
	Connect:
	Share statements that students have made about the data and ask
	the rest of the class to agree or disagree with a reason
Teacher Notes	Notice students who use a uniform simple symbol with
	similar spacing and alignment
	Expect students to develop at least two representations
	• Expect students to develop at least two representations.
	• Have grid paper available.
	• For the independent task, use the picture or grid paper
	graphs created for previous tasks.
Independent Tasks	Make "I notice" and "I wonder" statements about the data on the
	graphs.
	Check the statements that a classmate has made and see whether
· · · · ·	you agree or disagree and give a reason why.
Anticipations	

Task 10 (ontional	Here is a graph about the favourite toys of hove and girls in Tui					
Task To (optional	bub					
task)	hub.					
	Favourite toys to play with					
	8					
	6+					
	E ° To de la constante de la					
	0 Durzles Hotwheel Farm Mathles					
	cars animals					
	Тоу					
	Make statements using 'I notice' about the data showing favourite					
	toys.					
	Make statements using 'I wonder' about the data showing					
	favourite toys.					
Big ideas	Data can vary in different ways (e.g., an object can be different					
_	sizes and colours) and it can be organised in different ways and by					
	different characteristics (categorical, numerical).					
	Data can be represented and communicated in multiple ways					
	including data visualisations.					
	Patterns can be noticed described and analysed in sets of data					
	and by using data visualisations					
Cumiculum links	S1 1: Conduct investigations using the statistical anguing evalue					
	si-i. Conduct investigations using the statistical enquity cycle.					
	 possing and answering questions. astheting conting and counting and displaying astagony. 					
	= gamering, sorting, and counting, and displaying category					
	uala.					
	• discussing the results.					
	NA1-1: Use a range of counting, grouping, and equal-sharing					
	strategies with whole numbers and fractions.					
	NA1-4: Communicate and explain counting, grouping, and equal-					
	sharing strategies, using words.					

Level 1/New Entrant teacher booklet: Number: Statistics

Learning Outcomes:	• Make a statement about data displayed on a graph.
Students will be able	• Agree or disagree with statements about data displayed on
to:	a graph.
Mathematical	Statistics, data, most, least, same, more, less.
language Shoring	Salast students to share who are able to provide justification and
back/Connect	avidence for the statements that they make
Dack/Connect	evidence for the statements that they make.
	Connect
	Here are some statements about the data. Do you agree or
	disagree with the statement? Make sure you explain why
	1) Boys like hot wheel cars more than girls
	2) Lego is the most popular
	2) Two more girls like puzzles than hove
	 A) Marbles are the least popular toy.
Tanahar Natas	4) Marbies are the reast popular toy:
Teacher Notes	• Ask students to make statements about the graph. If
	questioning
	questioning.
	• Record student statements on pieces of paper and when
	you have 5-4 statements, ask students to choose a
	statement and say whether they agree of disagree with a
	Netion etc. de ste contra marcide marca de statemente
In Jan an Jan 4 Taulan	Notice students who provide reasons for their statements.
Independent Tasks	Select the following assessment tasks (attached at the end of the
	document) as the independent activity:
	S1B: Statistics: Graph of books read
	S2: Statistics: Desserts sold from a food truck
Anticipations	52. Sulfstes. Dessets sold from a food frack.
micipations	



STATISTICS - LITERACY: LEVEL 1 Task S1B

This graph shows how many books some children have read.

Fairy Books	
Sports Books	
Princess Books	
Animal Books	****
Car Books	

What questions can you ask about the graph?

Can you represent the data differently?

Make statements about what you notice about the books they have read based on the data in the graph.

DEVELOPING MATHEMATICAL INQUIRY COMMUNITIES ASSESSMENT TASK

STATISTICS - INVESTIGATION: LEVEL 1 Task S2



These are the desserts (ice-cream cone, shaved ice, sundae, fruit salad) that were sold from a food truck. What questions could you ask about this?

Can you display what desserts they sold?

What statements can you make about the desserts that were sold?