



Preview - Information



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Google Slides Lessons Preview





Ontario Math Curriculum

Data - Graphing & Probability - Grade 4

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Quotes
- And More!

QUALITATIVE VS QUANTITATIVE DATA

Learning Goal

We are learning to identify and describe qualitative and quantitative data using real-life examples and surveys, so we can choose the best way to collect and explain information.

QUALITATIVE VS QUANTITATIVE DATA

Read the data descriptions and decide if they are quantitative or qualitative. 🌟

Description of data	Quantitative	Qualitative
1) Number of books read by students this month		
2) Favourite sport of students in Grade 4		
3) Types of pets students have at home		
4) Colours of backpacks in the classroom		
5) Temperature outside during recess		
6) Time spent doing homework each night		
7) Type of lunch students bring to school		
8) Number of goals scored in a hockey game		
9) Brand of running shoes students wear		
10) Height of plants grown in the school garden		

Part 2 – Action!

- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!

STEM AND LEAF PLOT

Read the stem and leaf plots and fill in the tables below. 1 2 3 4 5 6 7 8 9 0

Stem	Leaf	Data Set:	Stem	Leaf	Data Set:
3	7	Mean	2	4 6	Mean
4	2 9	Median	3	1 5 8	Median
6	1 1	Mode	4	4	Mode
9	9	Mean	5	0 2	Mean
10	2 4	Median	6	3 3 7	Median
11	0 0	Mode	7	1	Mode



Ontario Math Curriculum

Data - Graphing & Probability - Grade 4

DOUBLE BAR GRAPHS

Selected kids and adults chose their favourite movie genre. The results were displayed in the bar graph below.

Movie Genre	Kids	Adults
Animated	15	18
Comedy	12	8
Action	18	8
Adventure	5	5
Family	5	2

Questions:

- Which movie genre is liked the most by **both** groups?
- Which movie genre is liked the least by **both** groups?
- What should be the **title** of the X-axis →?
- What should be the **title** of the Y-axis ↑?
- What is the **mode** for Adults and Kids?
- Did more Kids or Adults participate in the survey?

Legend: Kids (blue), Adults (orange)

Movie Genre: Adventure, Comedy, Action, Family, Animated

MULTIPLE BAR GRAPHS

The students in Grade 4, Grade 5, and Grade 6 were asked to choose their favourite school subject. The results are shown in a multiple-bar graph sorted by subject.

Subject	Grade 4	Grade 5	Grade 6
Math	10	15	20
Language	12	18	15
Science	15	22	18
Art	8	12	15
Music	20	18	15

Questions:

- How many students were surveyed in Grade 4?
- Which subject was the most popular overall?
- What is the least popular subject in Grade 5?
- Which subject was most popular in Grade 6?

	Math	Language	Science	Art	Music
Grade 4					
Grade 5					
Grade 6					

Create an infographic that represents the above data.

Push-Ups Completed in One Minute

Push-Up Count	# of Students
10 - 14	
15 - 19	
20 - 24	
25 - 29	

Scale: 1 2 3 4 5 6 7 8 9 0

10 - 14 15 - 19 20 - 24 25 - 29

Stem | Leaf

% of the students did 15-19 Push-Ups



Workbook Preview





Grade 4 D1. – Data Literacy



	Curriculum Expectations	Pages That Cover the Expectations
D1.1	describe the difference between qualitative and quantitative data, and describe situations where each would be used	5 - 11
D1.2	collect data from different primary and secondary sources to answer questions of interest that involve	12 - 14, 28 - 36, - 86
D1.3	graphs	42 - 91
D1.4	create an infographic about a data set, representing the data in appropriate ways, including in frequency tables, stem-and-leaf plots, and multiple-bar graphs, and incorporating any other relevant information that helps to tell a story about the data	92 - 93
D1.5	determine the mean and the median and identify the mode(s), if any, for various data sets involving whole numbers, and explain what each of these measures indicates about the data	15 - 25, 55 - 59
D1.6	analyse different sets of data presented in various ways, including in stem-and-leaf plots and multiple-bar graphs, by asking and answering questions about the data and drawing conclusions, then make convincing arguments and informed decisions	37, 39 - 43, 45 - 70, 96 - 97

Preview of 80 pages from
this product that contains
234 pages total.

Qualitative vs Quantitative Data

Quantitative data

Data that uses numbers (measured, counted)
- length, height, area, weight, time, etc.

Qualitative data

data that uses words (categories)
- choices, favourites, foods, colours, etc.

Questions

Read the description of the data and circle if it is quantitative or qualitative

1) Money from the sale last month	Quantitative Qualitative
2) Heights of students in grade 4	Quantitative Qualitative
3) Favourite foods of the students	Quantitative Qualitative
4) Rainfall in April last year	Quantitative Qualitative
5) Favourite colours of the students in your class	Quantitative Qualitative
6) The weight of different hockey skates	Quantitative Qualitative
7) The height of the grade 4 students	Quantitative Qualitative
8) Favourite season of the students in your school	Quantitative Qualitative
9) Which town/city people live in that go to your school	Quantitative Qualitative
10) Whether or not you have a pet	Quantitative Qualitative
11) How long it took to get to school	Quantitative Qualitative

Quantitative vs Qualitative Observations

Image #1



Image #2



Part 1

Write observations about image #1 and put an x if it is quantitative or qualitative

Observations	Quantitative	Qualitative
1) The vehicle has 4 wheels	X	
2) The vehicle has 2 doors		
3) The vehicle is white and black		
4) The vehicle's age is 3 years		
5) The vehicle has silver rims		
6) The vehicle has 2 headlights		
7) The vehicle is a car		
8) The vehicle drives up to 180km/hour		
9) The vehicle's tires are large		
10) The vehicle weighs 1700 kilograms		

Part 2

Write quantitative and qualitative observations about image #2

Observations	Quantitative	Qualitative
1)		
2)		
3)		
4)		
5)		

Primary vs Secondary Data

Primary Data

Data that you have collected yourself

Example

- asking your classmates their favourite food

Secondary Data

Data that has been collected by someone else

Example

- finding data on the internet

Part 1 Read the description of the data and circle if it is primary or secondary data

1) You ask your classmates what their favourite pizza topping is	Primary	Secondary
2) You survey the salaries of the teachers in your school	Primary	Secondary
3) You record the sales of different types of drinks	Primary	Secondary
4) You look up the top 10 fastest cars in your city	Primary	Secondary
5) You research how many goals they scored per game in his first 10 seasons	Primary	Secondary
6) You record how many sit-ups your classmates can do in a minute	Primary	Secondary
7) You weigh 5 different cookies you buy from a bakery	Primary	Secondary
8) You research how many kids in Canada do gymnastics	Primary	Secondary
9) You look up the speeds of 5 different computers for sale	Primary	Secondary
10) You measure the heights of the kids in your class	Primary	Secondary

Part 2 Write your own primary and secondary data descriptions below

1) Primary	
2) Secondary	
3) Primary	
4) Secondary	

MEAN

When we calculate the mean, we are finding the average of a set of numbers.

Example:

Three brothers named Josh, Cameron, and Morgan went on an easter egg hunt. Josh found 6 eggs, Cameron found 4, and Morgan found 5. At the end of the hunt, their mother told them to share the eggs equally. So, they decided to put all the eggs in the middle and then divide them equally to themselves. They had $6 + 4 + 5 = 15$ eggs and $15 \div 3$ kids = 5 eggs

**Questions**

Its Halloween - Mum has bought the pumpkins and then fair share it



Mean = _____



Mean = _____

Name: _____

17

Curriculum Connection
D1.5

MEAN

Mean = the average in a set of data

Step 1: Add up the numbers in the data set

Step 2: Divide the sum by the amount of numbers in the set.

Example:

Data set: 5, 6, 8, 5

Step 1: $5 + 6 + 8 + 5 = 24$

Step 2: $24 \div 4 = 6$



Questions: Find the mean for each data set below

1) 5, 6, 8, 5	2) 8, 4, 12, 4
3) 12, 6, 10, 8	4) 20, 10, 30, 20
5) 23, 35, 24, 30	6) 46, 12, 20, 10
7) 12, 19, 12, 26, 31	8) 15, 8, 20, 16, 11
9) 13, 18, 17, 22, 30	10) 42, 36, 55, 23, 14

MODE

Mode: The mode is the category with the highest frequency. In a data set, the mode is the number that occurs the most.

For example: Twelve grade 5s were asked their age. The results are listed in the data set below:

10, 10, 9, 10, 9, 10, 10, 10, 9, 9, 10, 10

As you can see from the frequency table, there were 8 votes for 10 year olds and only 4 for 9 years old. Therefore, the mode is 10. In a tie, both or all numbers are the mode. You may also notice that the frequency does tell us which category is the mode.

Age	9	10
Frequency	4	8

Questions

Grade 5 people were asked their age. They are listed in the data sets below. Complete the frequency table and write the mode(s).

Data Set	Ordered List	Mode								
1) 13, 11, 11, 15, 13, 16, 11	<table border="1"> <tr> <td></td> <td>13</td> <td>15</td> <td>16</td> </tr> <tr> <td>Frequency</td> <td></td> <td></td> <td></td> </tr> </table>		13	15	16	Frequency				
	13	15	16							
Frequency										
2) 28, 22, 23, 22, 25, 25, 28	<table border="1"> <tr> <td>#</td> <td>22</td> <td>25</td> <td></td> </tr> <tr> <td>Frequency</td> <td></td> <td></td> <td></td> </tr> </table>	#	22	25		Frequency				
#	22	25								
Frequency										
3) 35, 37, 49, 35, 35, 37, 49, 35	<table border="1"> <tr> <td>#</td> <td>35</td> <td>37</td> <td>49</td> </tr> <tr> <td>Frequency</td> <td></td> <td></td> <td></td> </tr> </table>	#	35	37	49	Frequency				
#	35	37	49							
Frequency										
4) 54, 58, 58, 54, 54, 54, 65, 58	<table border="1"> <tr> <td>#</td> <td>54</td> <td>58</td> <td>65</td> </tr> <tr> <td>Frequency</td> <td></td> <td></td> <td></td> </tr> </table>	#	54	58	65	Frequency				
#	54	58	65							
Frequency										

Mode and Frequency Tables

Questions

Answer the questions below

1) Tracy ran 7 races. Her times in seconds are listed in the data set below:

28, 29, 22, 26, 23, 25, 24



a) Fill in the frequency table

Time							
Frequency							

b) What is the mode?

c) When is it possible that there is no mode in a data set?

2) Bella recorded her grades on math tests this year. Her grades are listed below:

B, B, A, C, A, A, B, D, A, A, A, B, A, A, B, C, A, A, A, C, B, A, A, B, D, A, A, B

a) Fill in the frequency table

Grades						
Frequency						

b) What is the mode?

3) Courtney did 30 sets up pull-ups. She recorded how many reps she did in each set.

8, 7, 8, 6, 7, 6, 7, 5, 6, 6, 5, 4, 5, 5, 4, 3, 4, 5, 3, 3, 4, 5, 3, 2, 3, 3, 2, 2, 4, 2


a) Fill in the frequency table


Pull-Ups	2	3	4	5	6	7	8
Frequency							

b) What is the mode?

Name: _____

Mean and Mode

Hockey Goals 					
7	8	6	1	2	6

Basketball Points 				
22	29	33	22	19

Mean: _____

Mean: _____

Mode: _____

Mode: _____ 

Minutes Read Per Day					
17	23	19	17	19	25

Test Scores				
72	76	85	78	76

Mean: _____ 

Mean: _____ 

Mode: _____

Mode: _____

PREVIEW

MEDIAN

Median: The median is the middle number in a data set.

Step 1: put numbers in order from least to greatest

Step 2: circle the number in the middle.



*** If there is an even amount of numbers in the data set, add the two numbers in the middle together and divide by 2. This is the median.

	Ordered List	Median
8, 12, 14, 15, 17, 20	4, 7, 8, 8, 12, 15	$8 + 8 = 16$ $16 \div 2 = 8$
25, 35, 12, 53, 15, 7		
18 17, 11, 15, 14, 41		
231, 412, 165, 132, 335, 65		
5.7, 1.3, 1.5, 2.5, 6.8, 1.0, 2.4		
12, 28, 0, 0, 22, 0, 36, 42		
130, 265, 217, 323, 112, 203		
11, 14, 125, 214, 425, 135, 163		

MEDIAN**Part 1**

Answer the questions below

1	At recess, five students timed their jump-rope counts in one minute: 45, 52, 48, 40, 50. What is the median jump count?	
2	Eight students each filled a small cup with grapes: they counted 8, 12, 15, 13, 10, 14 grapes. What is the median number of grapes?	
3	On a cold day, a meteorologist recorded five temperatures (in °C): -2, 3, 1, 0, 4. What is the median temperature?	
4	On Saturday and Sunday, a trail runner tracked her steps each hour during a ten-hour walk-athon: 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000. What is the median number of these hourly step-counts?	

Challenge

Answer the questions below

During a school fundraiser, Grade 4 students sold raffle tickets in five different time slots. In the first hour, they sold 12 tickets. In the second hour, they sold 3 more than in the first hour. In the third hour, they sold 5 fewer than in the second hour. In the fourth hour, they doubled their first-hour sales. In the fifth hour, they sold 2 fewer than in the third hour.



1) How many tickets were sold in total?

2) What is the median number of tickets sold?

Review

Questions

Fill in the table using the different measures of central tendency



Data Set	33, 12, 27, 33, 14, 25, 17
Mean	
Median	
Mode	

Data Set	115, 135, 146, 101, 115, 126
Mean	
Median	
Mode	

Data Set	3.5, 4.0, 4.5, 6.5, 7.0, 4.5
Mean	
Median	
Mode	

Data Set	215, 124, 110, 315, 216, 124
Mean	
Median	
Mode	

Rob got the following marks on his math tests throughout the year. What is his average mark?

87 75 62 98 65 78

Answer: _____

Stem and Leaf Plots

A stem and leaf plot is another way to organize data so it can be better understood. The stem represents the first digit or digits, and the leaf represents the last digit.



How to create a stem and leaf plot

1. Put the numbers in order from smallest to largest.
2. Determine the stems by looking at the first number. Sometimes you will have two-digit stems.
3. Write the corresponding leaf (the last digit) under the leaf part of the table.

Question: Complete the stem and leaf plots below

1) 22, 34, 25, 38, 40

Stem	Leaf

2) 42, 14, 15, 18, 32, 38, 56, 54

Stem	Leaf

3) 76, 84, 34, 55, 64, 22, 25

Stem	Leaf

4) 145, 137, 125, 118, 137, 146

Stem	Leaf

Stem and Leaf Plots

A stem and leaf plot is another way to organize data so it can be better understood. The stem represents the first digit or digits, and the leaf represents the last digit.



Questions

Read the stem and leaf plots and fill in the tables below

1. Stem Leaf

5	6
6	

Data Set

Median

Mean

Mode

2. Stem Leaf

2	1, 5, 5
4	4
6	8
7	4, 6, 9
9	4, 4

Data Set

Median

Mean

Mode

3. Stem Leaf

3	3, 3, 5
5	2
7	3, 5
8	8, 8
9	4, 9

Data Set

Median

Mean

Mode

4. Stem Leaf

2	3, 7
4	5, 5
5	3
7	0, 7
9	0, 1, 9

Data Set

Median

Mean

Mode

Collecting Data – Stem and Leaf Plot

Directions

Find out how many times the students in your class breathe in a minute

Your teacher will start a 1-minute timer. Your job will be to count how many breathes you take in the one minute. Try to breathe normally. Write your result below.

How many times did I breathe in one minute?



Statistics: How many times do the students in my class breathe in a minute?

Data Set

(Write everyone's results or sample 10 students)

Put the results in order from smallest to largest

Stem

Leaf

Collecting Data – Stem and Leaf Plot

Calculate

Calculate the measures of central tendencies below

Mean	
Median	
Mode	

Questions

Answer the questions below

1) Is the data quantitative or qualitative?

2) Is the data primary or secondary data? Explain.

3) Did you have an above average or below average breathe rate? Explain.

4) What did you learn about the data?

Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class

Fill in the stem and leaf plot below

22, 12, 15, 16, 34, 53, 56

Stem

Leaf

Fill in the stem and leaf plot below

22, 12, 15, 16, 34, 34, 53, 56

Stem

Leaf

Fill in the stem and leaf plot below

22, 12, 15, 16, 34, 34, 53, 56

Stem

Leaf

Fill in the stem and leaf plot below

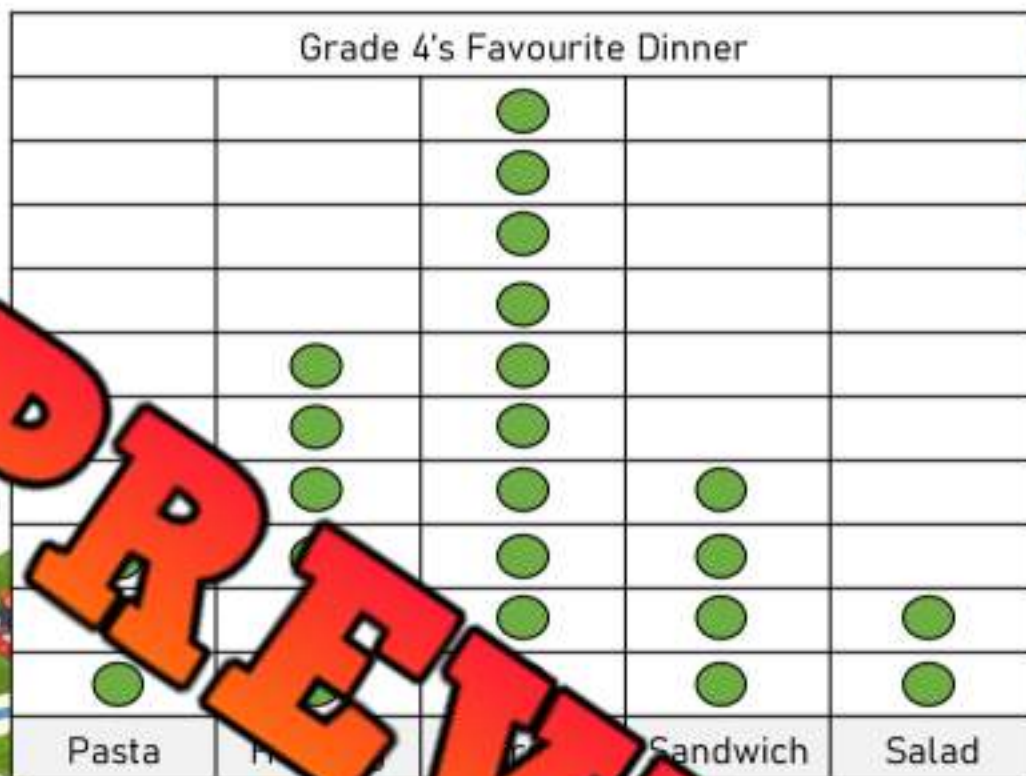
22, 12, 15, 16, 34, 34, 53, 56

Stem

Leaf

Reading a Line Plot – Favourite Dinner

Grade 4's Favourite Dinner



Dinner	Pasta	Hot Dog	Burger	Sandwich	Salad
Frequency					

Questions

Read the line plot and answer the questions.

a) Write the statistical question for the graph.

b) Which dinner was the most popular?

c) Which dinner was the least popular?

d) How many total people were asked the survey question?






e) How many more people like burgers than salad?


f) Would a line plot be a good graph if you had a lot of data – over 100 responses? Explain

Horizontal Pictograph - Candy

A **pictograph** is a graph that displays data using symbols or pictures. They often use many-to-one versus one-to-one correspondence.

Sam and his friends collected candy on Halloween. The amount of candy each friend collected is displayed below in the pictograph.

Friend	Number of Candies Collected	Frequency
Sam		
Steve		
Tony		
Jill		
Stacy		

 = 4 Candies

a) How much is one candy worth?

b) Who collected the most candy?

c) How much more candy did Jill collect than Tony?

d) Did Sam and Steve collect more or less candy than Stacy and Jill?

e) How much total candy was collected?

Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Name: _____

Write down the number of shoes each student has.

Friend	Number of Shoes Students Have	Total
Liam		
Olivia		
Ethan		
Ava		
 = 4 Shoes		

Creating a Vertical Pictogram

James participated in a reading challenge last week. He read each day and wrote down how many minutes he read for each day of the week.



Sunday	15
Monday	30
Tuesday	20
Wednesday	15
Thursday	35
Friday	40
Saturday	20



PREVIEW

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday



= 10 minutes

1) What day did he read the most?

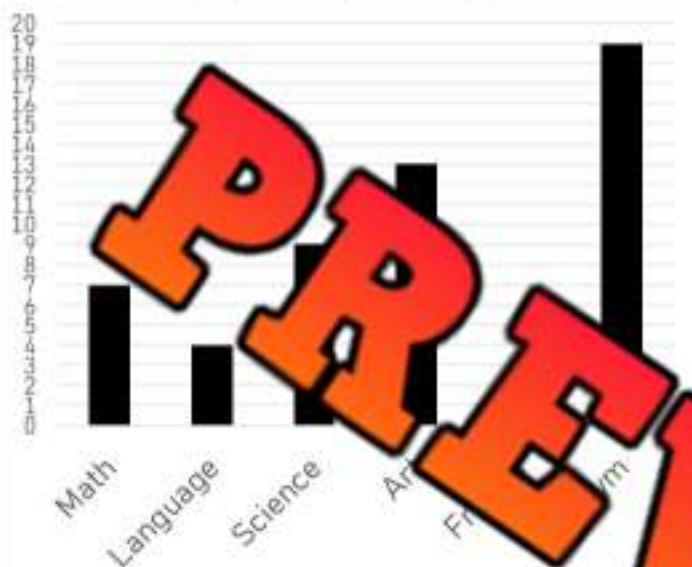
2) How many more minutes did he read on Friday than Wednesday?

3) Did James read more or less on Monday and Tuesday than he did on Friday and Saturday?

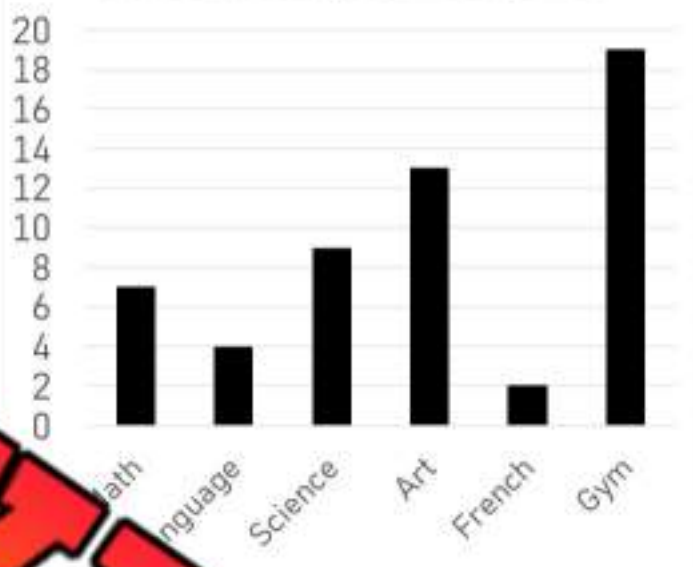
One-to-One vs Many-to-One

The grade 4's from Wellington Elementary School were asked which subject was their favourite. The results have been displayed in two different bar graphs.

Favourite Subject - Scale = 1



Favourite Subject - Scale = 2



a) Which subject was most popular?

b) Which subject was the least popular?

c) How many more students liked gym than French?

d) How many students were surveyed?

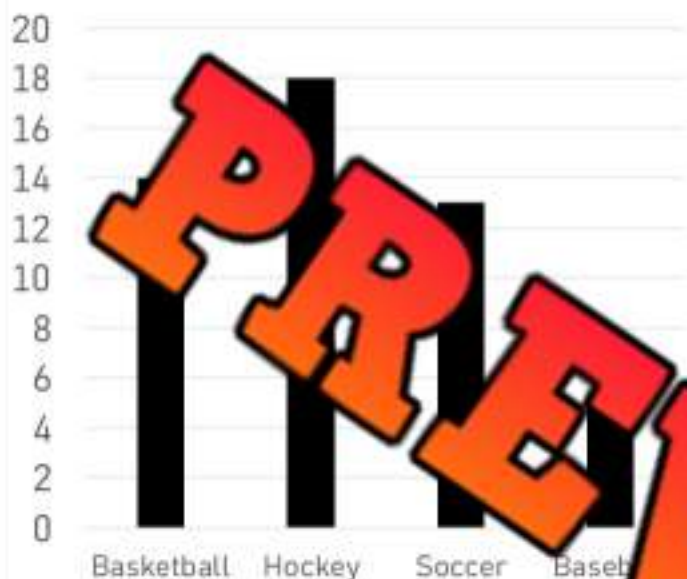
e) What is different about the two graphs? Which graph is easier to read?

f) When is it better to use larger numbers for your scale? When should you use smaller numbers, like one-to-one?

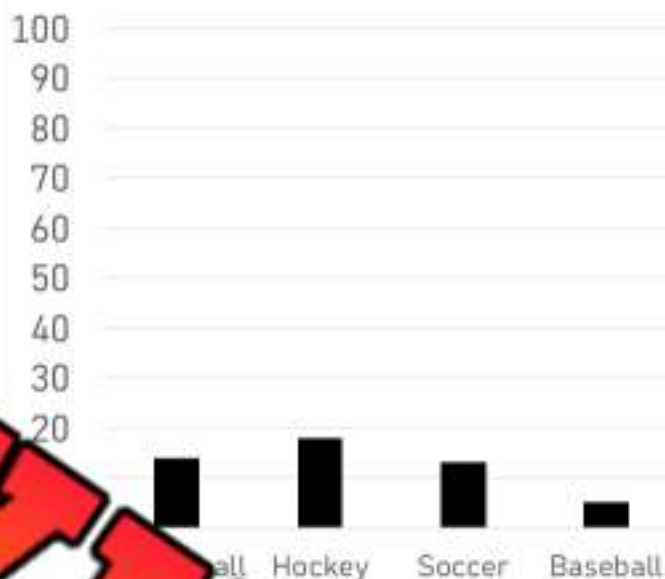
Favourite Sport – Examining Scale

The two graphs below display the same data. Examine both graphs and answer the questions below.

Favourite Sport – Graph A



Favourite Sport – Graph B



Questions

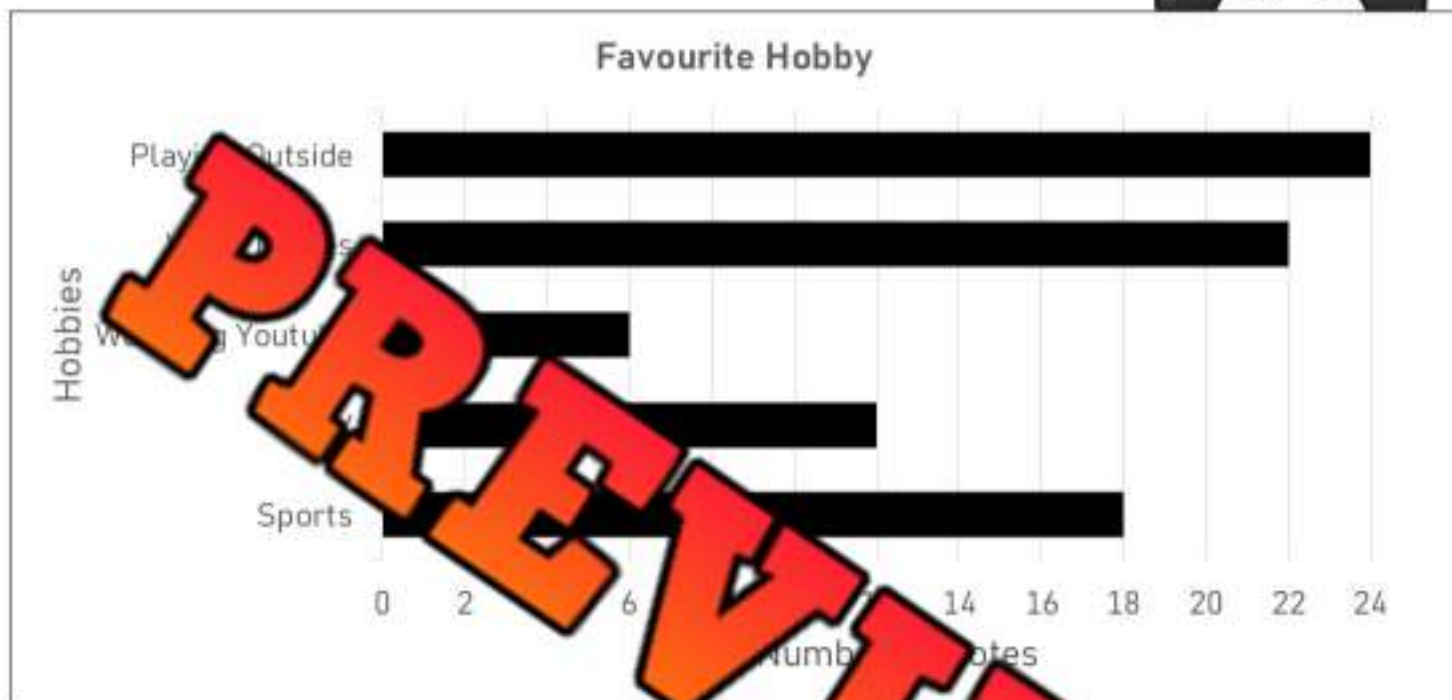
What do you notice about the two graphs?

- What is the scale in Graph A?
- What is the scale in Graph B?
- Which graph uses more of the space?
- Which graph is easier to read and interpret? Why is that graph better?

- Why is it important to choose an appropriate scale?

Horizontal Bar Graph – Favourite Hobby

100 people were surveyed about their favourite hobby.
The results have been displayed in the graph below.



a) Which hobby is the most popular?

b) What are the 2 labels (titles) for the x and y axis? (y) _____

c) How many people chose video games as their favourite?

d) How many people liked playing outside and TV the best?

e) How many people liked sports more than watching YouTube?

f) What two hobbies add up to the amount of people who chose playing outside?

g) How many people were surveyed?

Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class

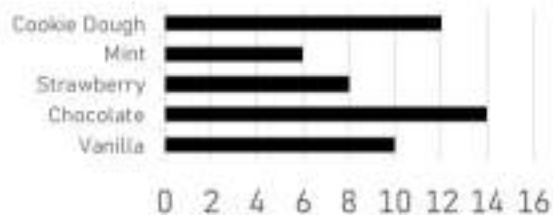
Name: _____

Favourite Ice Cream Flavours

1) Which category of ice cream is most popular?
_____2) How many people were surveyed?

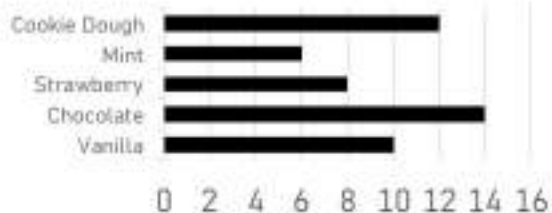
Name: _____

Favourite Ice Cream Flavours

1) Which category of ice cream is most popular?
_____2) How many people were surveyed?

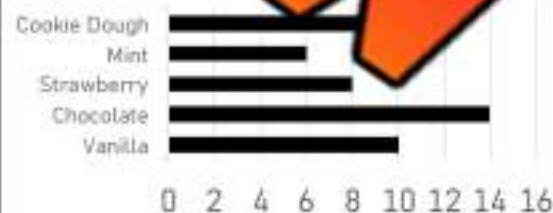
Name: _____

Favourite Ice Cream Flavours

1) Which category of ice cream is most popular?
_____2) How many people were surveyed?

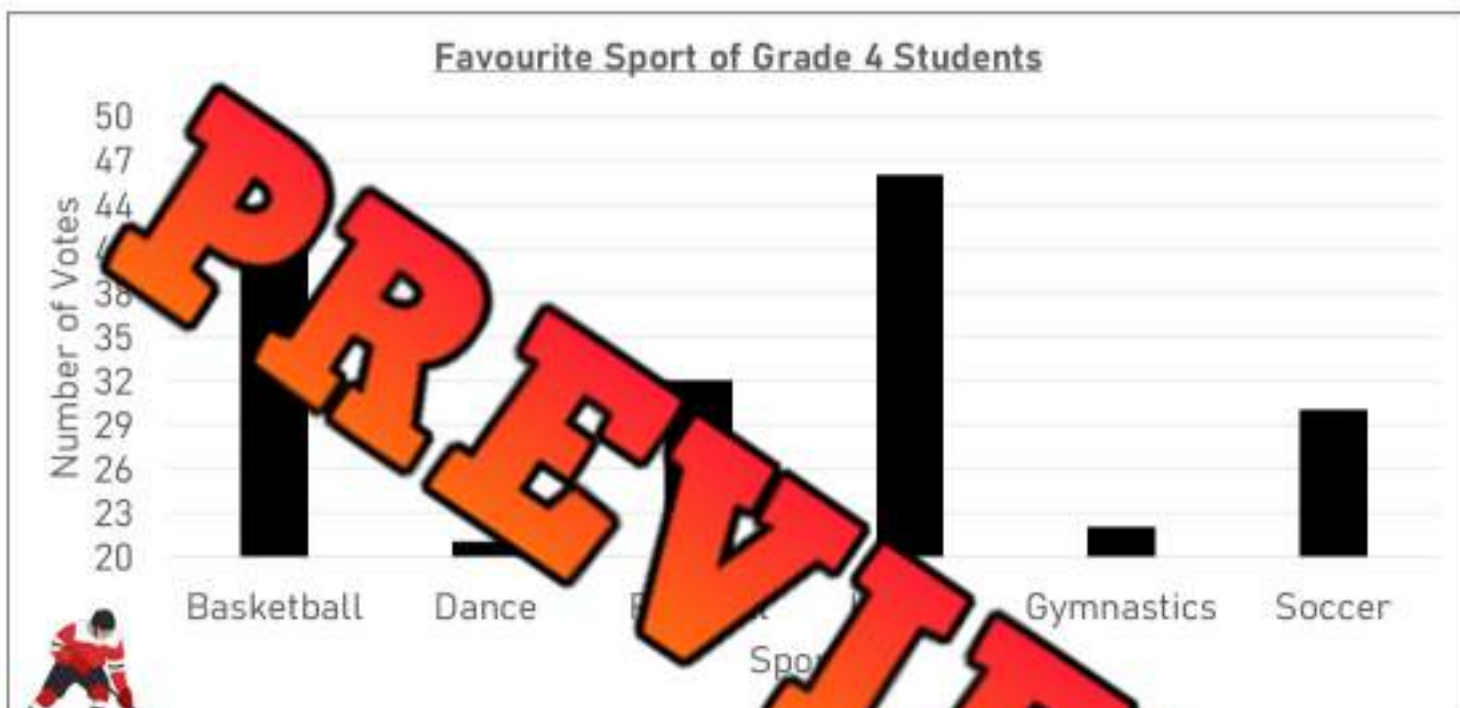
Name: _____

Favourite Ice Cream Flavours

1) Which category of ice cream is most popular?
_____2) How many people were surveyed?

Reading a Bar Graph – Line Break

The students in grade 4 were asked which sport was their favourite. The results have been displayed in the bar graph below. Notice the scale on the x-axis uses a line break.



a) What number does the scale on the y-axis start with?

b) What is the scale on this graph? What does it go up by?

c) What is the title of the bar graph?

d) What are the 2 labels (titles) for the x and y axis?

(x) _____

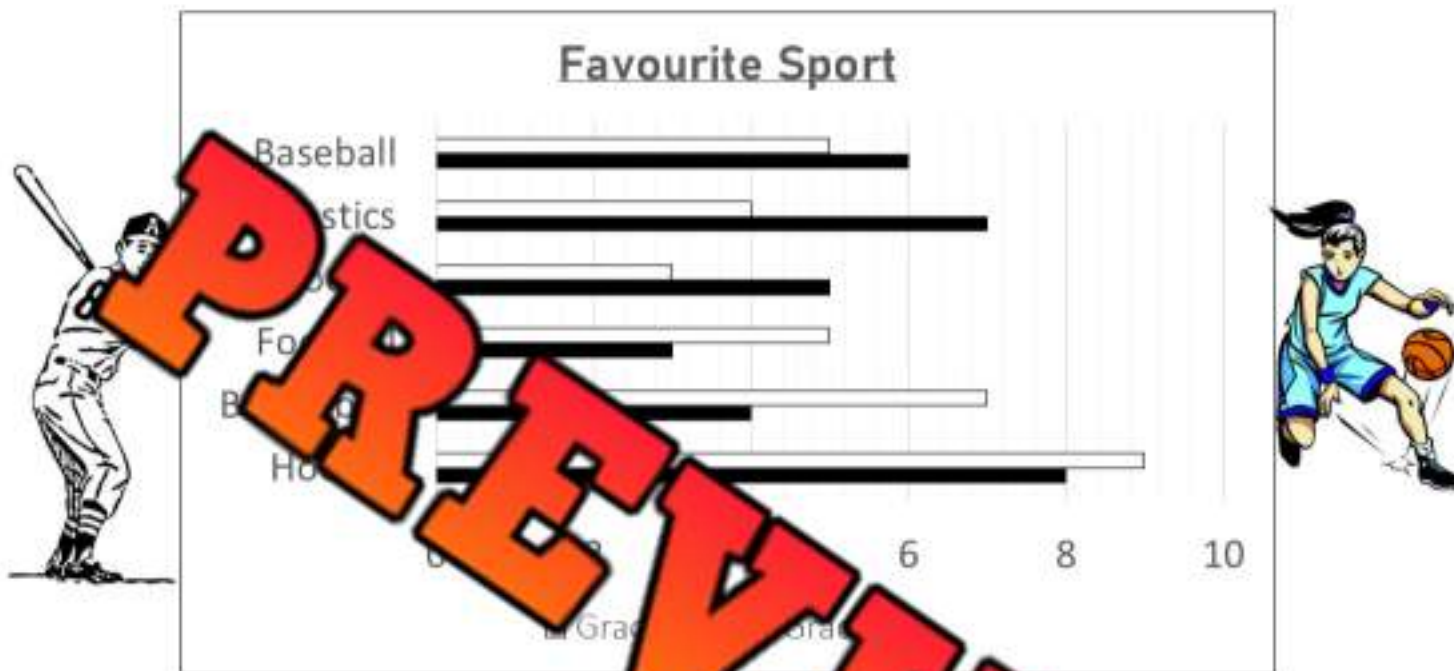
(y) _____

e) How many more votes did hockey get over dance?

f) How many students participated in the survey?

Horizontal Double-Bar Graph

The grade 4s and 5s were asked which sport they liked the best. The results have been displayed below in a horizontal double bar graph.



Sport	Baseball	Gymnastics	Soccer	Football	Basketball	Hockey
Grade 4						
Grade 5						

a) Which sport was the most popular for grade 5s?

b) Which sport was the least popular for grade 4s?

c) How many grade 4's and 5's chose gymnastics as their favourite?

d) What is the mode for grade 4s? Grade 5s?

Gr 4s

Gr 5s

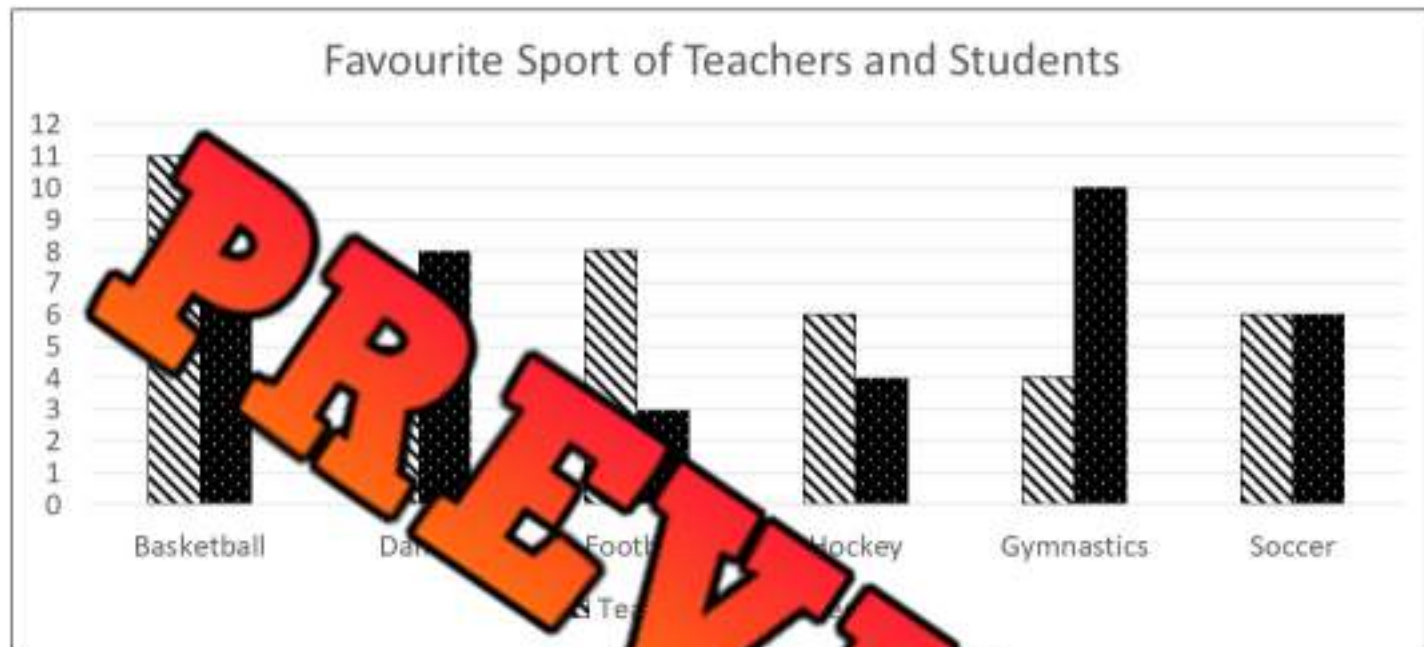
e) How many more grade 4s liked gymnastics than grade 5s?

f) How many grade 5's were surveyed?

g) How many total kids were surveyed?

Interpreting a Double Bar Graph

The teachers at Pineview Public School and students in grade 5 were asked which sport is their favourite. The results are displayed in the double bar graph below.



Questions

Fill in the frequency table and answer the questions

	Basketball	Dance	Football	Hockey	Gym	Soccer
Teachers						
Students						

a) Which sport did the teachers like the most?

b) Which sport got the most votes combined?

c) Which sport did the teachers and students like the same?

d) Did more teachers or students participate in the survey?

e) What is the mode for the students? Teachers?

Students

Teachers

f) What could the title be for the x-axis → ?

g) What could the title be for the y-axis ↑ ?

Interpreting a Double Bar Graph – Favourite Beverage

A restaurant wants to know which drinks to keep in stock. They decide to sample two different age groups – adults (18+) and people under 18. They randomly select 30 individuals from each group.



Questions

Fill in the frequency table and answer the questions.

Age Group	Coffee	Juice	Pop	Tea	Milk
Under 18					
Adults (18+)					

a) How many people in each age group were surveyed?	U18	Adults
b) Which drinks would you keep in stock?		
c) What is the mode for people under 18 (U18)? Adults?	U18	Adults
d) How many more adults preferred coffee than people under 18?		
e) How many more people under 18 preferred pop than adults?		

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class

Name: _____

Recess Activities by Gender

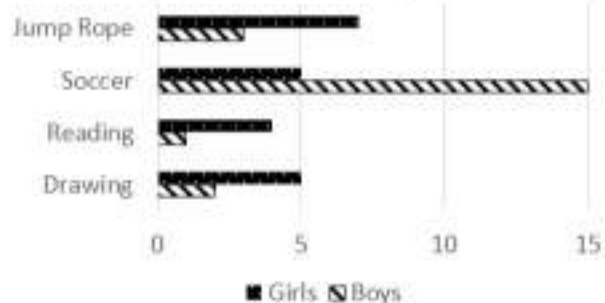


1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Name: _____

Recess Activities by Gender

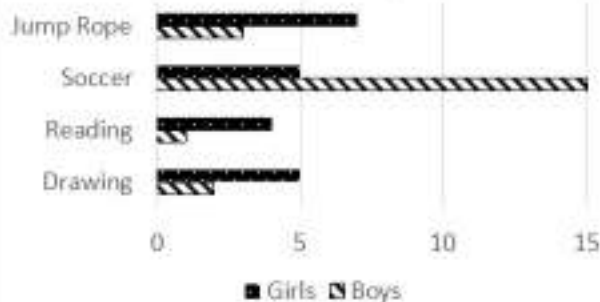


1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Name: _____

Recess Activities by Gender

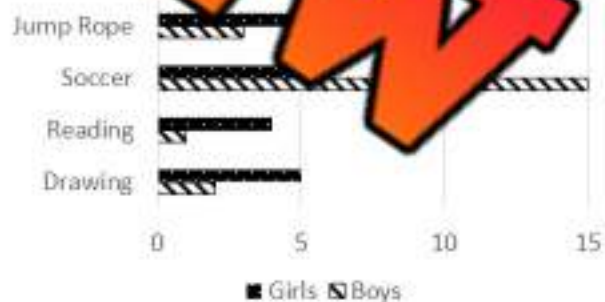


1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Name: _____

Recess Activities by Gender



1) How many more boys liked soccer than girls liked drawing?

2) Which activity has the lowest number of students combined?

Activity Title: Flip the Data

Objective

What are we learning about?

Students will engage in a fun and active game where they read data from a bar graph and answer questions to earn the opportunity to flip a bottle or cup. This activity combines data interpretation skills with a physical challenge, adding excitement and a competitive element to learning.

Materials

What you will need for the activity.

- Bottle or cups for flipping
- A smartboard or projector to display bar graphs
- Timer (stopwatch or smartboard app)
- Question sheets on the bar graph data
- Scoreboard to keep track of team scores



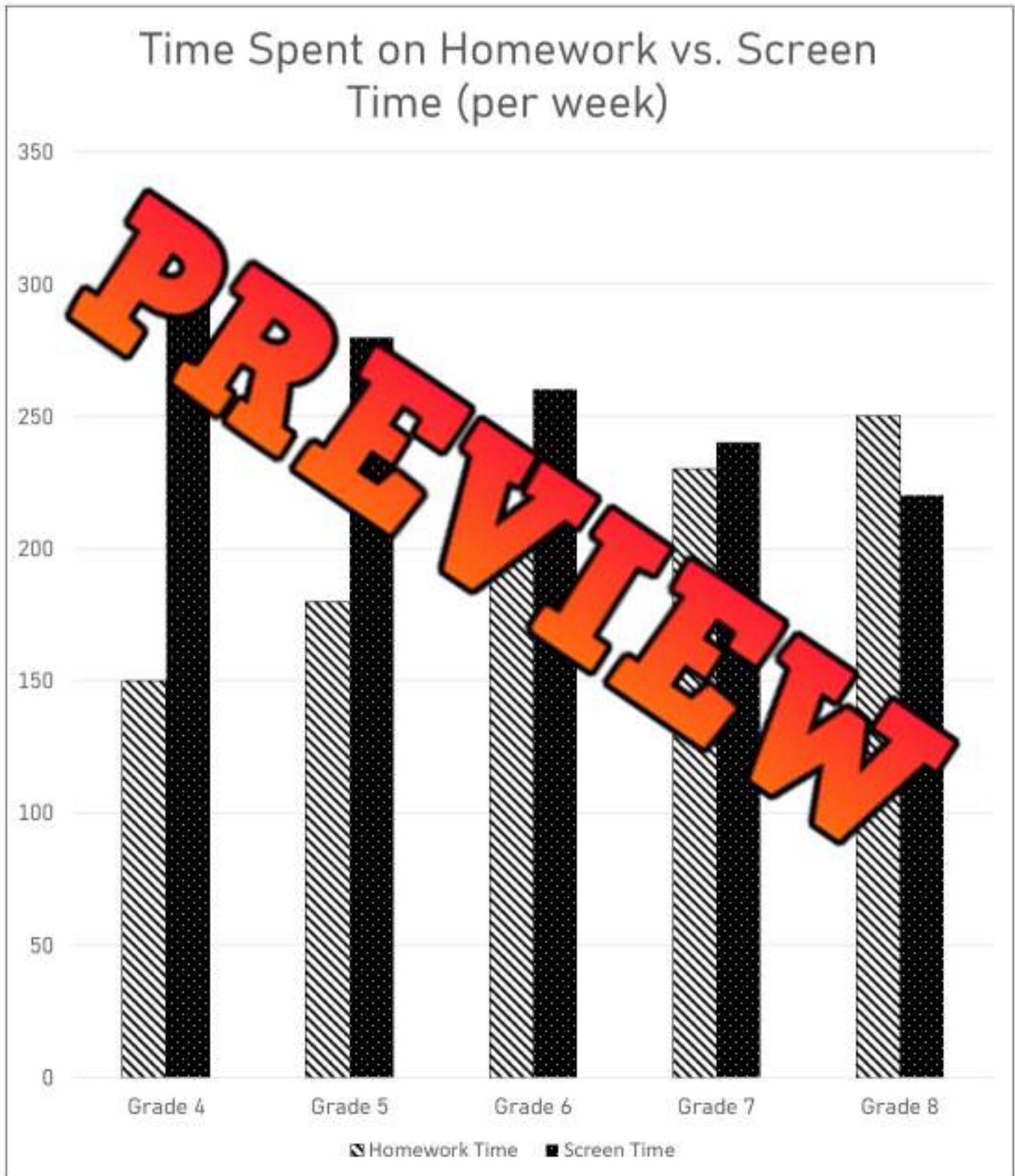
Instructions

How you will complete the activity.

1. Divide the class into small teams, ideally of 5 students each.
2. Prepare a series of bar graphs to display on the smartboard, along with corresponding question cards that ask about the data in the graph.
3. One team at a time comes to the front where the graphs are displayed.
4. Display the first bar graph on the smartboard.
5. The first student from the active team reads the graph and selects a question card. Start the timer when the question is first shown.
6. The student answers the question based on the data presented in the graph. The teacher checks the answer.
7. If the student answers correctly, they flip their bottle or cup repeatedly until they land it upright. When they do, the next teammate can take their turn.
8. If the student's answer is incorrect, they must try another question card before they can attempt to flip.
9. The team's turn ends either when all members have successfully flipped their bottle/cup or when the timer reaches a set limit (e.g., 3 minutes).
10. Record the team's time or number of successful flips on the scoreboard.
11. Repeat steps 4-10 for each team. The team with the fastest time wins.

Graph 1

Analyze the graph below



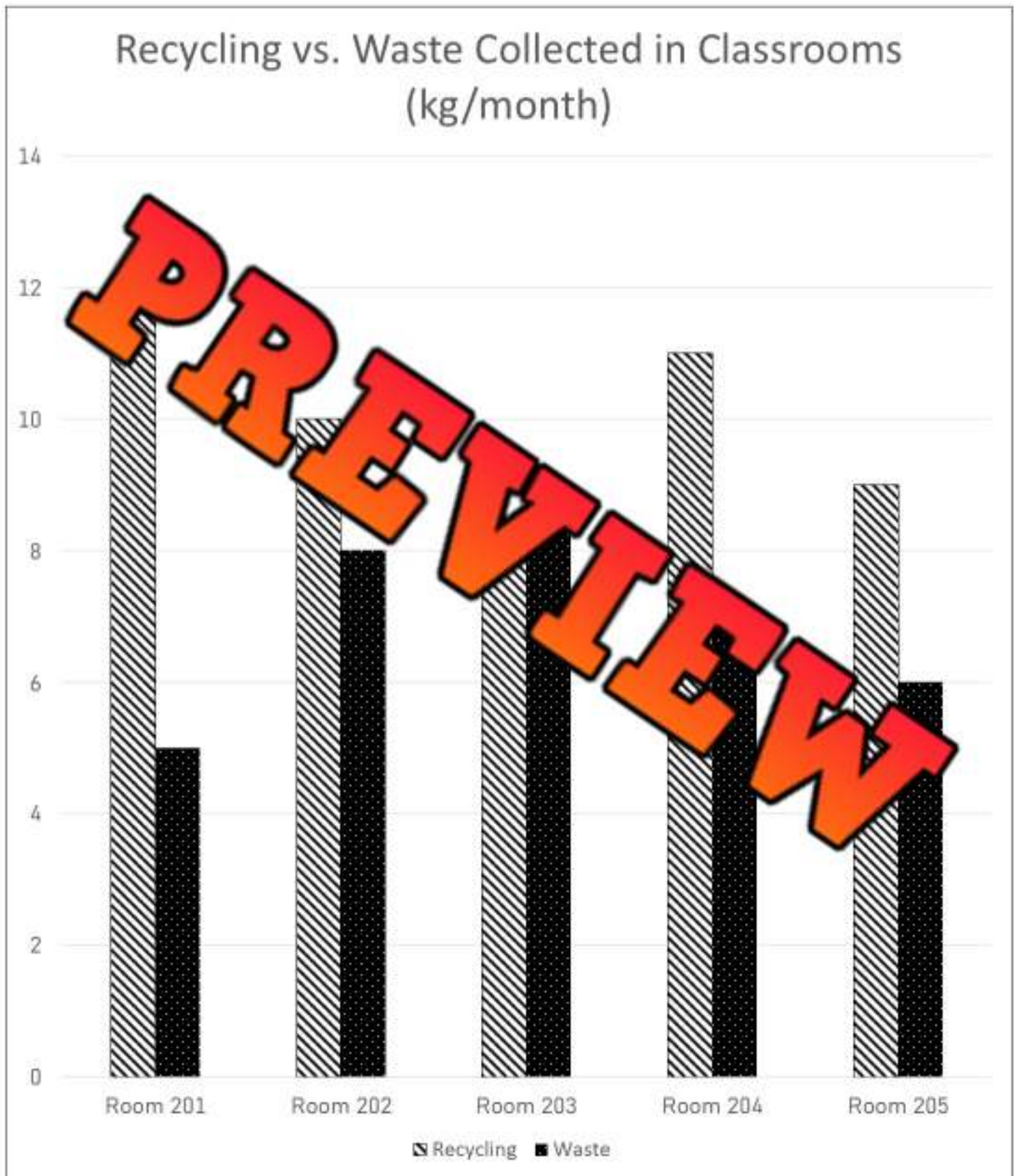
Graph 4

Analyze the graph below



Graph 5

Analyze the graph below



Questions

Choose a question to ask the student who is about to flip their bottle

What is the title of the graph?

What is the title of the Y-axis?

What is the title of the X-axis?

What does each bar on the graph represent?

Which category shows the highest values for both bars?

Which category shows the lowest values for both bars?

How many categories are displayed on the graph?

What is the range of values on the Y-axis?

What is the total number of units represented by all bars?

What is the difference in value between the highest and lowest categories for both bars?

Are there any categories that have similar values for both bars?

How does the value of one specific category compare to the other?

What could be a possible reason for the highest value?

What could be a possible reason for the lowest value?

What trends can you observe from the graph?

How might this data be useful?

If you could add another category to this graph, what would it be?

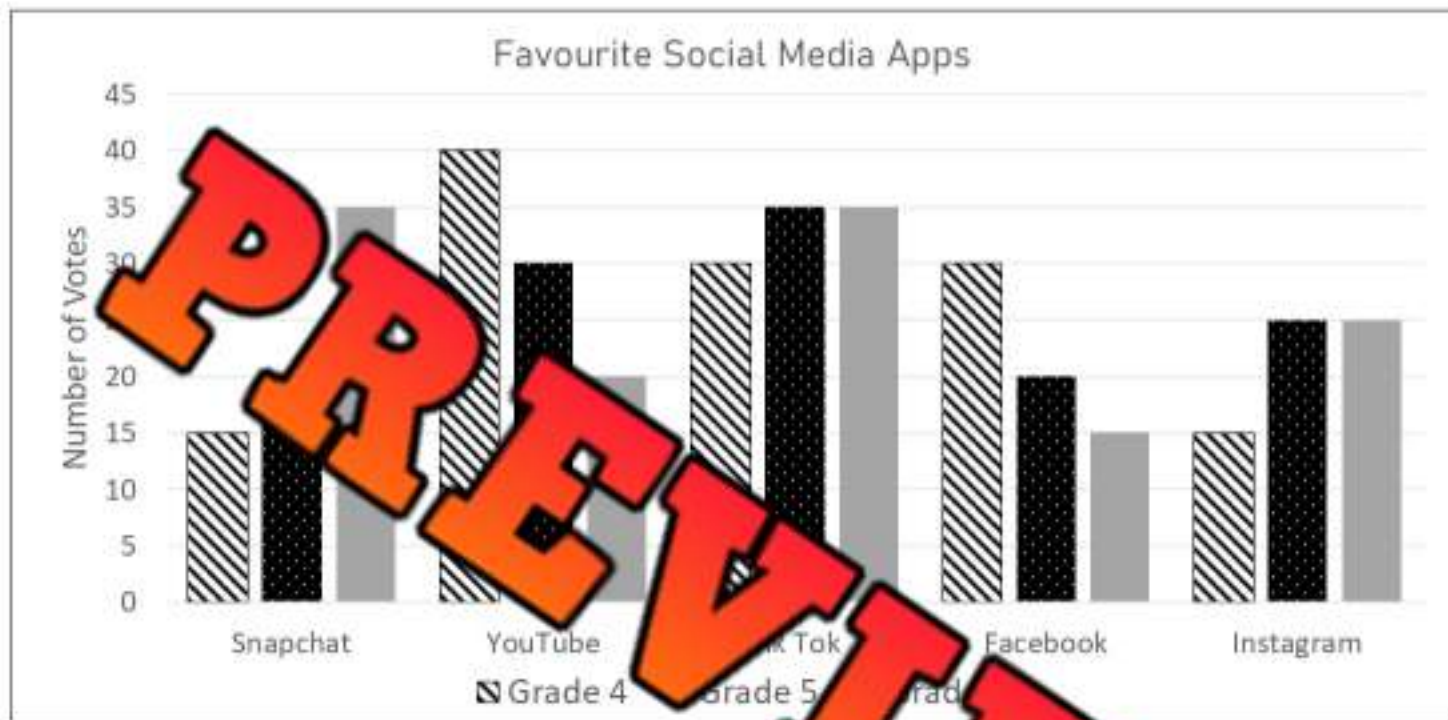
How would you describe the overall distribution of data?

What insights or conclusions can you draw from this graph?

How might the information on the graph impact decisions or opinions?

Multiple-Bar Graph – Favourite Social Media

The students in grade 4, 5, and 6 were asked which social media app was their favourite. The results have been sorted by grade in the multiple-bar graph below.



Part 1

Fill in the frequency table by reading the data from the graph above

	4	5	6
Snapchat	15		
YouTube			
Tik Tok			
Facebook	30		
Instagram			

Part 2

Answer the questions below

a) How many students in each grade were surveyed?

b) Which social media was the most popular? How many votes did it get?

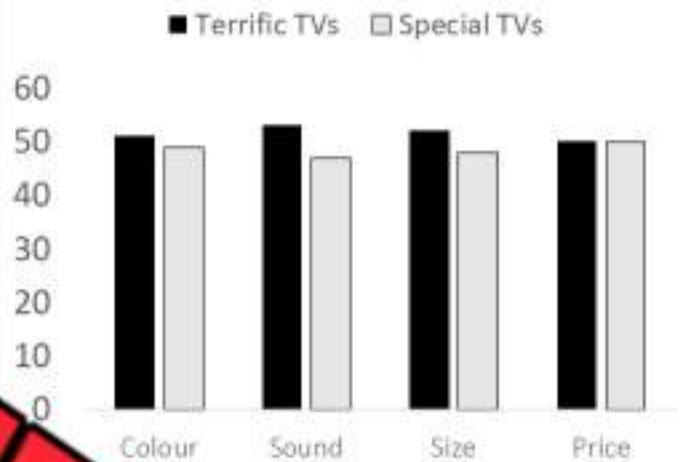
Misleading Graph – Multiple-Bar Graph

Terrific TVs sells televisions. Their biggest competition is a company named, Special TVs. Terrific TVs completed a study that compared the two brands. The results are below.

Best TV – Customer Votes – Graph A



Best TV – Customer Votes – Graph B



Questions

What do you notice about the two graphs?

a) Which graph would you use if you were Terrific TVs? Why?

b) How many more votes in total did Terrific TVs get over Special TVs?

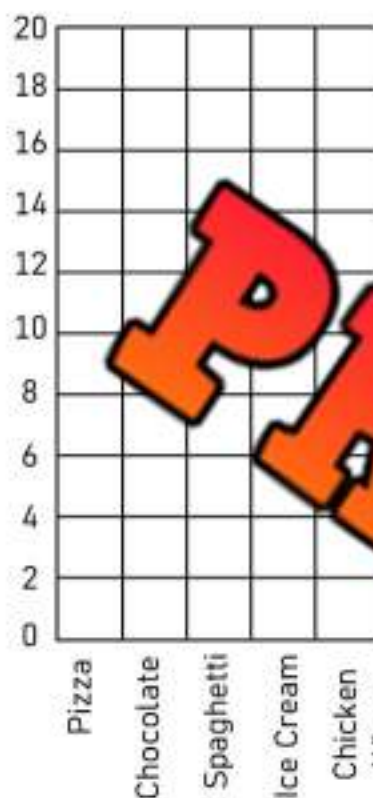
c) Is Terrific TVs a lot better than Special TVs? Explain.

d) Do you think it is fair that businesses create misleading graphs like this one? Explain.

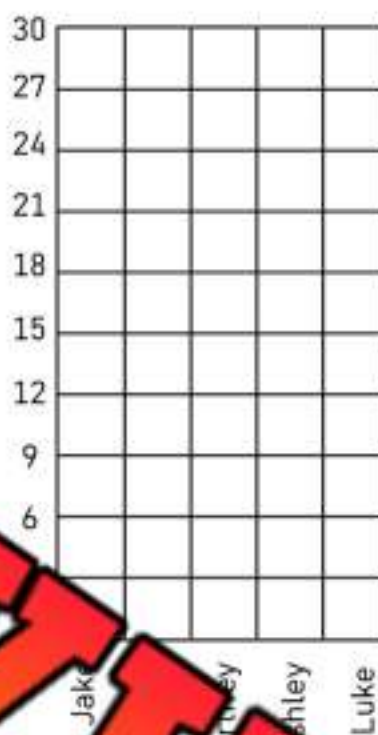
Drawing Bar Graphs

Questions

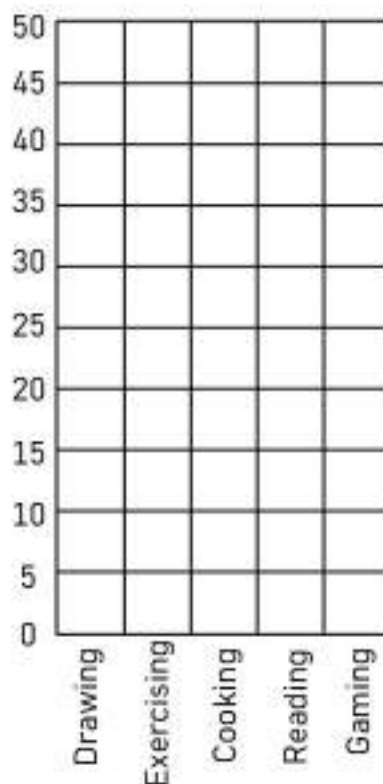
Draw the bars for each of the bar graphs below



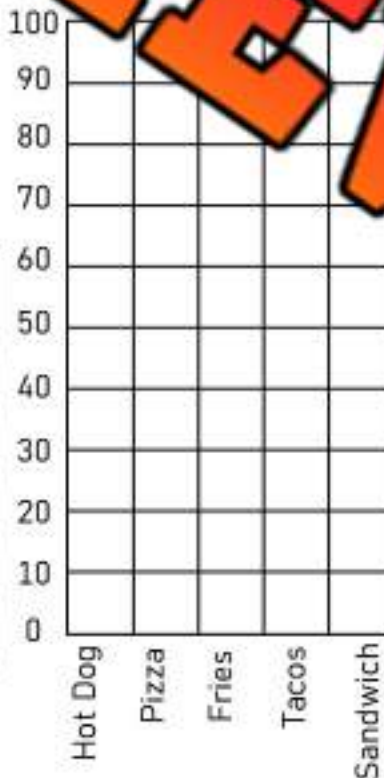
Favourite Food	# of votes
Pizza	16
Chocolate	14
Spaghetti	9
Ice Cream	7
Chicken Wings	11



Player	# of points
Jake	21
Nathan	12
Courtney	18
Ashley	28
Luke	8



Favourite Hobby	# of votes
Drawing	30
Exercising	11
Cooking	29
Reading	13
Gaming	45



Favourite Food	# of votes
Hot Dog	40
Pizza	80
Fries	75
Tacos	35
Sandwich	25

Exit Cards

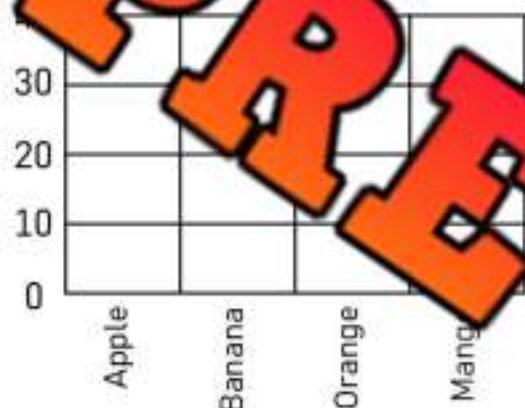
Cut Out

Cut out the exit cards below and have students complete them at the end of class

Name: _____

Draw the bars for the bar graphs below.

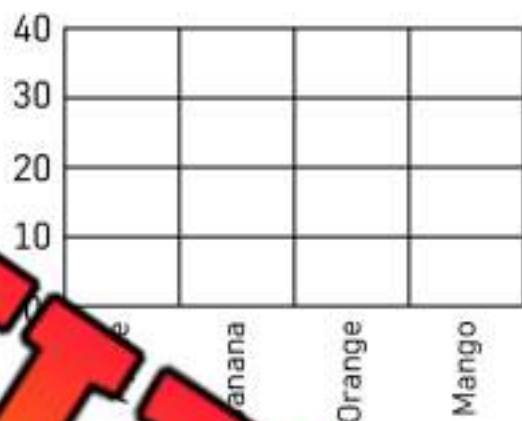
Fruit	Apple	Banana	Orange	Mango
Votes	10	10	35	20



Name: _____

Draw the bars for the bar graphs below.

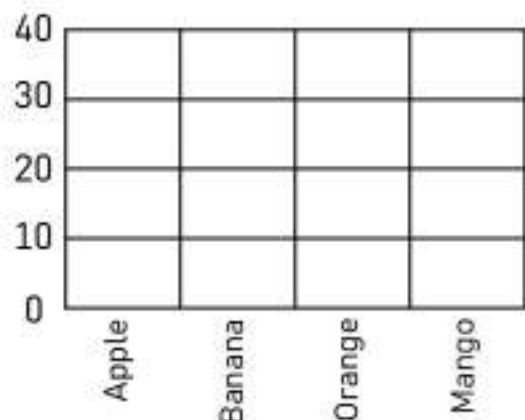
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

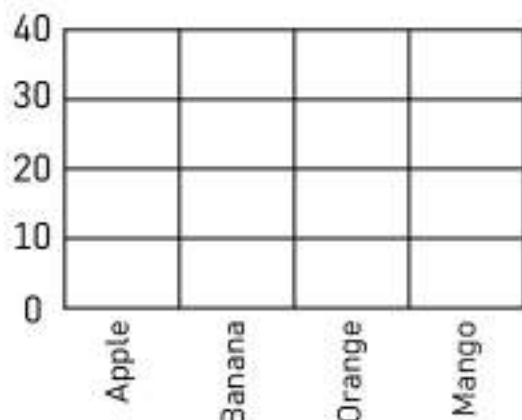
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



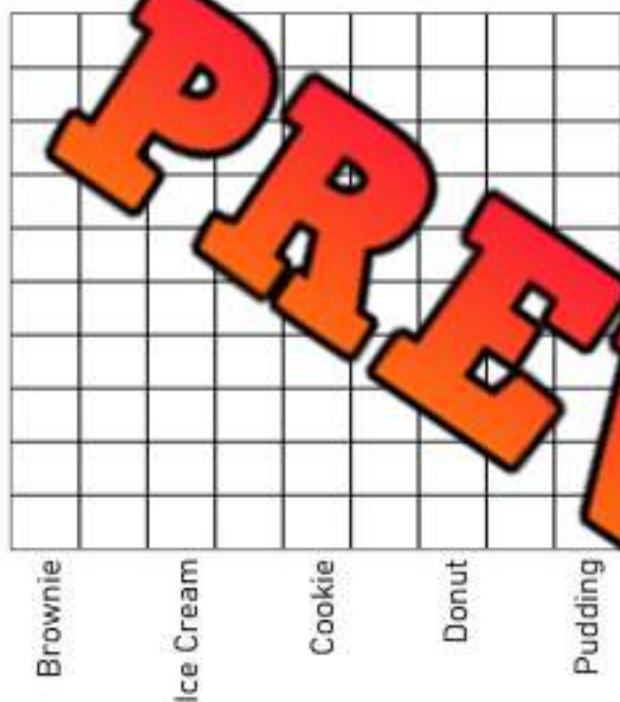
Creating Scale

When you create a scale for your graph, you need to look at the data so you can decide what to go up by. The goal is to create a graph that will fill the graph area.

Step 1: Look at the data. Find the lowest and highest numbers.

Step 2: Count how many lines you have to plot your data.

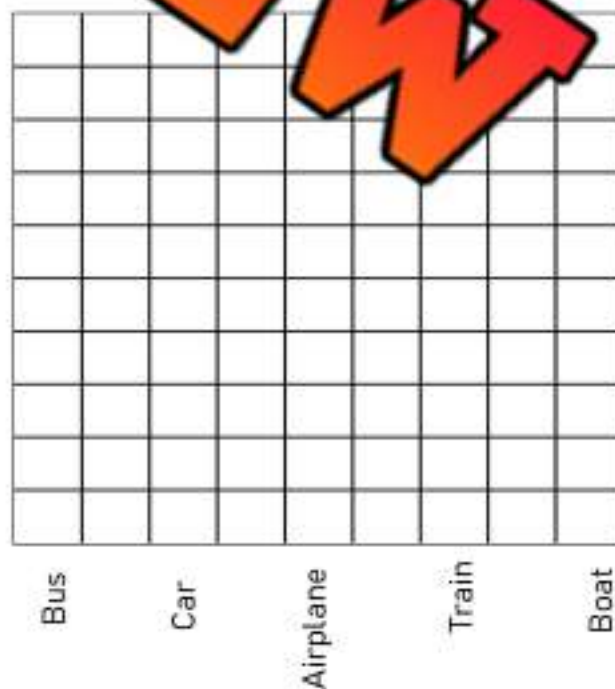
Step 3: Decide what to go up by to ensure you have enough space to plot all the data.



Favourite Dessert	# of votes
Brownie	21
Ice Cream	27
Cookie	15
Donut	12
Pudding	9



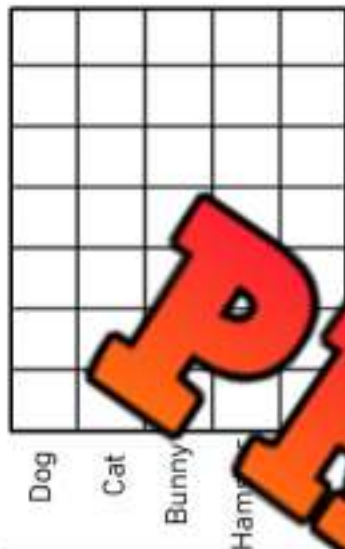
Transportation Method	# of votes
Bus	10
Car	50
Airplane	90
Train	70
Boat	80



Creating Scale

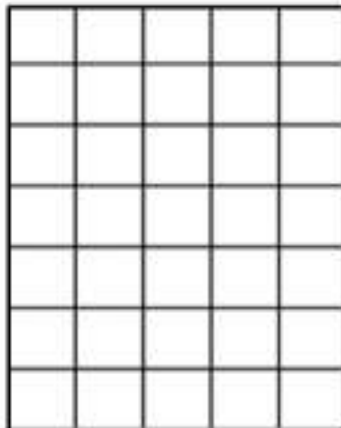
Questions

1) Read the numbers and decide which scale to use. 2) Draw your bar graphs



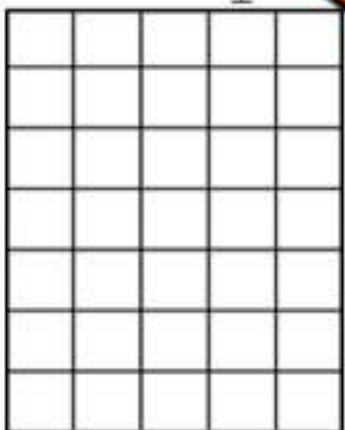
Dog
Cat
Bunny
Hamster

Pets	Votes
Dog	3
Cat	12
Bunny	18
Hamster	15
Guinea Pig	9



Nike
Puma
Adidas
U.A.
Reebok

Brand	Votes
Nike	10
Puma	6
Adidas	3
Under Armour	8
Reebok	12



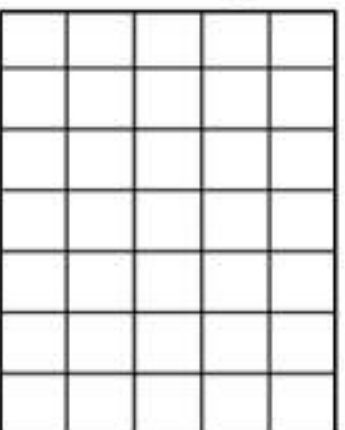
Cookies
Cake
Candy
Ice Cream
Donuts

Food	Votes
Cookies	15
Cake	20
Candy	35
Ice Cream	25
Donuts	10



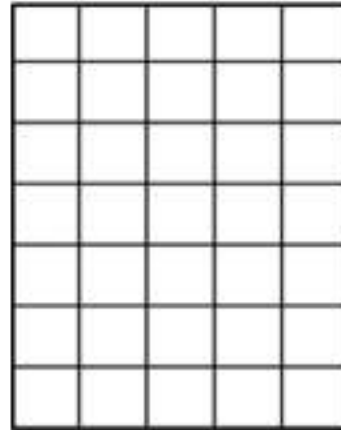
Math
Science
Gym
Art
Language

Subject	Votes
Math	8
Science	22
Gym	65
Art	41
Language	30



Honda
BMW
Toyota
Tesla
Ford

Cars	Votes
Honda	200
BMW	450
Toyota	225
Tesla	675
Ford	350



Water
Pop
O.J.
Milk
A.J.

Drinks	Votes
Water	700
Pop	1300
Orange Juice	550
Milk	150
Apple Juice	825

Survey – Double Bar Graph – Eye Colour

Directions

- 1) Create two groups that you will ask the survey question, "what is your eye colour?"
- 2) Record the results in the table below. Make sure to keep the data from the two groups separate.

Survey Question		What is your eye colour?							
Category	Category	Category		Category		Category		Category	
Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Tally	Tally	Tally	Tally	Tally	Tally	Tally	Tally	Tally	Tally

Interpreting Your Survey Results

- 1) Did any of the survey results surprise you?

- 2) Was there a big difference between the two groups? Explain why or why not.

- 3) What was the mode for group 1? Group 2?

Group 1:

Group 2:

Name: _____

Creating a Double-Bar Graph – Eye Colour

Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend



Double Bar Graph – Secondary Data

Directions

- 1) Think of 2 different populations that you can compare (countries, athletes, YouTubers)
- 2) Think of a research question that allows you to compare two different populations
Examples: How many views did two YouTubers have in each of the last 4 years?
- 3) Make sure you have 4 or 5 data points so you can compare the two groups
Examples: year (2015, 2016, etc.), season, athlete's season (first year, second year)

Survey Question		Category		Category		Category	
Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency

Interpreting Your Survey Results

- 1) What did you learn about the two groups? Write at least 2 things you learned.

- 2) Why do we use second-hand data? What does it allow us to do?

Name: _____

Double Bar Graph – Secondary Data

Use the data you collected to plot your graph. Remember the following labels:

X axis label Y axis label Title Scale Options Legend



Creating an Infographic

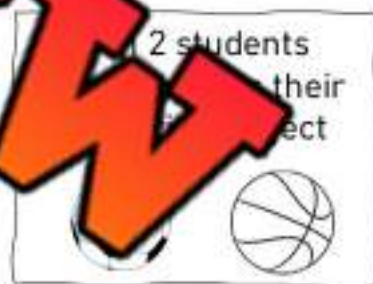
An **infographic** shares information about a topic in multiple ways. Infographics are great for displaying data that can teach an audience about a topic.

Directions Display the data set in different ways below. Write in the boxes and draw pictures

50 grade 3s and 50 grade 4s from across Ontario were surveyed, asking what their favourite subject in school is. The results are in!

Math			Gym		Art		Drama	
Gr 3	Gr 4	Gr 3	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
2	2	1	9	30	8	6	8	2

Legend



Only 4% of students prefer math as their favourite subject



Stem

Leaf

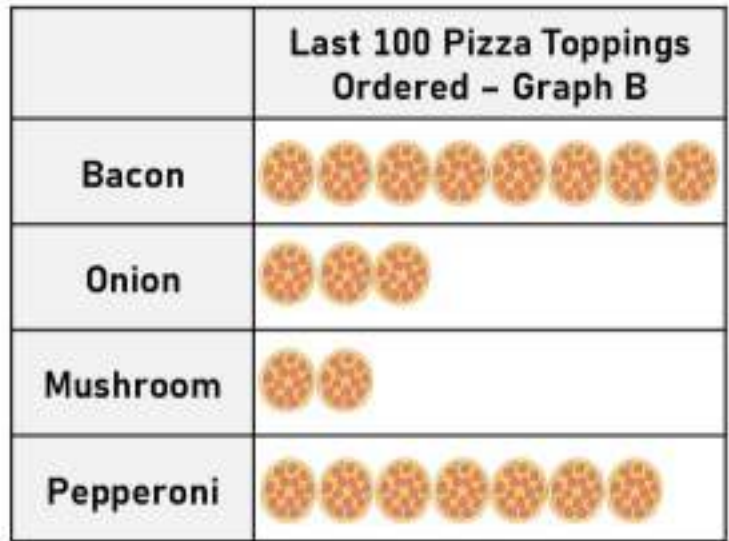
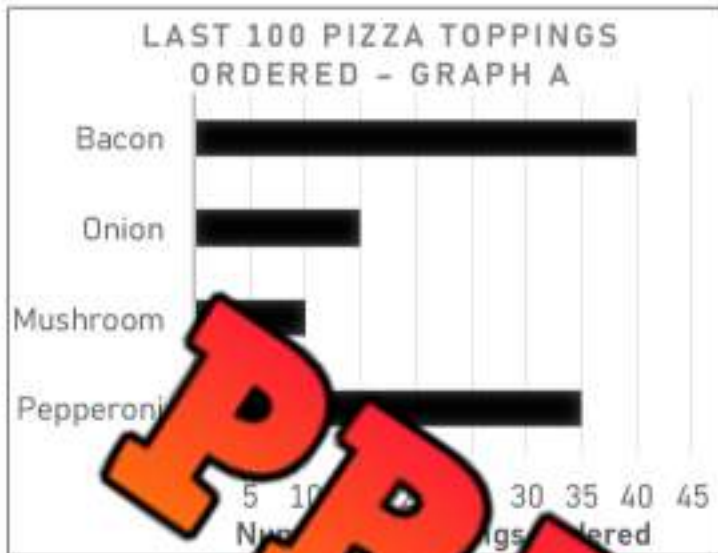
Name: _____


My Infographic

Title: _____

PREVIEW

Displaying Data Using Different Graphs



 = 5 toppings

Questions

Answer the questions below

a) Which graph displays the data more clearly? Explain your choice.

b) If you were reading this data quickly, which graph would be easier to read? Explain.

c) When do you think a bar graph is better than a pictograph?

d) When do you think a pictograph is better than a bar graph?

Choosing an Appropriate Graph

Questions Read the data below and decide which type of graph you would use to represent the data

1) You surveyed your classmates asking which season is their favourite. The results are listed below.



Summer	Fall	Winter	Spring	Summer
7	4	2	5	7

Which type of graph would you use to represent the data? Explain your choice.

2) You surveyed the grade 4s and 5s asking what their favourite type of chips are. The results are below.



	Sour Cream	Avocado	Hot and Vinegar	Regular
Grade 4	7	8	6	5
Grade 5	5	9	7	10

Which type of graph would you use to represent the data? Explain your choice.

3) You surveyed your classmates asking which cookie is their favourite. The results are below.



Chocolate Chip	Oatmeal	Double Chocolate	Sugar	Peanut Butter
18	8	24	12	35

Which type of graph would you use to represent the data? Explain your choice.

Unit Quiz – Data Literacy

Part 1 Read the description of the data and circle if it is quantitative or qualitative

1) Number of cans collected for the food drive	Quantitative Qualitative
2) Height of the animals in a zoo	Quantitative Qualitative
3) Favorite sport of the grade 4 students	Quantitative Qualitative
4) Snowfall in January	Quantitative Qualitative
5) Which hobby do you like the most	Quantitative Qualitative

Part 2 Draw the bars for each of the graphs below and calculate the averages

Pizza
Chocolate
Spaghetti
Ice Cream
Chicken Wings

Favourite Food	# of votes
Pizza	12
Chocolate	6
Spaghetti	8
Ice Cream	16
Chicken Wings	6

Mode = _____

Median = _____

Mean = _____

Jake
Nathan
Courtney
Ashley
Luke

Player	# of points
Nathan	15
Courtney	30
Ashley	15
Luke	21
Jake	9

Mode = _____

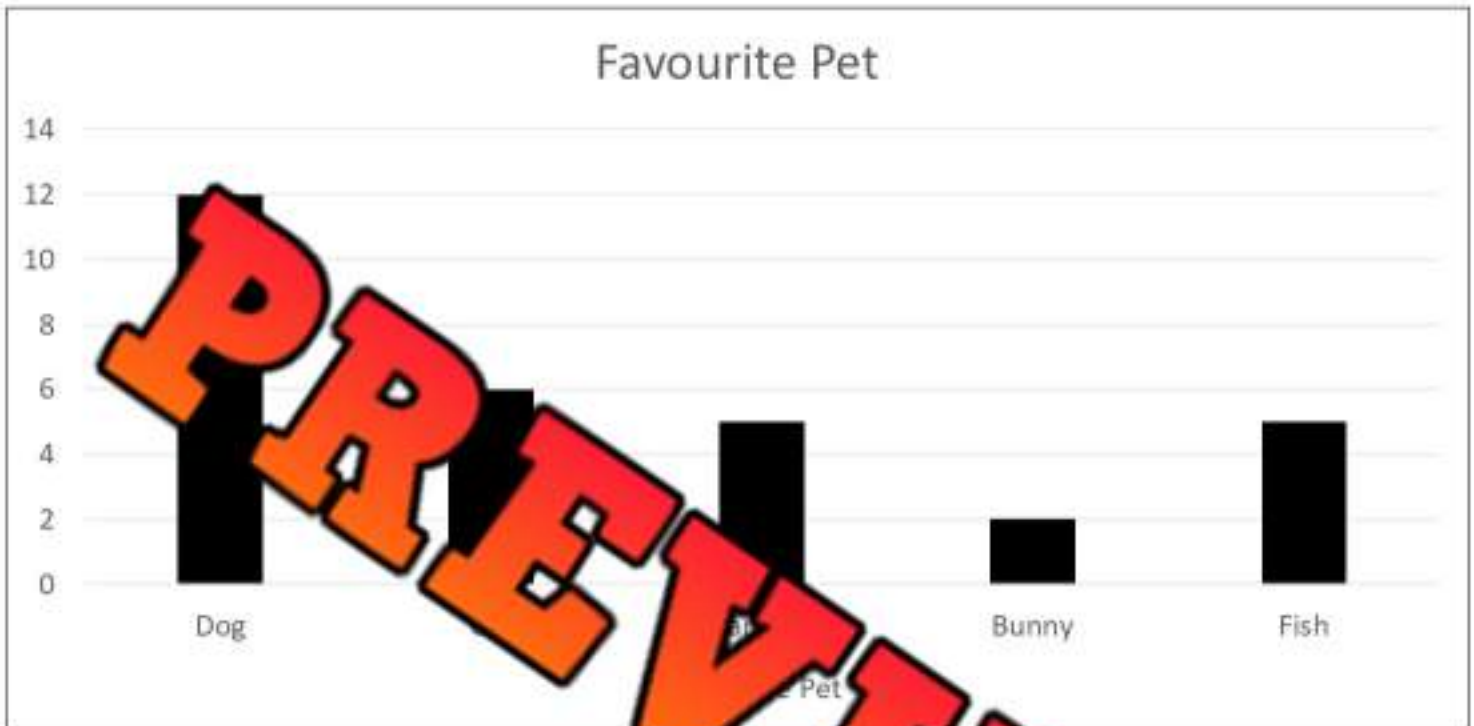
Median = _____

Mean = _____

Part 3

Read the graph and answer the questions below

Mr. Wilson's class was asked what their favourite pet is. The results are graphed below.



Answer the following questions about the graph above.

1. Fill in the frequency table

Pet	Dog	Cat	Hamster	Bunny	Fish
Votes					

2. Fill in the table

Mean	Mode	Median

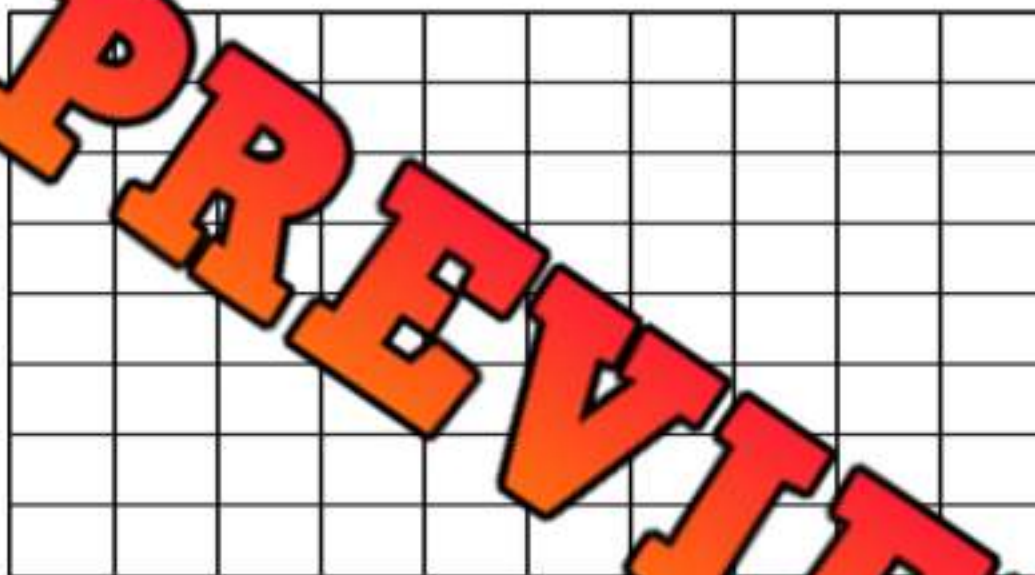
3. How many students were surveyed?

Part 4

Graph the data below in a multiple bar graph

The grade 3s and 4s were asked which entertainment they liked the best. The results are below.

Movies		TV Shows		YouTube		Video Games		Music	
Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4	Gr 3	Gr 4
5	10	10	5	25	15	35	20	10	5



Legend

Part 5

Complete stem and leaf plots

1. Plot the data set:
34, 42, 37, 65, 63, 46, 74, 61, 39

Stem	Leaf

2. Read the stem and leaf plot and write the data set on the line.

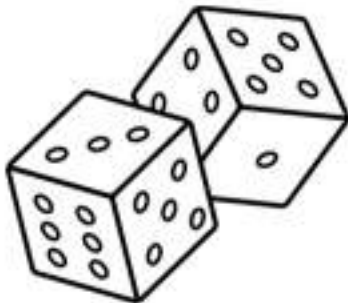
Stem	Leaf
2	1, 5
4	2, 6
5	5, 6
6	6
7	1, 9

Data Set: _____



Grade 4 D2. Probability

	Curriculum Expectations	Pages That Cover the Expectations
D2.1	Use mathematical language, including the terms "impossible", "unlikely", "equally likely", "likely", and "certain", to describe the likelihood of events happening, represent this likelihood on a probability line, and use it to make predictions and informed decisions	102 - 125
D2.2	Make and test predictions about the likelihood that the mean, median, and mode(s) of a data set will be the same for data collected from different populations	126 - 136



Describing the likelihood – Equally Likely

Equally likely means that there is an even chance that an outcome will happen. This means during the event, the outcome has the same chance of either happening or not happening.



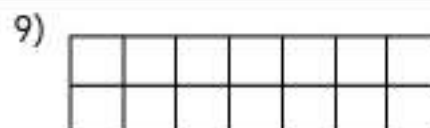
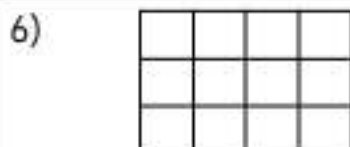
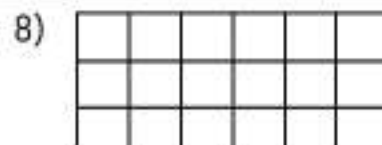
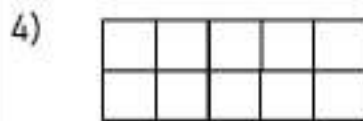
For example: Flipping a coin and it landing on heads is an even chance.

Explanation: There is an equal chance of the coin landing heads and not landing heads (tails).

Part 1 Divide in half of the shapes to split them equally



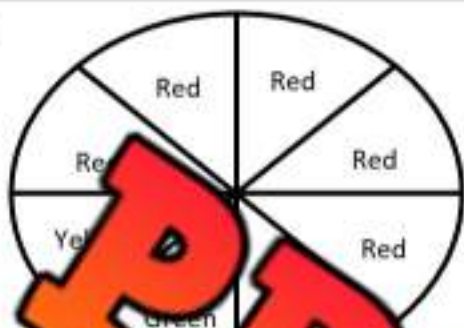
Part 2 Shade in half of the squares in the shapes below



Describing the Likelihood – Unlikely, Likely

Instruction Read the spinner and describe if the event is unlikely or likely to happen

1)

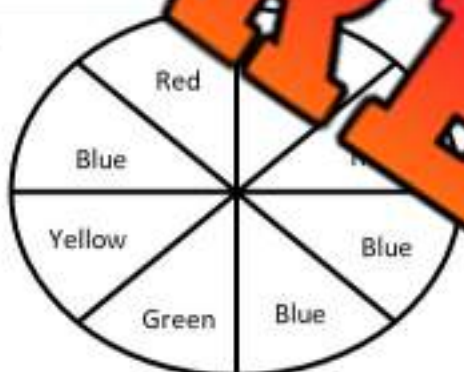


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a blue or red is _____

2)

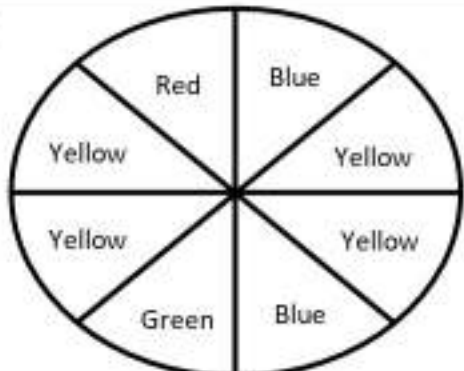


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a yellow is _____

3)

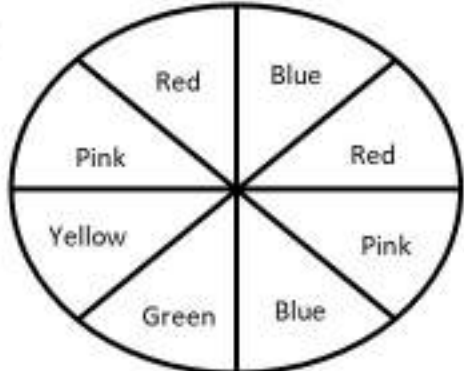


a) Spinning a red is _____

b) Spinning a green is _____

c) Spinning a yellow or red is _____

4)



a) Spinning a red or green is _____

b) Spinning a blue, pink or red is _____

c) Spinning a green or pink is _____

Describing the Likelihood of Events

Instruction

Circle the likelihood of the event happening

1) You will have a substitute teacher tomorrow.



Certain

More Likely

Equally Likely

Less Likely

Impossible

2) You will go to the bathroom today.



Certain

More Likely

Equally Likely

Less Likely

Impossible

3) You will see a blue bird today.



Certain

More Likely

Equally Likely

Less Likely

Impossible

4) You will eat some chocolate today?



Certain

More Likely

Equally Likely

Less Likely

Impossible

5) It will snow on a warm day.



Certain

More Likely

Equally Likely

Less Likely

Impossible

6) You will get heads when flipping a coin.



Certain

More Likely

Equally Likely

Less Likely

Impossible

7) You will see a motorcycle today.



Certain

More Likely

Equally Likely

Less Likely

Impossible

8) You will slam dunk a basketball today.



Certain

More Likely

Equally Likely

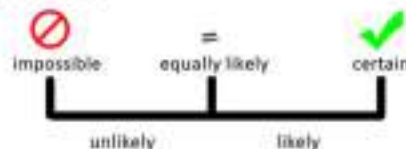
Less Likely

Impossible

Describing the Likelihood of Events

We can describe the likelihood of events by using the following terms:

impossible, unlikely, equally likely, likely, certain



Impossible = Cannot happen

Unlikely = Will probably not happen

Equally likely = There is an equal chance it could happen and that it won't happen

Likely = Will probably happen

Certain = Will definitely happen

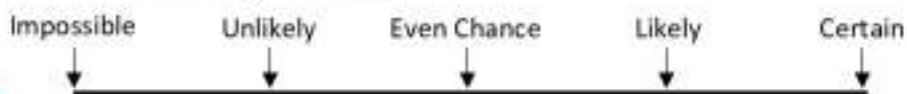
Instructions Use the terms to describe the likelihood of the events below

1) You will have a ham today 	
2) You will drink water today	
3) You will play on an electronic today 	
4) You will win the lottery today	
5) You will see an alien today 	
6) You will ride in a vehicle today	
7) You will sleep tonight 	
8) You will eat chips today	
9) You will go swimming today 	
10) You will play a sport today	

Describing the Likelihood of Events

Instruction Circle the probability of each event happening on the probability line

1. You will win the lottery today.



2. You will see a dog today.



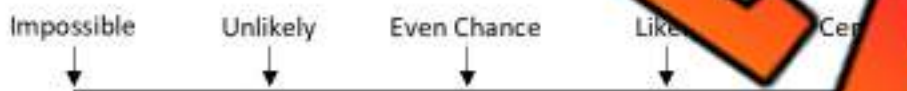
3. You will see a cat today.



4. You will find treasure when you go on an expedition.



5. You will drive a motorcycle today.



6. You will go on a computer today.



7. You will eat pizza today.



8. You will grow wings and fly away.



Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class

Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



3. You will see a bird flying in the sky today.



Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



3. You will see a bird flying in the sky today.



Name: _____

Circle the probability of each event happening on the probability line.

1. You will have pizza for dinner tonight.



2. You will get a surprise present today.



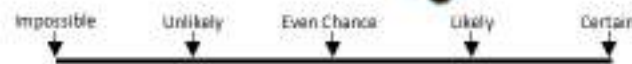
3. You will see a bird flying in the sky today.



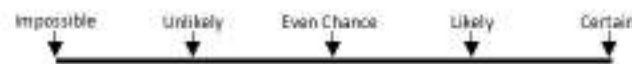
Name: _____

Circle the probability of each event happening on the probability line.

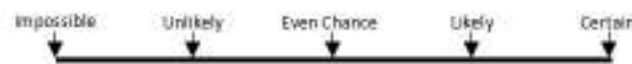
1. You will have pizza for dinner tonight.



2. You will get a surprise present today.

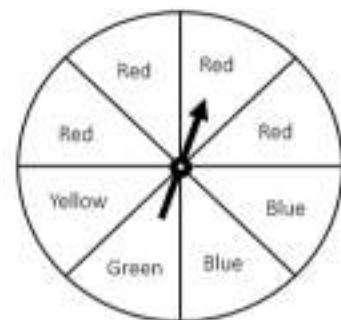
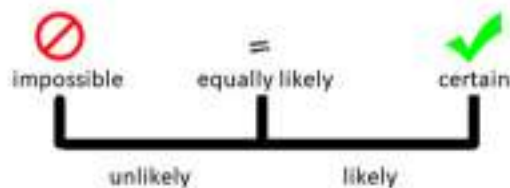


3. You will see a bird flying in the sky today.



Describing the Likelihood of Events

The spinner has different coloured parts on it. When you spin the arrow, it will land on one of the colours. The likelihood of landing on a green part is unlikely.

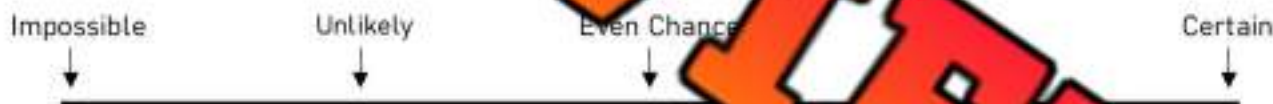


Instructions Place the likelihoods of the events below using the probability line

1. What is the likelihood of landing on a red part?



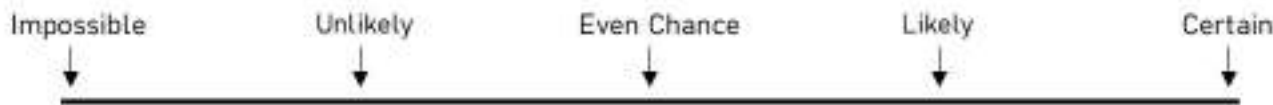
2. What is the likelihood of landing on a blue part?



3. What is the likelihood of landing on a yellow part?



4. What is the likelihood of landing on a red or yellow part?



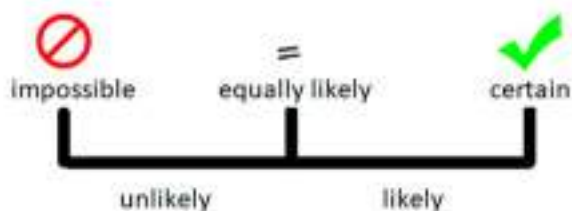
5. What is the likelihood of landing on a red, blue, green, or yellow part?



Likelihood of Events – Rolling a Dice

Rolling a Dice

A dice has 6 sides. Each side has a number of dots between 1 and 6. When you roll a dice, you have an unlikely chance of rolling a certain number.



Part 1

Use the terms to describe the likelihood:
impossible, unlikely, equally likely, likely, certain

- | | |
|---|--|
| 1. What is the likelihood of you rolling a 1? | |
| 2. What is the likelihood of you rolling a 5? | |
| 3. What is the likelihood of you rolling a 3? | |
| 4. What is the likelihood of you rolling a 2, 4, or 6? | |
| 5. What is the likelihood of you rolling an odd number? | |
| 6. What is the likelihood of you rolling a 7? | |

Part 2

Write your own dice rolling events that would represent the likelihood below.

1) Impossible	
2) Certain	
3) Likely	
4) Unlikely	
5) Equally likely	

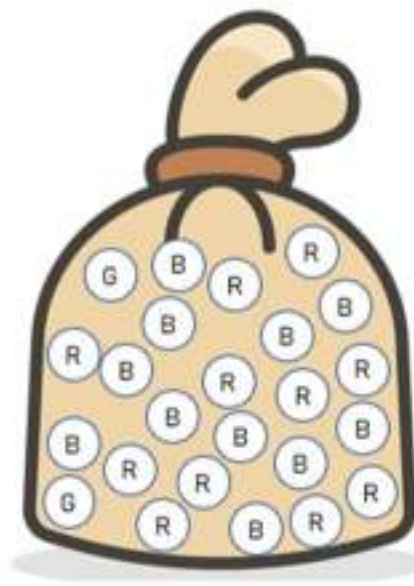
Describing the Likelihood of Events

There are 24 candies in a bag. Describe the likelihood of the events below.

Frequency Table

Fill in the frequency table below

Candy Colour	Frequency
Red	



Part 1

Use these words to describe the likelihood:
Impossible, unlikely, equally likely, likely, certain

1. What is the likelihood of pulling out a red candy?
2. What is the likelihood of pulling out a blue candy?
3. What is the likelihood of pulling out a green candy?
4. What is the likelihood of pulling out a red, blue, or green candy?
5. What is the likelihood of pulling out a red or green candy?
6. What is the likelihood of pulling out a red candy?

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	

Name: _____

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Activity Title: 4-Corners Probability Game

Objective What are we learning about?

Students will learn to describe the likelihood of events using the terms impossible, unlikely, equally likely, likely, and certain.

Materials What you will need for the activity.

- A list of events or scenarios prepared by the teacher
- Four signs labeled A, B, C, and D (one for each corner of the room)

**Instructions** How you will complete the activity

1. Begin by explaining the different terms used to describe the likelihood of events: impossible, unlikely, equally likely, likely, and certain. Provide examples to ensure students understand each term.
2. Show the students one of the events or scenarios from the list prepared. You will need to project the question to the class.
3. Present multiple-choice options for the events that could be used to describe the event. Each corner of the room will represent one of the multiple-choice options.
4. Read out the term options and ask the students to move to the corner that they believe represents the event.
5. Once all students have chosen a corner, discuss the correct answer and explain why it is the best choice.
6. Optionally: You could play this game several different ways. Another option could be to give each student a whiteboard and marker and have them write their answer down. Then countdown 3-2-1 and have everyone show their answer. Another option if you have no whiteboards is to have students use their fingers to show their answer. A = 1 finger, B = 2 fingers, C = 3 fingers, and D = 4 fingers. Complete a countdown and have students show their answer using their fingers.

Event 1 Analyze the event and then move to one of the corners of the room

There are 10 cubes in a bag. All are green.

What is the likelihood of pulling out a green cube?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Certain

PREVIEW

Event 10 Analyze the event and then move to one of the corners of the room

You will drink water sometime today.

What is the likelihood of this happening?

Event Options:

- A: Impossible
- B: Unlikely
- C: Equally Likely
- D: Certain

PREVIEW

Predicting Survey Results – Food - Class



When we do a survey, we can predict what the results will be based on who we ask. The people we survey are called the population. If you ask adults the same question that you ask kids, you will probably be able to predict different survey results. Try it below!

Predict

What do you predict will be the results of the survey

1) Write down what you think the results will be if you asked 10 students in your class the question: "What is your favourite food?"

Survey Question: What is your favourite food?

Categories		Steak	Fish	Sandwiches
Frequency				

2) Complete the survey by asking 10 classmates

Survey Question : What is your favourite food?

Categories	Pizza	Hot Dog	Steak	Fish	Sandwiches
Tally					
Frequency					

Results

How were your predictions?

Were your predictions accurate or not? What surprised you?

Predicting Survey Results – Drink - Adults

Predict

What do you predict will be the results of the survey

1) Write down what you think the results will be if you asked 10 different adults the survey question, "What is your favourite drink?"



Survey Question : What is your favourite drink?					
Categories	Water	Juice	Tea	Pop	Coffee
Frequency					

2) Complete the survey by asking 10 different adults.



Survey Question : What is your favourite drink?				
Categories	Water	Juice	Pop	Coffee
Tally				
Frequency				

Results

How was your prediction?

1) Were your predictions accurate or not? What surprised you?

2) Why do you think you got different results when you asked adults?

Predicting the Mean, Median, Mode

Data can be predicted based on what the data is about or who was surveyed. For example, we can predict that snowfall will be heavier in the winter months than the other seasons. We can also predict that younger kids will enjoy juice more than adults.

Predict

What do you predict will be the results of the survey

- 1) The Toronto Raptors have scored the following points in the last 5 games.
105, 101, 105, 100, 104



The Boston Celtics are another NBA team that won 5 more games than the Raptors last year. Predict your average based on what you know about the Raptors.

	Mean	Mode	Median
Raptors			
Celtics			

- 2) Usain Bolt ran 5 races in 2019. His race times are listed below in seconds.
9.8, 10, 9.6, 9.8, 9.6



Predict your averages if you raced the 100m 5 times.

	Mean	Mode	Median
Usain Bolt			
You			

- 3) The average temperature for the 4 seasons in Toronto are listed below. Find the yearly averages and write them in the table below.

0, 12, 25, 7



Predict the yearly averages in Jamaica

	Mean	Mode	Median
Toronto			
Jamaica			

Predicting the Mean, Median, Mode

Predict

What do you predict will be the results of the survey

1) The grade 4s were surveyed, asking how many minutes they read a night. The mean amount for grade 4s was 20 minutes. What do you think will be the mean for grade 5s if they were surveyed? Explain.

2) Adults at a fast food restaurant were surveyed as to what their favourite drink was. The mode was to get cola. What do you think would be the mode at a different fast food restaurant if adults were surveyed? Explain.

3) The median for long jumps in a grade 4 class was 145 cm. What do you think the median for long jumps in a grade 4 class would be? Explain.

4) The mean for time spent using social media for a grade 4 class was 15 minutes a day. What do you think the mean for a grade 8 class would be if they were asked the same question? Explain.

5) The median number of steps a student in grade 4 takes is 10 242. What do you think would be the median number of steps for a retired senior? Explain.



Predicting the Population

Predict

Circle what population you think the data belongs to



1.	Mean	4	Basketball Score
	Median	3	Hockey Score
	Mode	5	Football Score

2.	Mean	75	Test Scores
	Median	78	Hockey Score
	Mode	76	Daily Rainfall in mm

3.	Mean	6	Pencil Prices
	Median	6	Shirt Prices
	Mode	6	Burger Prices

4.	Mean	14	Ages of Truck Drivers
	Median	15	Ages of University Students
	Mode	17	Ages of Teachers

5.	Mean	243	Country Population
	Median	236	City Population
	Mode	228	School Population

6.	Mean	2	Number of Pets
	Median	1	Number of Books in a Library
	Mode	3	Computers in a Computer Lab

Predicting the Mean, Median, Mode

Ask the survey question to students in your class. If there are two grade 4 classes, ask your entire class. Later, you will ask the same survey question to the other grade 4 class. If your school has only one grade 4 class, ask half of your class the survey question and then ask the other half the same question to compare.

Collect

Collect data from your class

Survey Question How many minutes do you play video games a day?

Data

Interpret

Find the mean, median, and mode

Mean	
Median	
Mode	

Predict

Answer the questions below

1) What do you predict will be the mean, median, and mode of the other class or other part of the class?

Mean	
Median	
Mode	

2) Why do you feel these are good predictions? What helped you decide?

Unit Quiz – Probability

Part 1

Circle the likelihood of the event happening

a) You will drink something today

Impossible

Certain

b) You will fly home today

Impossible

Certain

c) You will watch a game today

Even Chance

Likely

Unlikely

d) You will play basketball today

Even Chance

Likely

Unlikely

Part 2

Use the terms to describe the likelihood of the events below

1. The Toronto Blue Jays will win the World Series next year.

2. You will have a lunch break today.

3. You will have a nap today.

4. You will find a diamond on the ground today.

5. You will read a book today.

6. It will rain or snow today.

7. You will roll an 8 when rolling a single six sided dice.

Marbles

There are 12 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?



Frequency Table Fill in the frequency table below

Marble Colour	Frequency
White	

Part 1

Use these words to describe the likelihood:
Impossible, unlikely, equally likely, likely, certain

- | | |
|--|--|
| 1. What is the likelihood of pulling out a grey marble? | |
| 2. What is the likelihood of pulling out a grey marble? | |
| 3. What is the likelihood of pulling out a white marble? | |
| 4. What is the likelihood of pulling out a black, white, or grey marble? | |
| 5. What is the likelihood of pulling out a black or white marble? | |
| 6. What is the likelihood of pulling out a green marble? | |

Part 2

Write your own events that would represent the probabilities below

1) Impossible	
2) Likely	
3) Unlikely	