



Preview – Information



Thank you for your interest in this product. Within this preview, you will see:

- ✓ A selection of Ready-To-Use Google Slides Lessons.
- ✓ A selection of worksheets included in the workbook.

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Google Slides Lessons Preview





BC Math Curriculum Statistics Unit – Grade 4

3-Part Lesson Format

Part 1 – Minds On!

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

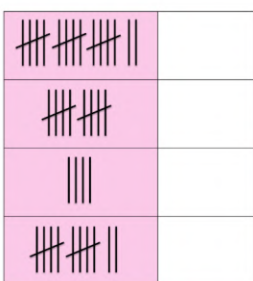
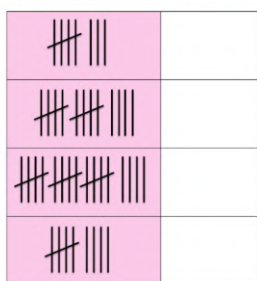
TALLY MARKS

Learning Goal

We are learning to **record and organize data using tally marks and frequency tables**, so we can **analyze data, compare results, and draw conclusions from the information we collect.**

TALLY MARKS

Count the tally marks.



	19
14	18
4	12
17	9
10	8

Part 2 – Action!

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

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!

PICTOGRAPH

Survey your classmates and use the data to create a pictograph.
Survey Question: Which snack do you like best?

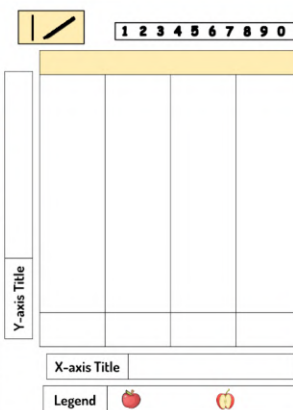
Options	Popcorn	Crackers	Granola Bar	Yoghurt
Tally				
Frequency				

1) Which snack was the most popular?

2) How many more students chose the most popular snack than the least popular snack?

3) Which two snacks had the closest number of votes?

4) How many students participated in the survey?

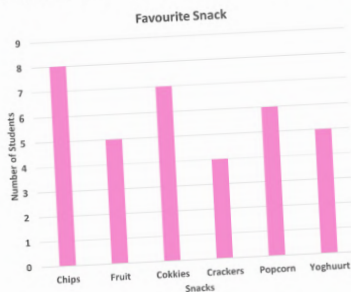




BC Math Curriculum Statistics Unit – Grade 4

VERTICAL BAR GRAPH

The students in a class were asked which snack they liked best. The results are shown in the bar graph below.



- 1) Which snack was most popular?
- 2) Which snack was the least popular?
- 3) How many students chose cookies as their favourite?
- 4) How many students liked fruit and popcorn combined?
- 5) How many more students liked chips than crackers?
- 6) How many students were surveyed in total?

Chips

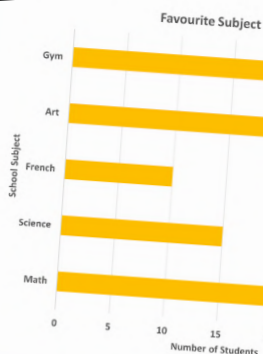
Fruit

Cookies

Crackers

Popcorn

Yoghurt

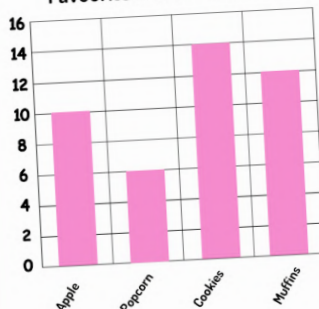


- 1) Which subject is the most popular?
- 2) What is the **title of the X-axis**?
- 3) What is the **title of the Y-axis**?
- 4) How many more students liked gym than math?
- 5) How many students chose science as their favourite?
- 6) Which two subjects add up to the same number of students as gym?

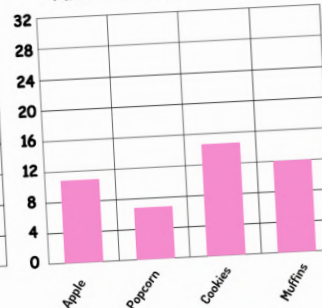
ONE-TO-ONE

Grade 4 students answered questions about their favourite snacks. The results are displayed in the two bar graphs below.

Favourite Snack – Scale = 2



Favourite Snack – Scale = 4



Apple

Popcorn

Cookies

Questions

- 1) How many students were surveyed in total?
- 2) Which snack was chosen the least?
- 3) Which scale made the graph easier to read? (2 or 4)

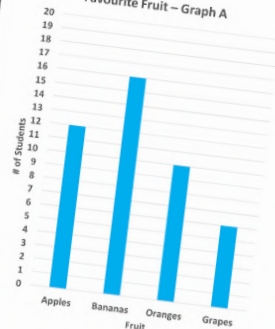


BC Math Curriculum Statistics Unit – Grade 4

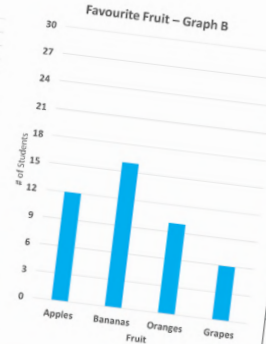
ONE-TO-ONE VS MANY-TO-ONE

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

Favourite Fruit – Graph A



Favourite Fruit – Graph B



1 2 3 4 5 6 7 8 9 0

Questions

- 1) What is the scale in Graph A?
- 2) What is the scale in Graph B?
- 3) Which graph uses more of the space?
- 4) Which graph is easier to read and understand? Why?
- 5) Why is it important to choose a good scale when making a graph?

Graph A

Graph B

Graph A

Graph B



During gym class, 12 students counted how many push-ups they could complete in one minute. The results are shown below:

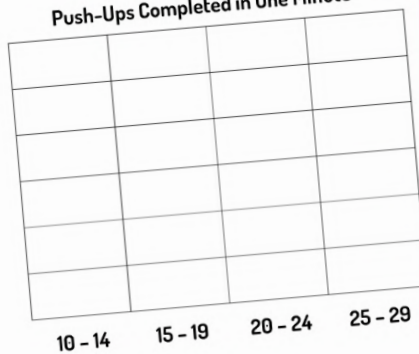
Data: 12, 15, 18, 14, 22, 25, 17, 19, 21, 16, 18, 14

Create an infographic that represents the above data.

____% of the students
did 15-19 Push-Ups

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

Push-Ups Completed in One Minute



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

Impossible

Certain

Christmas comes every year.



There is a maple leaf on the Canada flag.



You brush your teeth every morning.



A snowman will eat pizza for lunch.



You will grow 10 cm overnight.



There are 24 hours in a single day.





Workbook Preview



Grade 4

Graphing

	Curriculum Expectations	Pages
GP.1	One-to-one correspondence and many-to-one correspondence, using bar graphs and	

**Preview of 70 pages from
this product that contains
167 pages total.**

Tally Marks and Frequency Tables

Part 1

Fill in the table by writing in the frequency of the tally marks

1. The students in a class were asked what their favourite sport is. The results are listed below. Fill in the frequency of the tally marks in each category below.

Category	Football	Hockey	Basketball	Soccer
Tally				
Frequency				

- a) How many people were in the class? _____
- b) Which sport is the most popular in the class? _____
- c) Which sport was the least popular in the class? _____
- d) How many more people liked hockey than basketball? _____



Part 2

Fill in the table by drawing the tally marks based on the frequency

2. Henry asked his friends what food they liked the best. He forgot to write down the names of the foods, but he wrote down the frequency. Help him fill in the table by drawing the tally marks.

Category	Pizza	Sandwich	Hot Dogs	French Fries
Tally				
Frequency	13	5	12	9

- a) How many friends participated in the survey? _____
- b) Which food is the most popular? _____
- c) How many more friends liked French fries than sandwiches? _____

Exit Cards

Cut Out

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

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Gym		
Music		24

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Gym		
Music		24

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Gym		
Music		24

Name: _____

Fill in the tally table below

Favourite Subject		
Subject	Tallies	Frequency
Math		
Science		16
English		9
Gym		
Music		24

Name: _____

9

Curriculum Connection
GP.1

Survey Using Tally Marks

Directions

Create your own statistical question and tally the results

Statistical Question:

Category					
Tally					
Frequency					

a) How many friends participated in _____

b) What did you learn about the data _____

c) Would an "other" category have helped you get better data. Explain _____

d) If you asked the rest of your school, which category do you think would be most popular? Explain. _____

Horizontal Pictograph - Candy

A **pictograph** is a graph that displays data using symbols or pictures. Read the pictograph below and answer the questions.

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	   	



= 3 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 <u>more</u> or <u>less</u> 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: _____

Fill in the table and answer the question.

Friend	Kilometers Run	Frequency
Ted		
Anne		
Bella		
Craig		

 = 3 kilometers

How many total kilometers did all 4 friends run?

Name: _____

Fill in the table and answer the question.

Friend	Kilometers Run	Frequency
Ted		
Anne		
Bella		
Craig		

 = 3 kilometers

How many total kilometers did all 4 friends run?

Name: _____

Fill in the table and answer the question.

Friend	Kilometers Run	Frequency
Ted		
Anne		
Bella		
Craig		

 = 3 kilometers

How many total kilometers did all 4 friends run?

Name: _____

Fill in the table and answer the question.

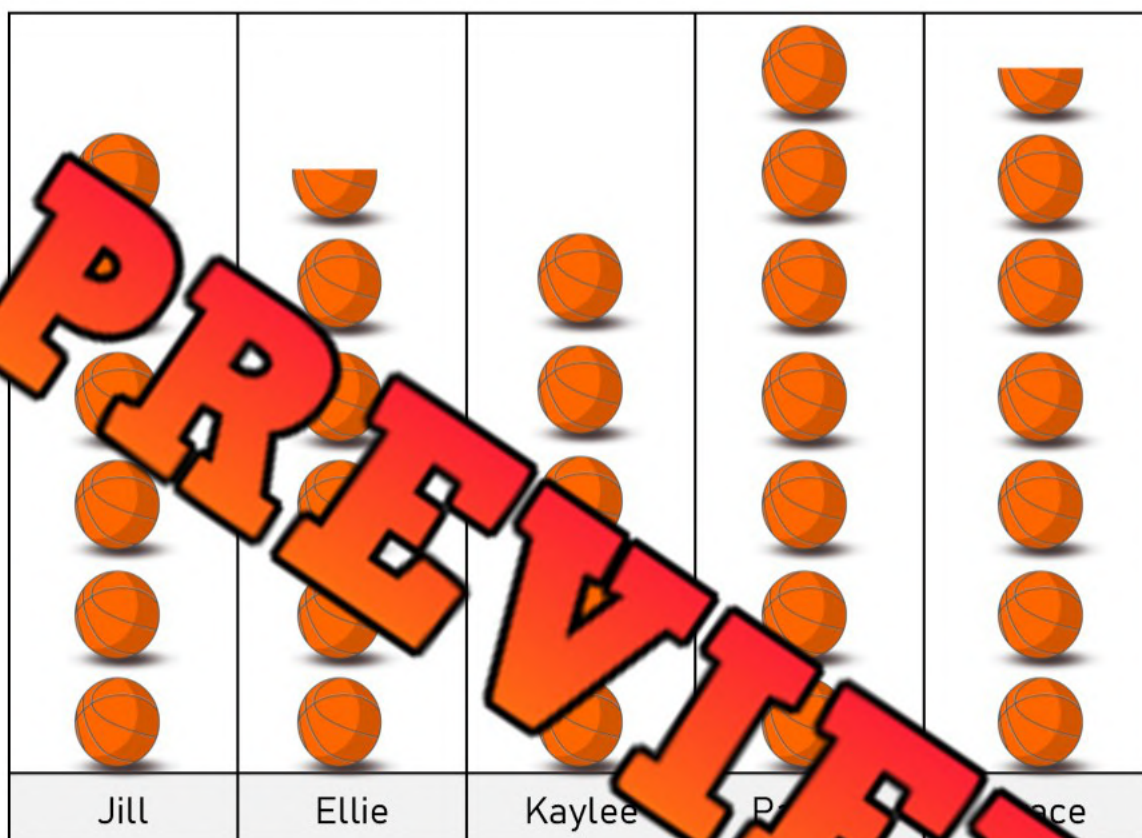
Friend	Kilometers Run	Frequency
Ted		
Anne		
Bella		
Craig		

 = 3 kilometers

How many total kilometers did all 4 friends run?

Vertical Pictograph – Basketball Points

Grace's basketball team counted how many points each of the players scored in a tournament. The point totals for the starting 5 are displayed below in a pictograph.



= 2 points

- How many points is one basketball worth?
- How many points is half a basketball worth?
- Who scored the most points in the tournament?
- How many total points did all 5 girls score?
- How many more points did Jill score than Ellie?
- Did Payton and Kaylee score more or less than Grace and Ellie?
- Did Jill and Ellie score more or less points than Grace and Kaylee?

Name: _____

17

Creating a Vertical Pictograph

Colton played 5 games of basketball last week. The number of points he scored in each game is displayed below. Create a pictograph to show his points.

Game 1	Game 2	Game 3	Game 4	Game 5
20	16	18	14	24



PREVIEW				
Game 1	Game 2	Game 3	Game 4	Game 5

=

1) Which game did he score the most points? _____ Least points? _____

2) Did he score more or less points in games 1 and 2 than games 4 and 5? _____

3) How many total points did he score in all 5 games? _____

Name: _____

18

Curriculum Connection
GP.1

Creating a Pictograph

Questions

Survey your class and use the data to draw a pictograph

Statistical Question: _____

Option				
Tall				
Fr				

LEGEND

= _____

Questions

1. Which option was the most popular?

2. How many more people liked the most popular option than the least popular option?

3. What did you learn about your class?

Vertical Bar Graph – Favourite Sport

The kids at camp were asked which sport they liked the best. They surveyed each kid and the results have been displayed below in a vertical bar graph.



a) Which sport was the most popular?

b) Which sport was the least popular?

c) How many people chose gymnastics as their favourite?

d) How many kids liked basketball and soccer the best?

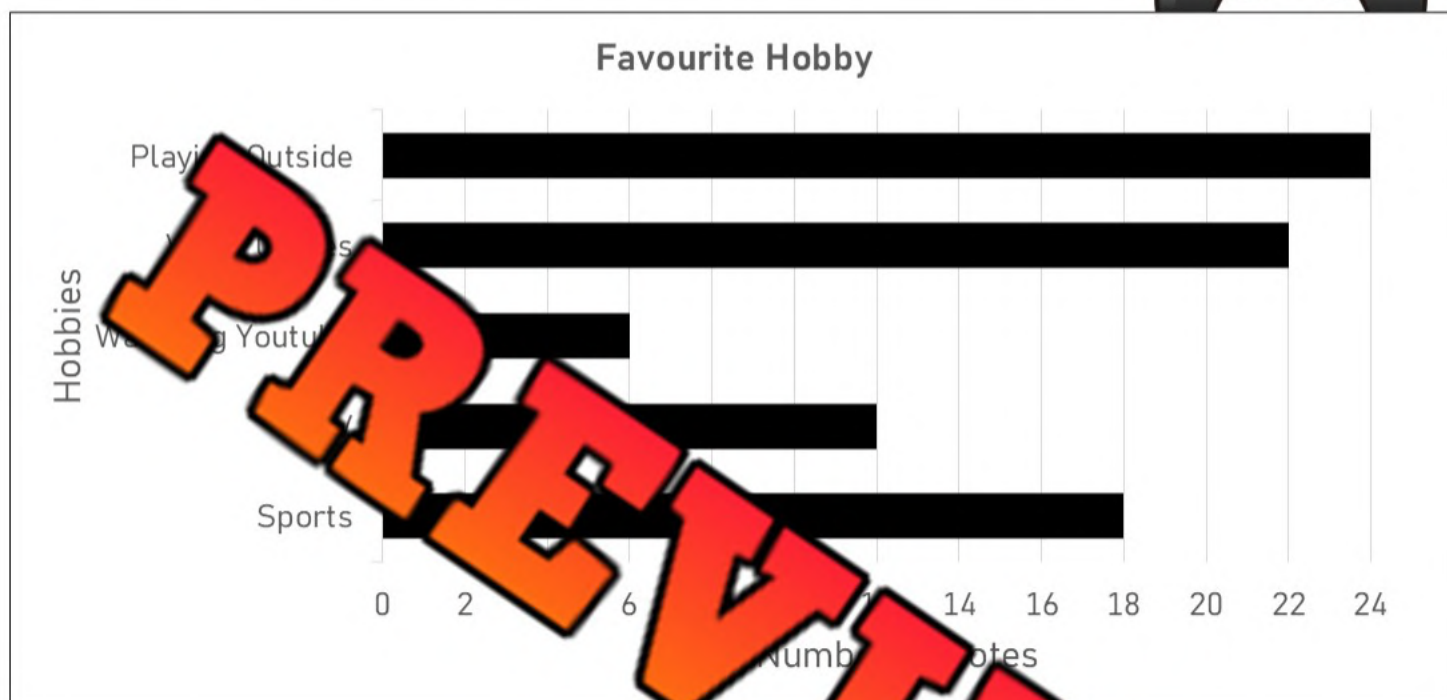
e) How many kids liked hockey more than football?

f) What two sports add up to the total votes that hockey received?

g) How many kids were surveyed?

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

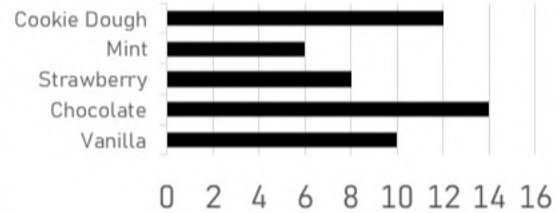


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Name: _____

Favourite Ice Cream Flavours

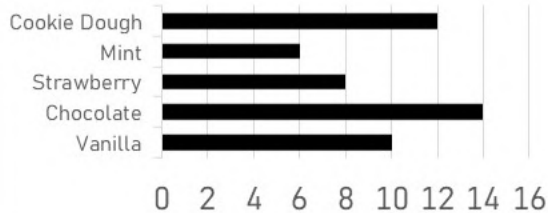


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Name: _____

Favourite Ice Cream Flavours

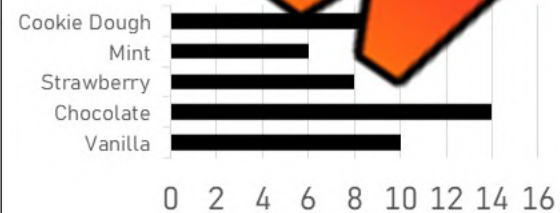


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Name: _____

Favourite Ice Cream Flavours

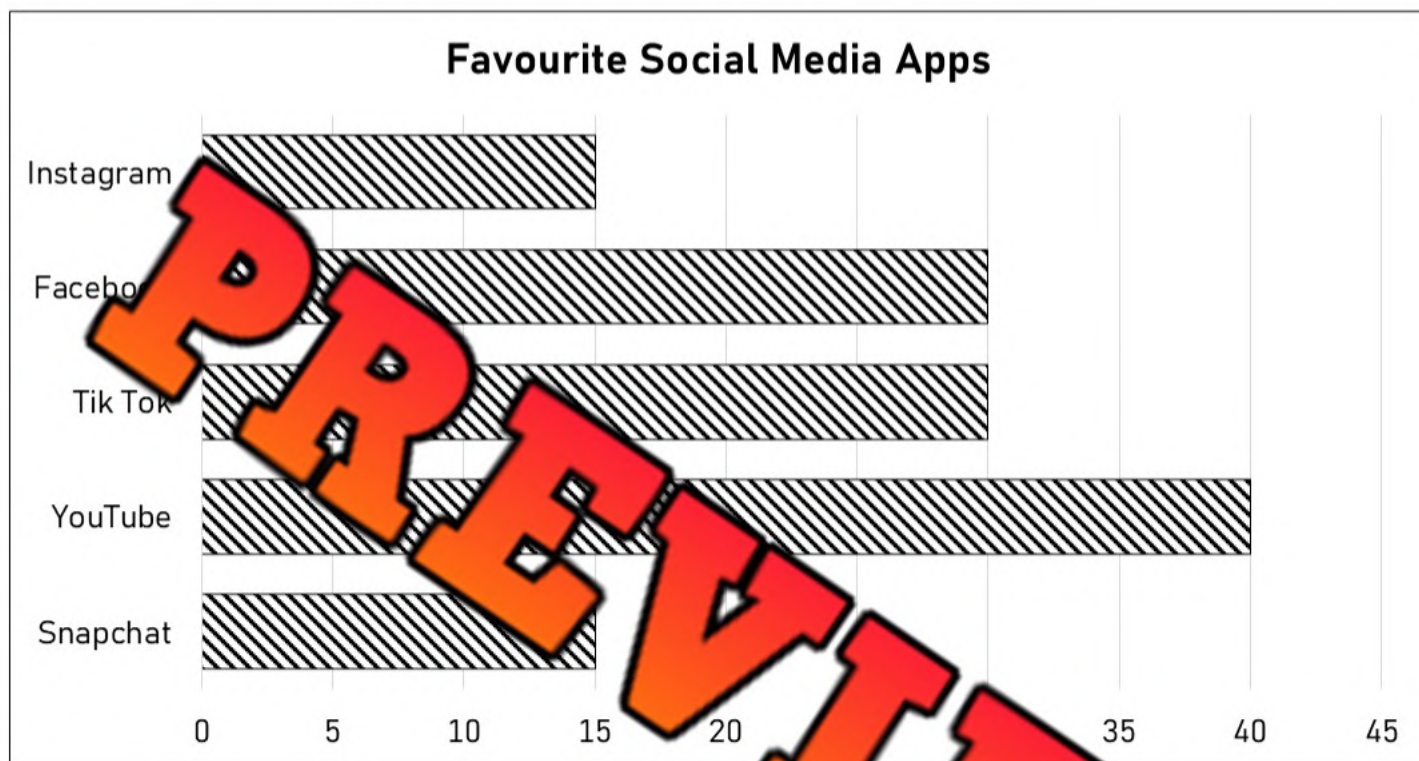


1) Which category of ice cream is most popular?

2) How many people were surveyed?

Reading a Horizontal Bar Graph – Social Media

The students in grade 4 were asked which social media app was their favourite. The results have been displayed in the horizontal bar graph below.



Part 1

Fill in the frequency table by reading the graph above.

Snapchat	YouTube	Tik Tok	Facebook	Instagram

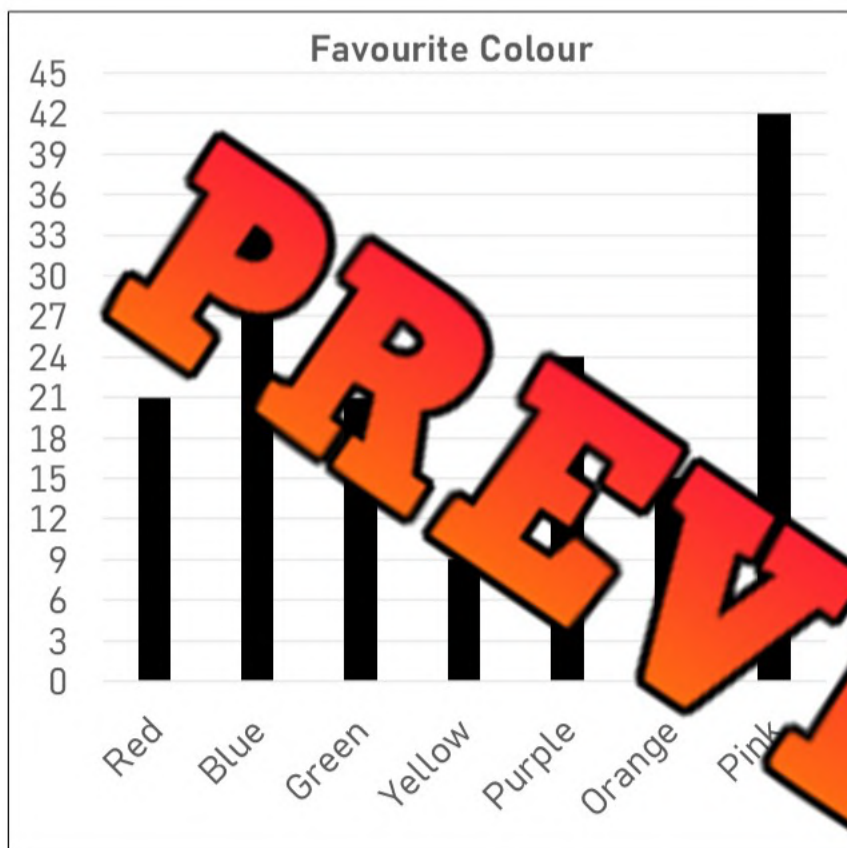
Part 2

Answer the questions below

a) What is the scale on the graph? What does it go up by?	
b) How many grade 4 students were surveyed?	
c) Which social media was the most popular? How many votes did it get?	
d) Henry thinks more students liked YouTube than Snapchat and Instagram combined. Is he correct – Yes/No?	

Vertical Bar Graph – Favourite Colour

The students in grade 4 were asked which colour was their favourite. The results of the survey have been displayed in the bar graph below.



Frequency Table

Red	
Blue	
Green	
Yellow	
Purple	
Orange	
Pink	

a) Which colour was most popular?

b) The title of the graph is not specific enough. What would you change it to?

c) What is the scale of the graph?

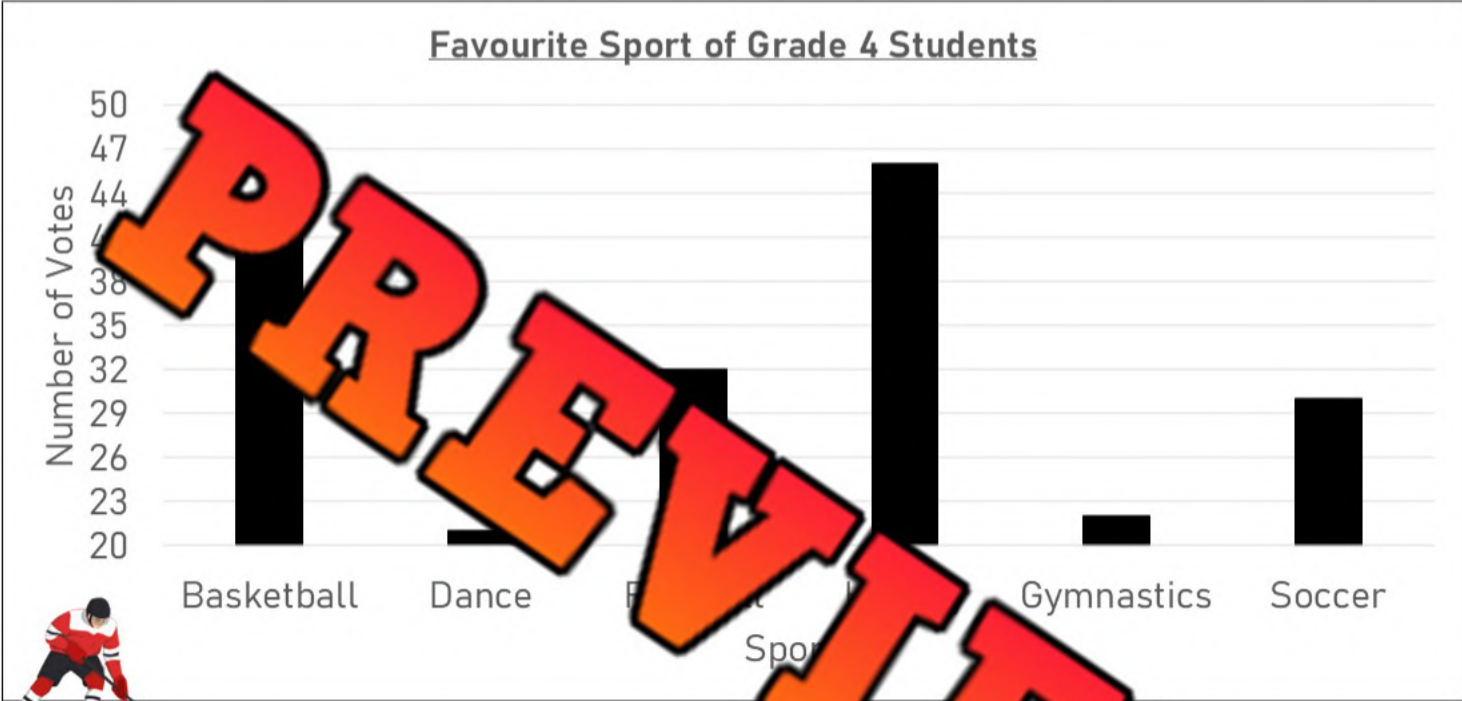
d) Was pink more popular than yellow and orange together?

e) Which two colours add up to pink?

f) 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.

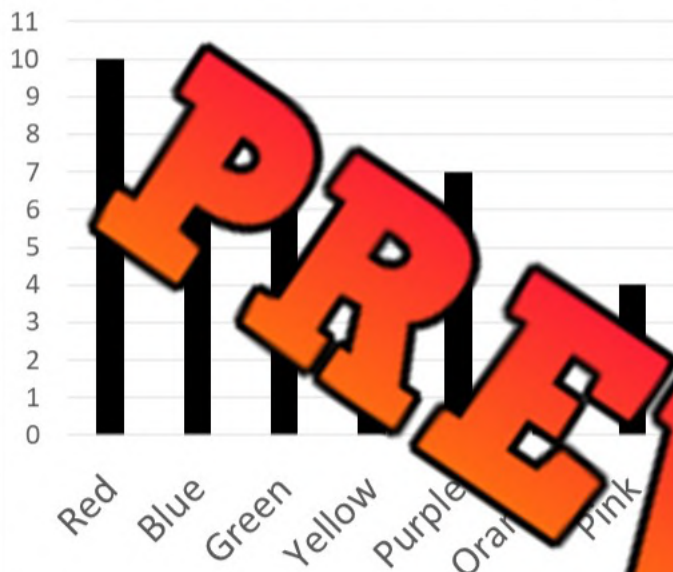


a) What number does the scale on the y-axis start with?	
b) What is the scale on this graph? What does it go up by?	
c) What is the title of the bar graph?	
d) What are the 2 labels (titles) for the x and y axis? → ↑	(x) _____ (y) _____
e) How many more votes did hockey get over dance?	
f) How many students participated in the survey?	

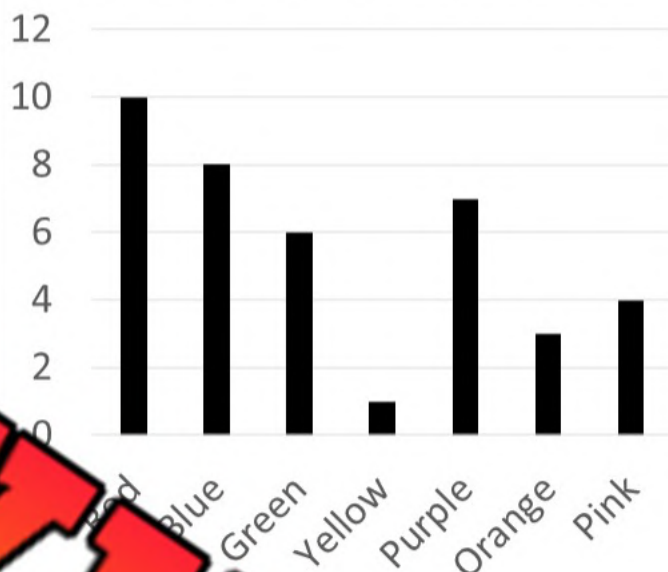
One-to-One vs Many-to-One

The students in grade 4 were asked which colour was their favourite. The results of the survey have been displayed in the bar graphs below.

Favourite Colour – Scale = 1



Favourite Colour – Scale = 2



a) Which colour was the most popular?

b) Which colour was the least popular?

c) How many more people liked red then orange?

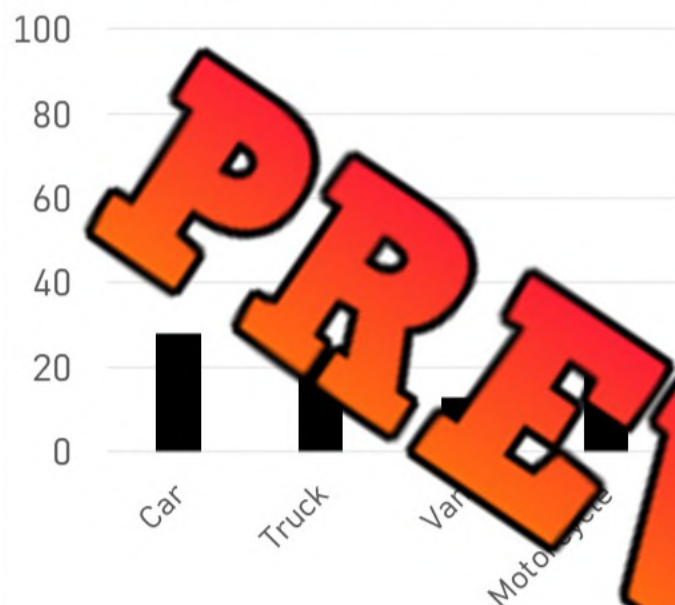
d) How many people were surveyed?

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

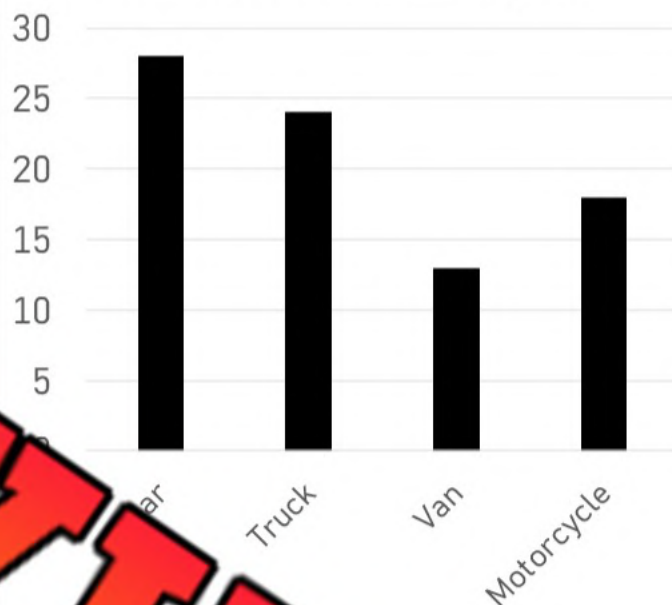
Favourite Vehicle – Examining Scale

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

Favourite Vehicle – Graph A



Favourite Vehicle – Graph B



Questions

What do you notice about the two graphs?

a) What is the scale in Graph A?

b) What is the scale in Graph B?

c) Which graph uses more of the space?

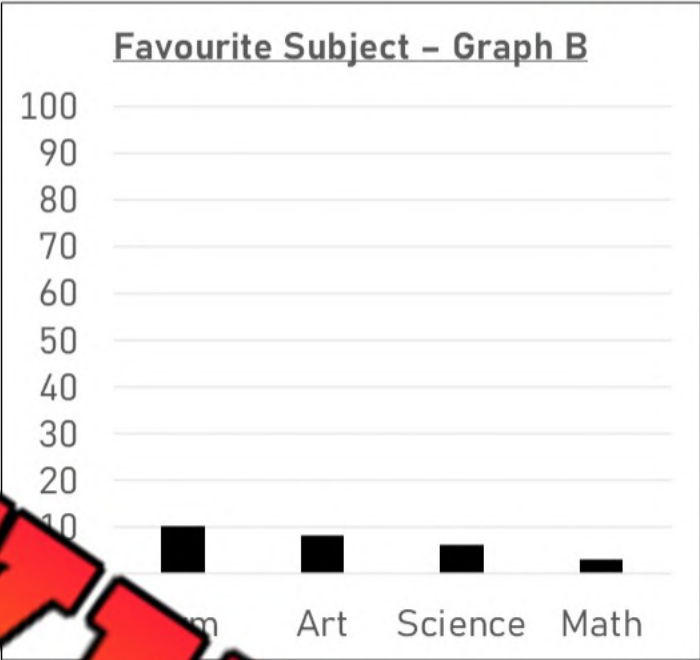
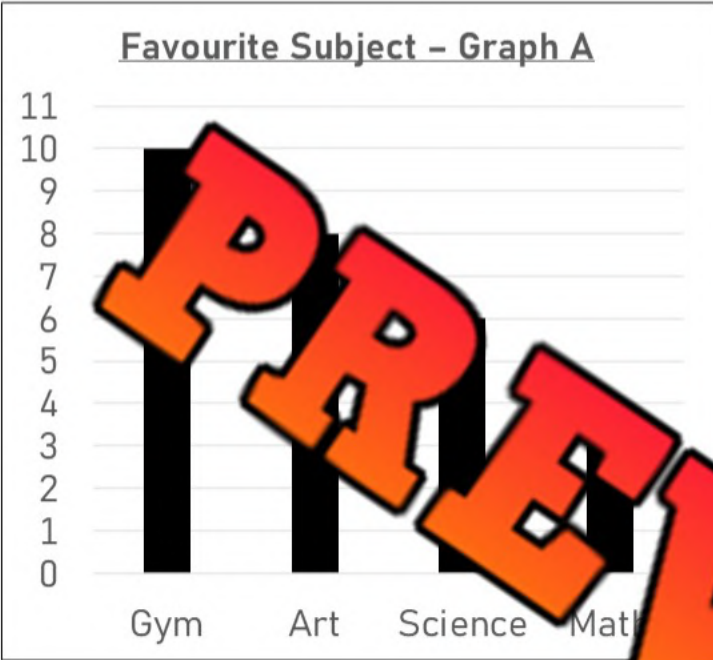
d) Which graph is better? Why?

e) What other scales could you use for the data?

- Go up by _____
- Go up by _____

Favourite Subject – Examining Scale

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



Questions What do you notice about the two graphs?

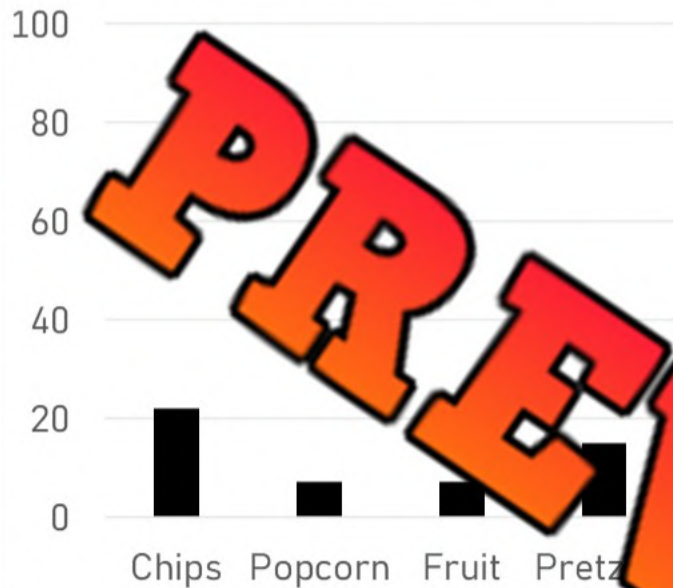
a) What is the scale in Graph A?	
b) What is the scale in Graph B?	
c) Did more students like math and gym than art and science?	
d) How many students were surveyed?	
e) Which graph is easier to read and interpret? Why is that graph better?	
f) Why is it better to go up by the smallest increments that allow you to fit all the data on the graph?	

Favourite Snack – Examining Scale

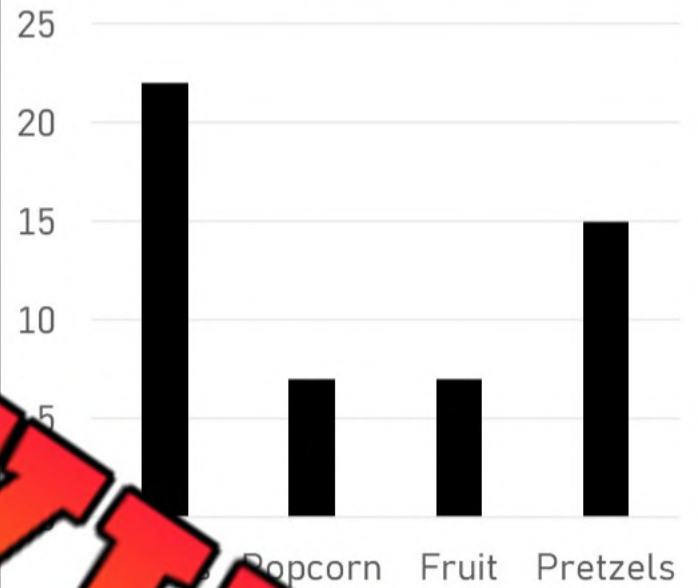
The two graphs below display the same data. Examine both graphs and answer the questions below.



Favourite Snack – Graph A



Favourite Snack – Graph B



Questions

What do you notice about the two graphs?

a) What is the scale in Graph A?

b) What is the scale in Graph B?

c) Did more students like pretzels and fruit than chips and popcorn?

d) Which graph is easier to read and interpret? Why is that graph better?

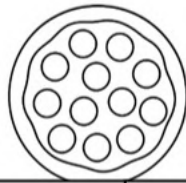
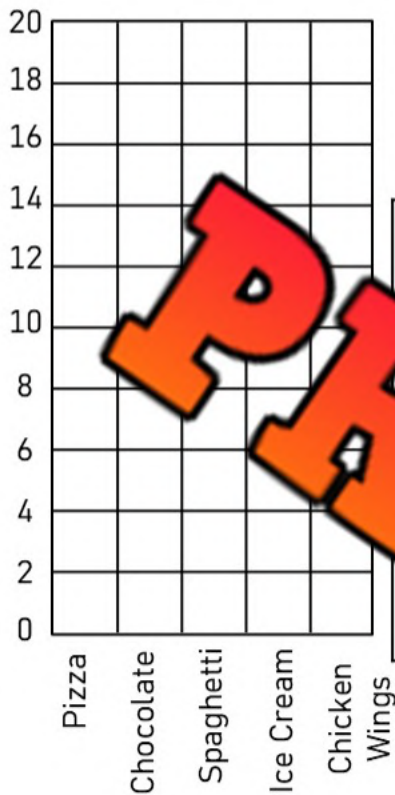
e) If you had 25 gridlines, what scale would you use? _____

If you had 10 gridlines, what number would you go up by? _____

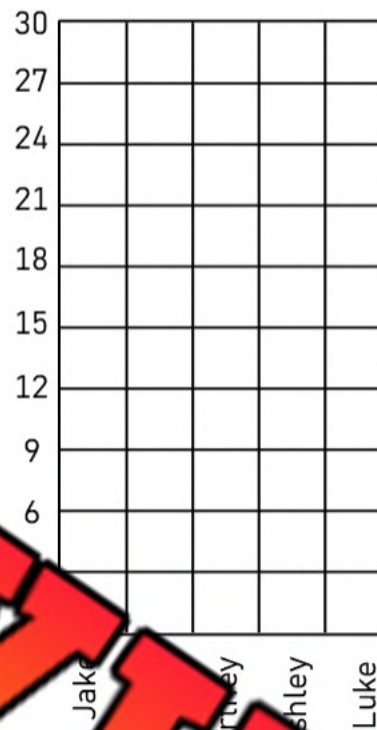
Drawing Bar Graphs

Questions

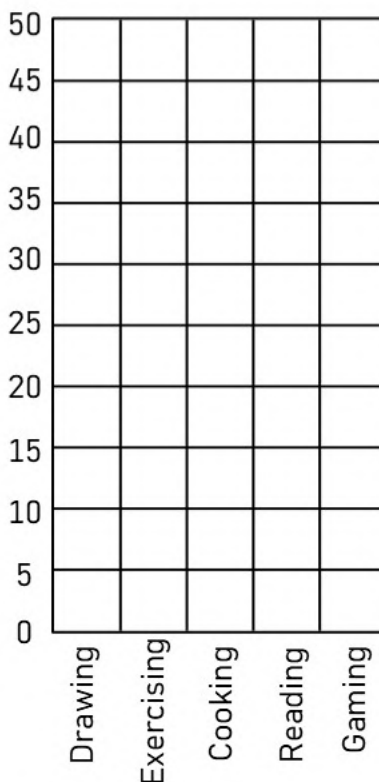
Draw the bars for each of the bar graphs below



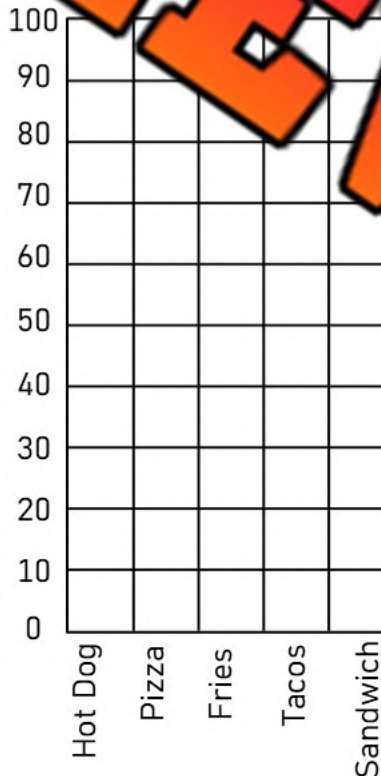
Favourite Food	# of votes
Pizza	16
Chocolate	14
Spaghetti	8
Ice Cream	12
Chicken Wings	11



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

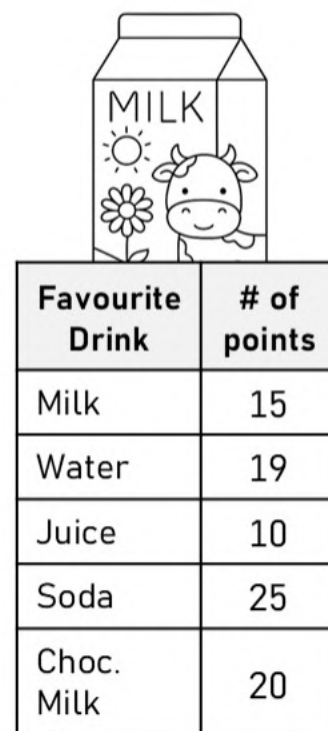
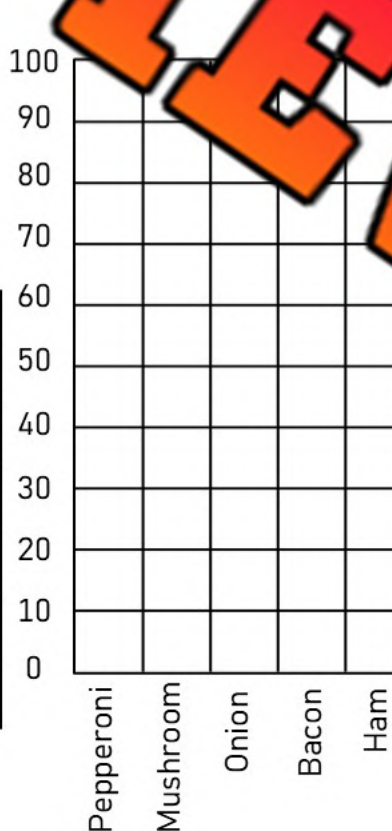
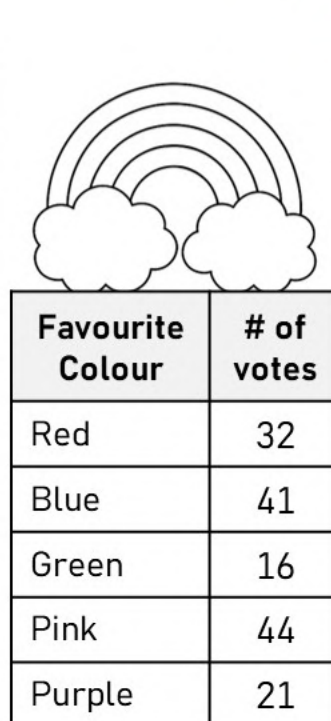
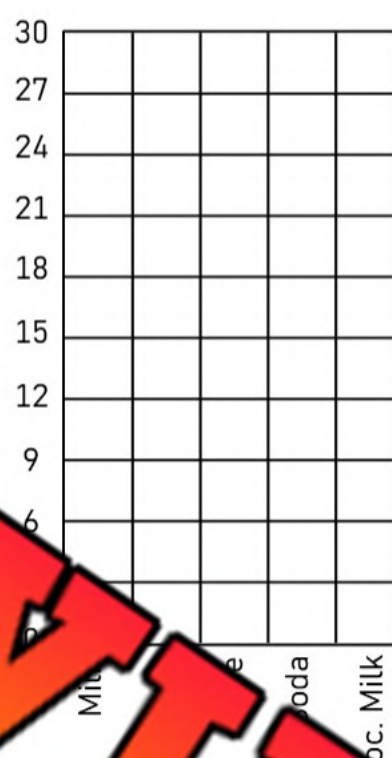
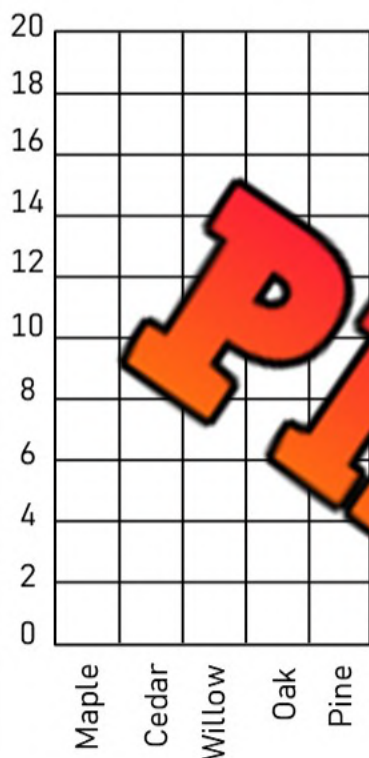


Favourite Food	# of votes
Hot Dog	40
Pizza	80
Fries	75
Tacos	35
Sandwich	25

Drawing Bar Graphs

Questions

Draw the bars for each of the bar graphs below



Exit Cards

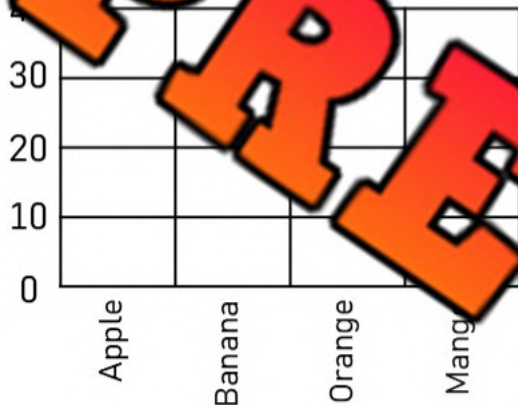
Cut Out

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.

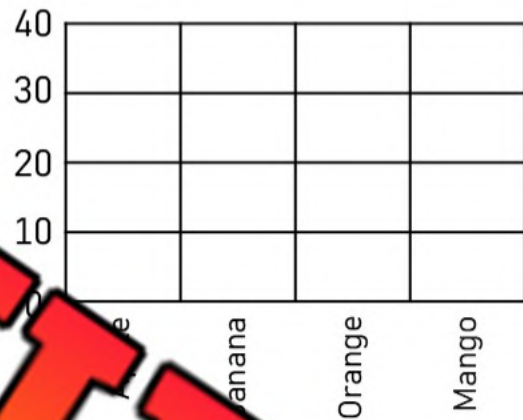
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

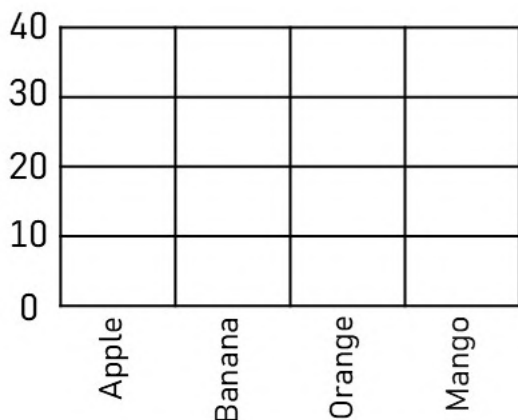
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

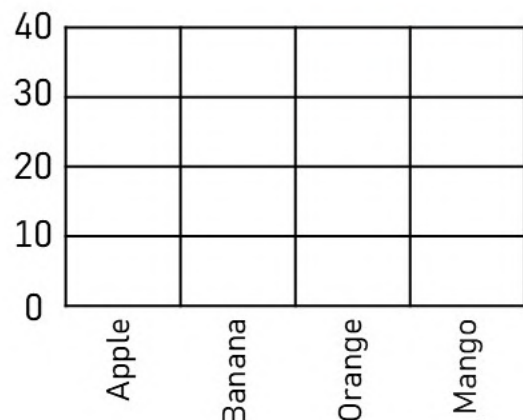
Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



Name: _____

Draw the bars for the bar graphs below.

Fruit	Apple	Banana	Orange	Mango
Votes	30	10	35	20



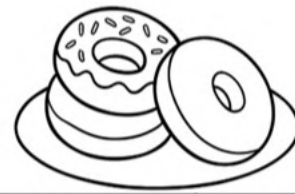
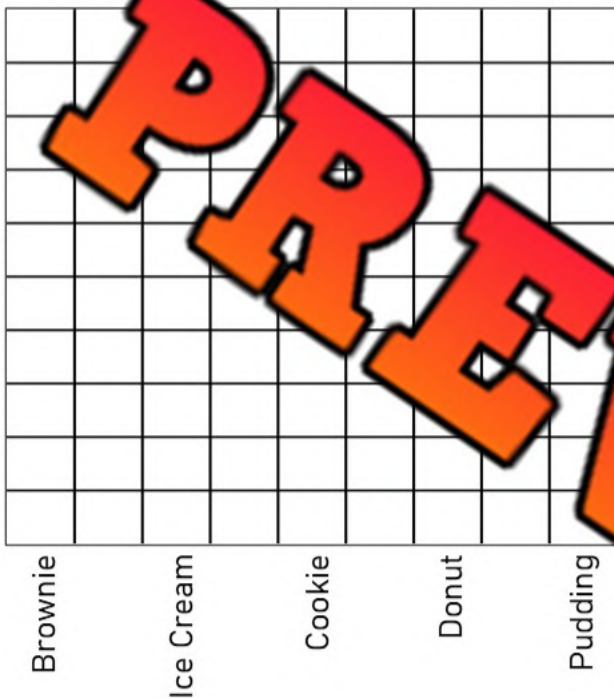
Creating Scale

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.

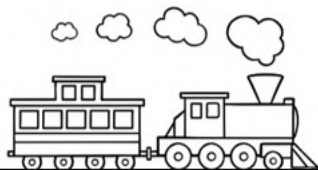
Step 1: Look at the data. Find the lowest and highest numbers.

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

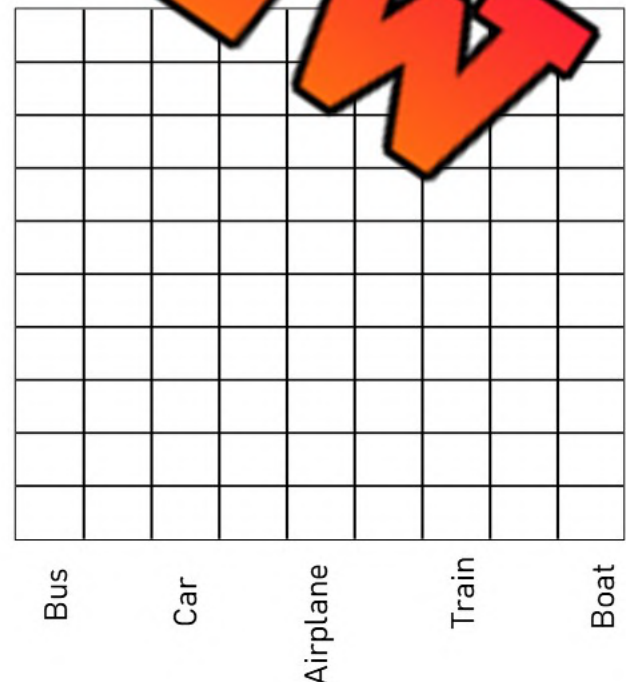
Step 3: Decide what to go up by to ensure you have enough space to plot all the data.



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



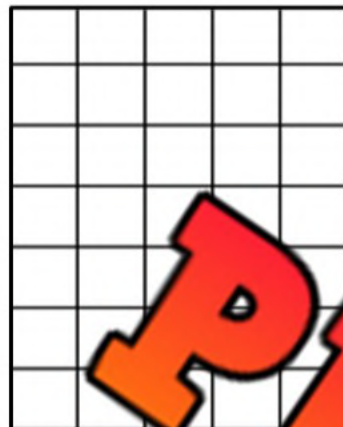
Transportation Method	# of votes
Bus	10
Car	50
Airplane	90
Train	70
Boat	80



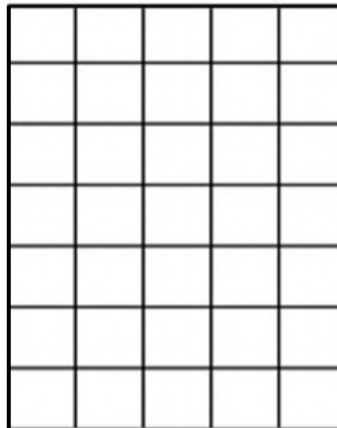
Creating Scale

Questions

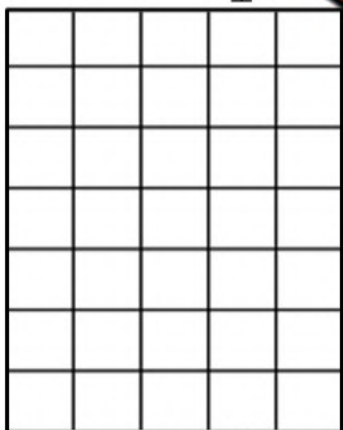
1) Read the numbers and decide which scale to use. 2) Draw your bar graphs



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



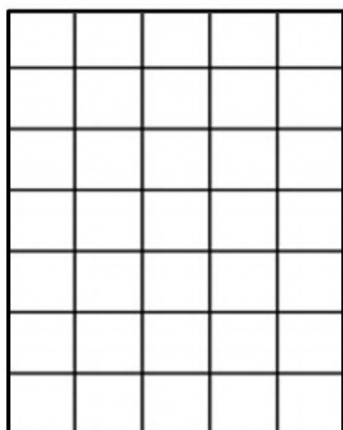
Brand	Votes
Nike	10
Puma	6
Adidas	3
Under Armour	8
Reebok	12



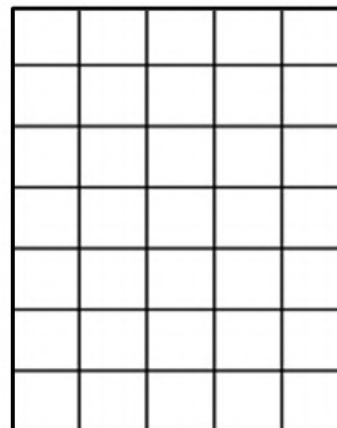
Treats	Votes
Cookies	15
Cake	20
Candy	35
Ice Cream	25
Donuts	10



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



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



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

Dog
Cat
Bunny
Hamster
Guinea Pig

Nike
Puma
Adidas
U.A.
Reebok

Cookies
Cake
Candy
Ice Cream
Donuts

Math
Science
Gym
Art
Language

Honda
BMW
Toyota
Tesla
Ford

Water
Pop
O.J.
Milk
A.J.

Activity Title: 4-Corners Scaling Game

Objective

What are we learning about?

Students will learn to read data presented in a table and decide on the appropriate scale to use for creating various types of graphs.

Materials

What you will need for the activity.

- Data table provided by the teacher
- Four signs labeled A, B, C, and D for each corner of the room



Instructions

How you will complete the activity.

1. Explain to the students the importance of choosing the best scale for graphing data and how different scales can affect the appearance and readability of the data.
2. Show the students one of the data tables provided below. You may want to project the table to the class.
3. Present multiple-choice options for the scale that could be used to graph the data. Each corner of the room will represent one of the multiple-choice answers.
4. Read out the scale options and ask the students to move to the corner that they believe represents the best scale for the data.
5. Once all students have chosen a corner, discuss the correct answer and explain why it is the best choice.
6. Repeat the process with different data tables and scale options.

Table 2

Analyze the data and then move to one of the corners of the room

Sports	Votes
Baseball	20
Soccer	5
Tennis	15
Swimming	25
Basketball	10

Table 2

Scale Options:

- A: 1
- B: 2
- C: 5
- D: 10

Table 4

Analyze the data and then move to one of the corners of the room

Vegetables	Votes
Peas	25
Broccoli	10
Spinach	15
Tomato	20
Carrot	5

Table 4

Scale Options:

- A: 1
- B: 2
- C: 3
- D: 5

Table 7

Analyze the data and then move to one of the corners of the room

Drinks	Votes
Tea	100
Water	20
Milk	80
Soda	60
Juice	40

Table 7

Scale Options:

- A: 20
- B: 30
- C: 15
- D: 50

Table 10

Analyze the data and then move to one of the corners of the room

Books	Votes
Fantasy	75
Mystery	25
History	20
Adventure	50
Science	100

Table 10

Scale Options:

- A: 25
- B: 5
- C: 10
- D: 20

Collecting Data

Survey Question

Collect data by asking your classmates your survey question

<u>Examples of survey questions</u>	<u>Categories</u>
1) What is your favourite animal?	Dog, cat, bunny, horse, lion
2) What is your favourite sport?	Basketball, hockey, baseball, soccer, football
3) What colours do you have?	Blue, brown, green, turquoise, other

Survey Question

Example: What is your favourite colour?

Categories				
Tally				
Frequency				

Interpreting Your Survey Results

- How many people did you survey? _____
- Which category was the most popular? _____
- Which category was the least popular? _____
- If you asked your entire school, which category do you think would win? Explain.

5. Did any of the survey results surprise you?

I'm surprised that _____

Name: _____

52

Creating a Bar Graph

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

☐

X axis label

☐

Y axis label

☐

Title

☐

Scale

☐

Categories



Collecting Data - Quantitative

Survey Question Solving a Problem

Collect data by asking your classmates your survey question

Solve a problem in your life by asking your classmates for their opinion. For a quantitative question, the answers should be a number, or a number range.

For example: "How many books should I read a week?" –

Answer options: 0-3, 4-7, 7-10, 11+

Examples

1 – "How many times a week should I practice my favourite sport?"

2 – "How many hours of sleep should I get a night?"

3 – "How many fruits and vegetables should I eat a day?"



Survey Question

Example: How many pencils do I need for school?

Categories

Tally

Frequency

Interpreting Your Survey Results

- How many people did you survey? _____
- Which category was the most popular? _____
- Which category was the least popular? _____
- Was your problem solved? Will you follow the data and listen to your classmates?



Name: _____

56

Creating a Bar Graph

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

☐

X axis label

☐

Y axis label

☐

Title

☐

Scale

☐

Categories

Title:

PREVIEW

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

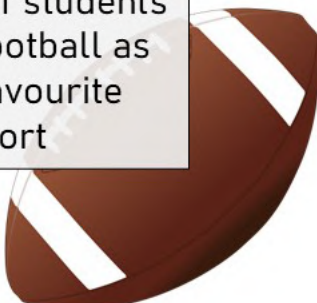
50 grade 4 students from across Alberta were surveyed, asking what their favourite sport is. The results are as follows:

Hockey	Basketball	Baseball	Soccer	Football
20	10	7	7	4

40% of students prefer hockey as their favourite sport



Only 2% of students prefer football as their favourite sport



Hockey	
Basketball	
Baseball	
Soccer	
Football	

Legend



= 2 votes

Unit Quiz – Statistics and Probability

Part 1

Four friends tracked their exercise minutes for one day and displayed it in the pictograph below. Fill in the frequency by reading the pictograph.

Name	Number of Exercise Minutes	Frequency
Dan		
Troy		
Bella		
Levi		

= 10 minutes

a) How many minutes is Levi's number? _____

b) Who exercised the most? _____

c) How many total minutes did the 4 friends exercise? _____

Part 2

Write the scale and draw the bar graphs below.

Pizza
Chocolate
Spaghetti
Ice Cream



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

Jake
Nathan
Courtney
Ashley
Luke

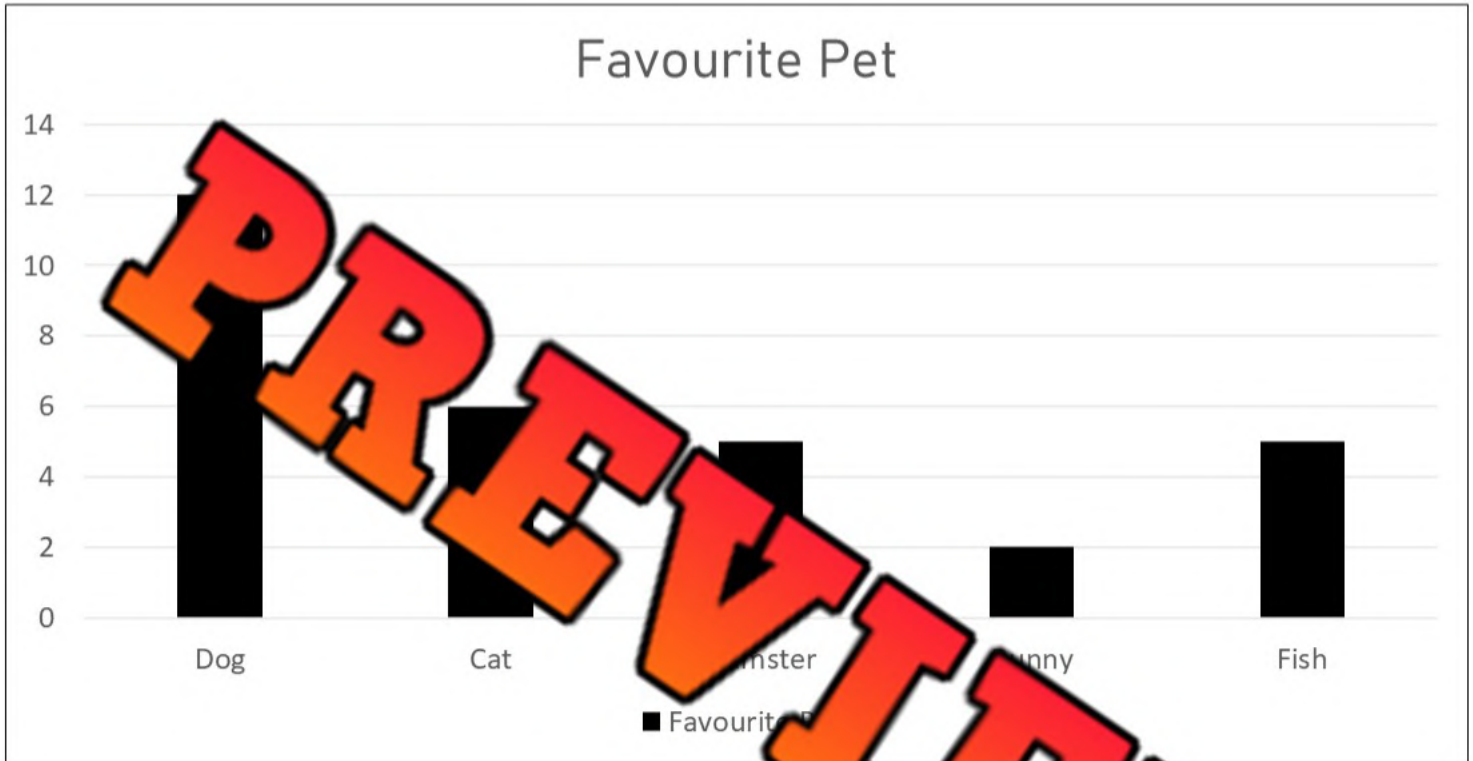


Player	# of points
Jake	15
Nathan	30
Courtney	15
Ashley	21
Luke	9

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.



a) Which pet was most popular?

b) How many more votes did dog get than bunny?

c) What is the scale of the graph?

d) Was dog more popular than hamster and fish together?

e) Which three pets together add up to the total number of votes dog received?

f) How many people were surveyed?

Part 4

Graph the data below in a bar graph

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

Movies	TV Shows	YouTube	Video Games	Music
9	12	21	27	15



a) Which form of entertainment was most popular?

b) How many more votes did video games get than music?

c) What scale did you choose for the graph?

d) How many students were surveyed?

Grade 4
Probability

	Curriculum Expectations	Pages
GP.2	Probability experiments: • predicting single outcomes (e.g., when you spin using one spinner and it lands on a single colour) • using spinners, rolling dice, pulling objects out of a bag • recording results using tallies	63 – 96

Certain or Impossible?

Questions

Circle if the likelihood is certain or impossible.

a) Tuesday will come after Monday.



Certain

Impossible

b) You will drive home from school.



Certain

Impossible

c) You will walk today.



Certain

Impossible

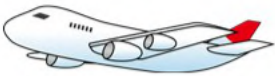
d) You will breathe today.



Certain

Impossible

e) You will drive an airplane today.



Certain

Impossible

f) You will fly today.



Certain

Impossible

g) You will see a bird today.



Certain

Impossible

h) It will rain cats and dogs today.



Certain

Impossible

i) School will end forever today.



Certain

Impossible

j) You will teleport to France.



Certain

Impossible

Name: _____

Describing Probability – Certain, Impossible?**Questions**

Write 4 examples of events that are certain and impossible.

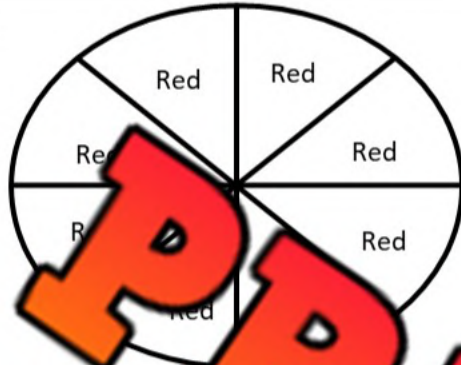
Certain**Impossible**

PREVIEW

Describing Probability – Certain or Impossible?

InstructionRead the spinner and describe if the event is certain or impossible

1)

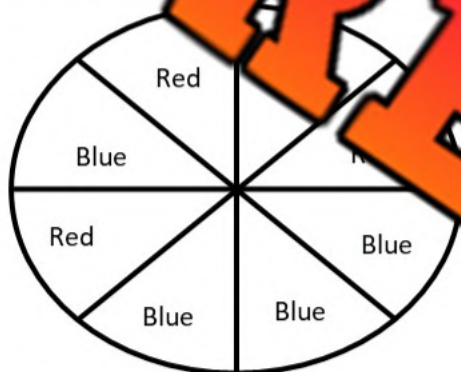


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a yellow is _____

2)

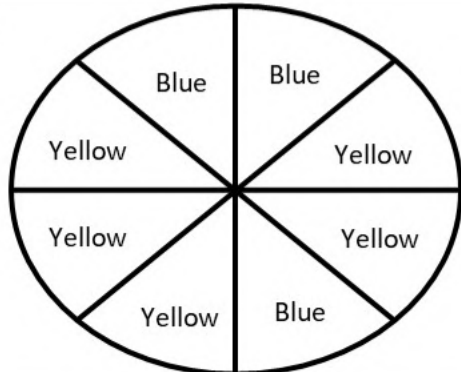


a) Spinning a purple is _____

b) Spinning a blue or red is _____

c) Spinning a yellow is _____

3)

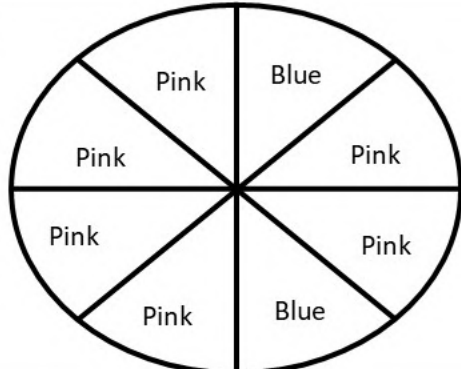


a) Spinning a yellow or blue is _____

b) Spinning a green is _____

c) Spinning a red is _____

4)



a) Spinning a pink or blue is _____

b) Spinning a red is _____

c) Spinning a green is _____

Describing the Likelihood of Events

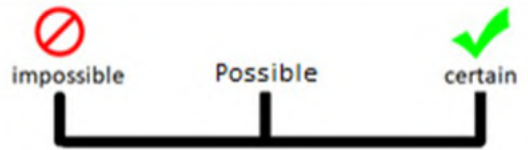
We can describe the likelihood of events by using the following terms:

impossible, possible, certain

Impossible = Cannot happen (seeing a dinosaur)

Possible = It could happen (eating a treat today)

Certain = Will definitely happen (breathing today)



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

1. You will grow up to be a doctor.

2. You will have recess today.



3. You will sleep tonight.

4. You will find money on the ground today.



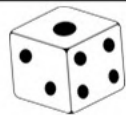
5. You will buy a lottery ticket and win.

6. It will rain or snow today.



7. You will teleport to Africa today.

8. You will roll a 2 when you roll a dice.



9. You will watch TV today.

10. Your teacher will give you free time today.



Describing the Likelihood of Events

Instruction

Circle the likelihood of the event happening.

a) You have a guest speaker today.



Certain
Possible
Impossible

b) You will read a book today.



Certain
Possible
Impossible

c) You will see a dinosaur today.



Certain
Possible
Impossible

d) You play in the NHL this year.



Certain
Possible
Impossible

e) You will drink pop today.



Certain
Possible
Impossible

f) You will drink something today.



Certain
Possible
Impossible

g) It will be dark tonight.



Certain
Possible
Impossible

h) You will fly a space ship home.



Certain
Possible
Impossible

i) You will remember your dream tonight.



Certain
Possible
Impossible

j) You will speak to a friend today.



Certain
Possible
Impossible

Activity: Probability Charades

Objective

What are we learning about?

Students will learn to identify and classify events as certain, possible, or impossible by acting out various scenarios and engaging in critical thinking.

Materials

What will you need for the activity?

- A set of cards with different events written on them (e.g., "It will rain tomorrow," "You will grow wings and fly," "The sun will rise tomorrow").
- A timer (optional) to keep the game moving.
- A classroom where students can easily act out their scenarios.
- Whiteboard and markers.



Instructions

How will you complete the activity?

1. Begin by explaining the concepts of certain, possible, and impossible events. Give examples to ensure students understand the probability concepts.
2. Divide the class into two teams. If you prefer, you can have students take turns individually instead of dividing into teams.
3. Provide each team or individual student with a scenario card. The student acting out the scenario must not speak but can use gestures and movements to convey the event or they can draw it on the chalkboard/whiteboard.
4. The remaining students or the opposite team will try to guess the event being acted out and decide whether it is a certain, possible, or impossible event.
5. The student or team correctly identifying the event and its probability classification earns a point (or have this student have the choice to go next). Continue the game until all scenario cards have been acted out.
6. At the end of the game, discuss some of the scenarios with the class to reinforce understanding and clarify any misconceptions.

Scenario Cards

A set of scenario cards with different events

Running for a long time and
getting tired

Throwing a basketball and it
going into the net

Running against
a wall

Staying up very late and feeling
tired the next day

Jumping into a swimming pool
and getting wet

Throwing a ball and having it
roll away

Tossing a paper ball into a
garbage can

Catching a ball thrown from far
away

Turning invisible

Scoring a goal in soccer

Scenario Cards

A set of scenario cards with different events

Ice cream melting on your hands

Wearing wet socks and feeling uncomfortable

Breaking up a glass without

Standing outside during a rainstorm and getting soaked

Throwing a ball and having it stay in the air

Making a clock move by itself

Jumping into a puddle and getting splashed

Playing the drums in a library and annoying others.

Eating spicy food and needing a drink

Eating too much and getting a sore stomach

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, it is possible you could get all the numbers from 1-6.



Questions

Use these terms to describe the likelihood: Certain, Possible, Impossible

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 1, 2, 3, 4, 5, or 6?

4) What is the likelihood of you rolling a 7?

5) What is the likelihood of you rolling an odd number?

6) What is the likelihood of you rolling a 0?

Describing the Likelihood of Events

Cookie Jar

There were 12 cookies in a cookie jar.
7 of the cookies were chocolate chip (cc), 2 were oatmeal raisin (or), and 3 were double chocolate (dc).



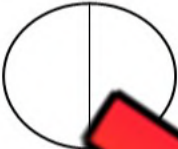
Questions

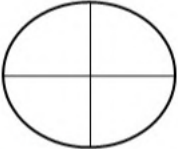
Use these terms to describe the likelihood: Certain, Possible, Impossible

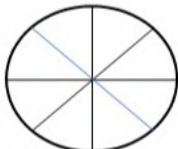
- 1) What is the likelihood of you picking out a double chocolate cookie?
- 2) What is the likelihood of you picking out a cookie?
- 3) What is the likelihood of you picking out an oatmeal raisin cookie?
- 4) What is the likelihood of you picking out a chocolate chip, oatmeal raisin, or a double chocolate cookie?
- 5) What is the likelihood of you picking out a brownie?
- 6) What is the likelihood of you picking out a peanut butter cookie?

Describing the Likelihood – Equally Likely**Part 1**

Shade in half of the shapes so you have two equal parts

a) 

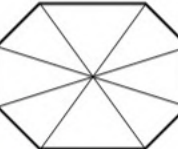
b) 

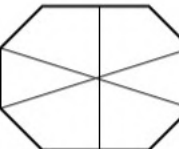
c) 

d) 

e) 

f) 

g) 

h) 

Part 2

What is half of the number

	Number	Half
1)	20	10
2)	6	
3)	14	
4)	24	
5)	36	
6)	48	
7)	66	

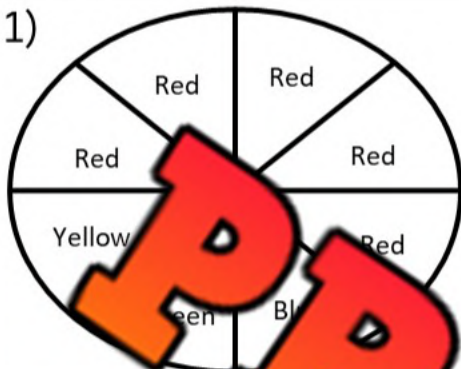
	Number	Half
8)	50	
9)	92	
10)	76	
11)	88	
12)	60	
13)	96	
14)	90	

Describing the Likelihood – Less likely, More likely

Instruction

Read the spinner and describe the probability as Less Likely, Equally Likely or More Likely. Then write the fraction.

1)

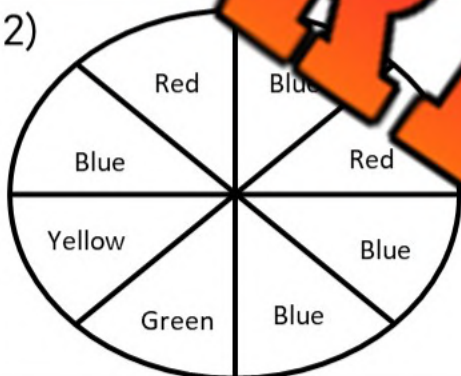


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a blue or red is _____

2)

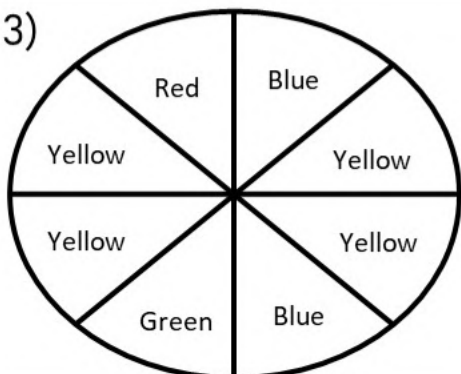


a) Spinning a red is _____

b) Spinning a blue is _____

c) Spinning a red or blue is _____

3)

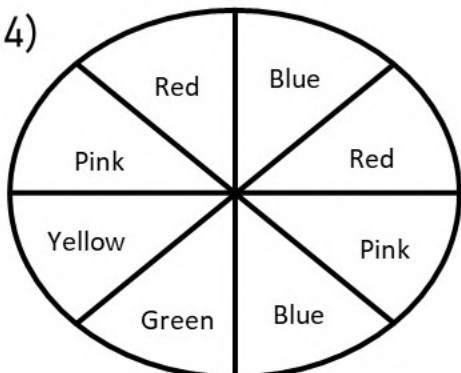


a) Spinning a red or blue is _____

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

Questions

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 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

Exit Cards

Cut Out

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

Name: _____

Circle the likelihood of the event happening

- 1) You will see a teacher at school this week.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 2) It will snow in the middle of summer.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 3) You will drink juice after school.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

Name: _____

Circle the likelihood of the event happening

- 1) You will see a teacher at school this week.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 2) It will snow in the middle of summer.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 3) You will drink juice after school.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

Name: _____

Circle the likelihood of the event happening

- 1) You will see a teacher at school this week.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 2) It will snow in the middle of summer.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 3) You will drink juice after school.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

Name: _____

Circle the likelihood of the event happening

- 1) You will see a teacher at school this week.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 2) It will snow in the middle of summer.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

- 3) You will drink juice after school.

Certain	More Likely	Equally Likely	Less Likely	Impossible
---------	-------------	----------------	-------------	------------

Activity: Probability Card Sort and Rank

Objective

What are we learning about?

Students will learn to identify and classify events as certain, More likely, Equally likely, Less likely, or impossible by sorting and ranking scenarios based on their probability.

Materials

What you will need for the activity.

- 30 scenario cards with different events (e.g., "The sun will rise tomorrow").
- A board divided into the categories: Certain, More likely, Equally likely, Less likely, and Impossible.
- Glue sticks or glue.



Instructions

How you will complete the activity

1. Begin by explaining the concepts of certain, More likely, Equally likely, Less likely, and impossible events. Give examples to ensure students understand these probability terms.
2. Have all students stand in a single line in front of the categorization board.
3. Provide each individual student with a scenario card, ensuring each student has one card.
4. Display the large categorization board at the front of the classroom so that students can easily see and access it.
5. Instruct the students to take turns, one by one, reading their scenario card aloud and then discussing where they think the event should be classified on the categorization board.
6. After the student has decided on the classification, have them use glue to attach the card in the corresponding category on the board.
7. Encourage the students to explain their reasoning and engage in discussion with the class if they disagree with the placement of a card.
8. Continue until all 30 cards have been placed on the board.
9. Once all cards have been placed, review the classifications as a class, addressing any misconceptions or disagreements.

Scenario Cards

A set of scenario cards with different events

You will breathe air today.

Jumping into a swimming pool and getting wet

You will go to work

It will snow tomorrow in July.

A coin flip will land on heads.

You will raise your hand during lesson today.

Your teacher will wear a hat to school tomorrow.

A dice roll will show a number greater than 3.

A chair will start talking in class.

A dice roll will show a 3.

Scenario Cards

A set of scenario cards with different events

You will hear someone
laugh today.

Your school will close
because of a snowstorm
tomorrow.

You will win a prize today.

You will eat a meal today.

You will see a car on the
road today.

You will forget your name
today.

Catching a ball thrown from
a short distance

Rolling an even or odd
number on a dice

You will choose a red card
from a deck with half red
and half black cards.

Winning a race against much
faster runners

Scenario Cards

A set of scenario cards with different events

Guessing the correct answer
on a very hard test

Throwing a ball into a
basket from far away

Running on the
ground

Winning a prize in a large
draw

Scoring three goals in one
soccer game

Throwing a ball and having
it go into the air

Shrinking to the size of a
pencil

Turning invisible

Stopping time

Turning into an animal

Divide each scenario into the following categories

Board

Impossible

Equally Likely

More Likely

Certain

by

Scenario	More Likely	Equally Likely	Less Likely
Scenario 1			
Scenario 2			
Scenario 3			
Scenario 4			
Scenario 5			
Scenario 6			
Scenario 7			
Scenario 8			
Scenario 9			
Scenario 10			

Describing the Likelihood of Events

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

impossible, Less likely, Equally likely, More likely, certain

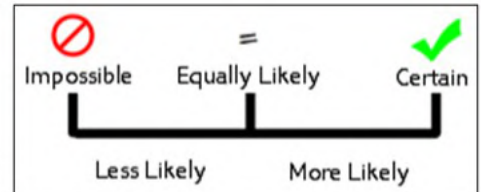
Impossible = Cannot happen

Less Likely = Will probably not happen

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

More Likely = Will probably happen

Certain = Will definitely happen



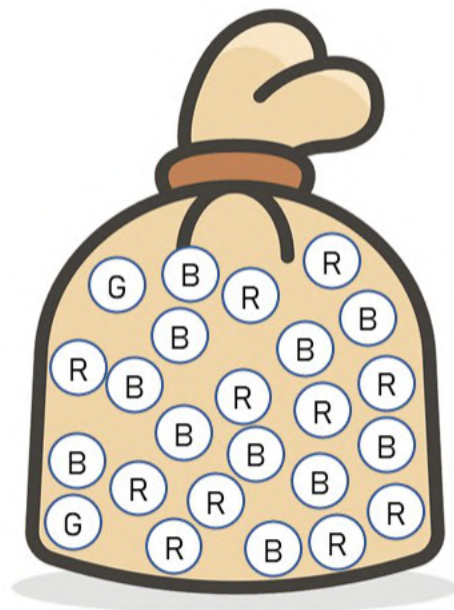
Question: Use the terms to describe the likelihood of the events below

1) You will have ice cream 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

Candies

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



Frequency

Fill in the frequency table below

Candy Color	Frequency
Red	
Blue	
Green	

Questions

Use these terms to describe the likelihood of an event: impossible, less likely, equally likely, more 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 blue or green candy?
6. What is the likelihood of pulling out a purple candy?

Describing the Likelihood of Events

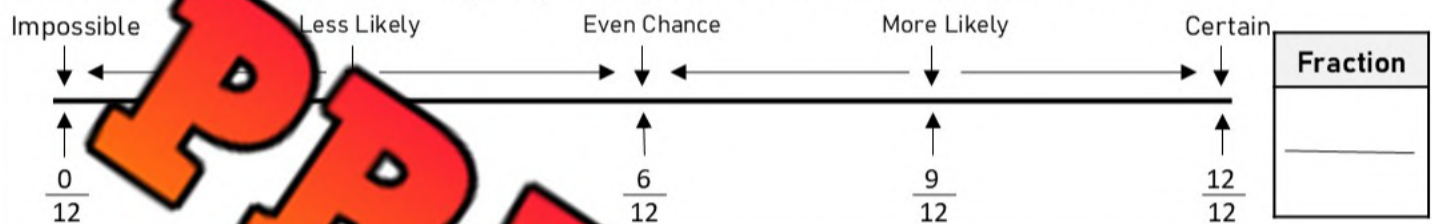
Cookie Jar: There were 12 cookies in a cookie jar. 7 of the cookies were chocolate chip (cc), 2 were oatmeal raisin (or), and 3 were double chocolate (dc).



Questions

Write the fraction for each of the situations below. Then circle the probability

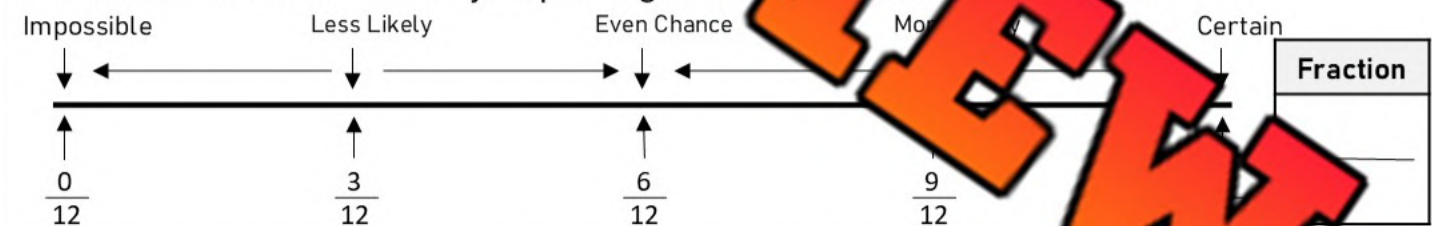
1. What is the likelihood of you picking out a double chocolate cookie?



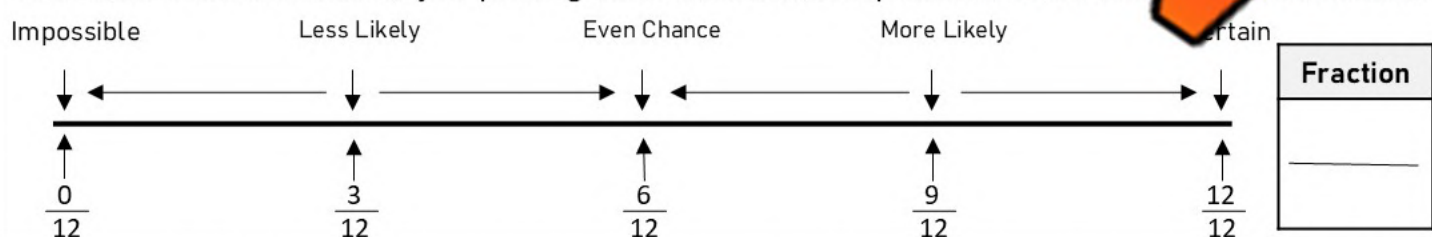
2. What is the likelihood of you picking out a chocolate chip cookie?



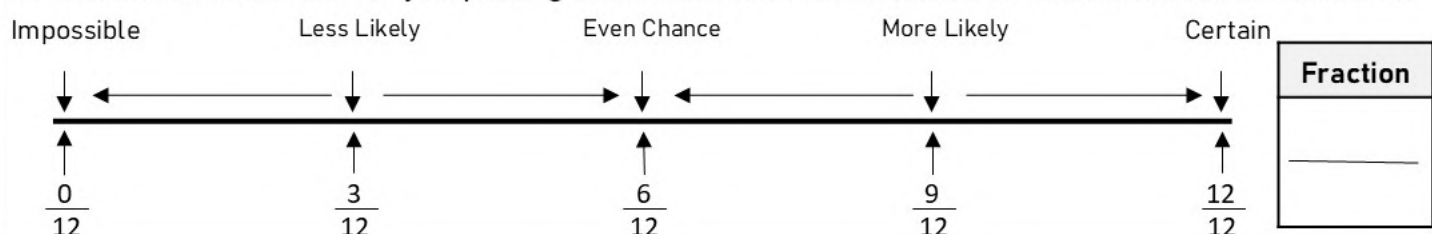
3. What is the likelihood of you picking out an oatmeal raisin cookie?



4. What is the likelihood of you picking out a chocolate chip cookie or an oatmeal raisin cookie?

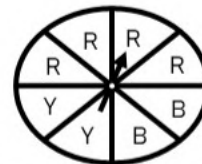


5. What is the likelihood of you picking out an oatmeal raisin cookie or a double chocolate cookie?



Describing the Likelihood of Events

Spinner: 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 yellow part is unlikely.



Questions Write the fraction for each of the situations below. Then circle the probability

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

Impossible	Less Likely	Even Chance	More Likely	Certain	Fraction
↓	↓	↓	↓	↓	
↑	↑	↑	↑	↑	
$\frac{0}{8}$		$\frac{4}{8}$	$\frac{6}{8}$	$\frac{8}{8}$	

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

Impossible	Less Likely	Even Chance	More Likely	Certain	Fraction
↓	↓	↓	↓	↓	
↑	↑	↑	↑	↑	
$\frac{0}{8}$	$\frac{2}{8}$			$\frac{8}{8}$	

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

Impossible	Less Likely	Even Chance	More Likely	Certain	Fraction
↓	↓	↓	↓	↓	
↑	↑	↑	↑	↑	
$\frac{0}{8}$	$\frac{2}{8}$	$\frac{4}{8}$	$\frac{6}{8}$		

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

Impossible	Less Likely	Even Chance	More Likely	Certain	Fraction
↓	↓	↓	↓	↓	
↑	↑	↑	↑	↑	
$\frac{0}{8}$	$\frac{2}{8}$	$\frac{4}{8}$	$\frac{6}{8}$	$\frac{8}{8}$	

5. What is the likelihood of landing on a purple part?

Impossible	Less Likely	Even Chance	More Likely	Certain	Fraction
↓	↓	↓	↓	↓	
↑	↑	↑	↑	↑	
$\frac{0}{8}$	$\frac{2}{8}$	$\frac{4}{8}$	$\frac{6}{8}$	$\frac{8}{8}$	

Exit Cards

Cut Out

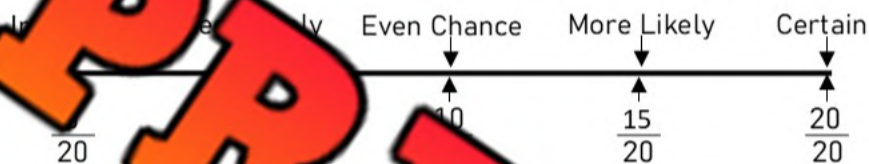
Cut out the exit cards below and have students complete them at the end of class

Name: _____

A bookshelf contains 20 books: 8 are fiction, 7 are non-fiction, and 5 are graphic novels.

Circle the probability term and write the fraction.

1. What is the likelihood of picking a fiction book?



Fraction

2. What is the likelihood of picking a fiction or non-fiction book?



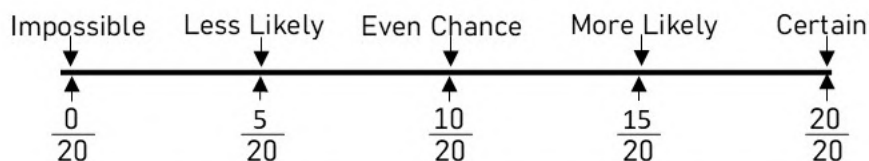
Fraction

Name: _____

A bookshelf contains 20 books: 8 are fiction, 7 are non-fiction, and 5 are graphic novels.

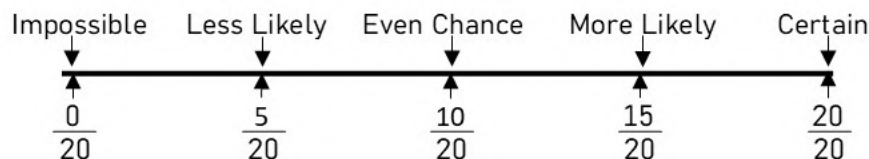
Circle the probability term and fraction.

1. What is the likelihood of picking a fiction book?



Fraction

2. What is the likelihood of picking a fiction or non-fiction book?



Fraction

Describing the Likelihood of Events

Marbles

There are 14 marbles in a bag. What is the likelihood of you pulling out a white, grey, or black marble?



Frequency

Fill in the frequency table below

Color	Frequency
Black	
Grey	
White	

Questions

Describe the probability (more likely, less likely, equally likely, more likely, certain) and write the fraction.

Event	Fraction
1. What is the probability of pulling out a black marble?	
Probability:	
2. What is the probability of pulling out a grey marble?	
Probability:	
3. What is the probability of pulling out a white marble?	
Probability:	
4. What is the probability of pulling out a black, white, or grey marble?	
Probability:	
5. What is the probability of pulling out a black or white marble?	
Probability:	
6. What is the probability of pulling out a green marble?	
Probability:	

Flipping a Coin - Experiment

When we flip a coin, we have an equal chance at getting a heads or a tails. Our chances are half and half. If we flip a coin 2 times, we should get 1 heads and 1 tails. Fill in the table with how many heads and tails you should get.

# of Flips	2	4	6	8	10	12	14	16	18	20
Heads	1	2								
Tails	1		2	4						

Directions

1) Flip a coin 20 times and record your results

1) How many heads and tails do you think you will get out of 20?



Heads

20

Tails



2) Perform the experiment by flipping a coin 20 times. Record how many heads and tails you get.

	Tallies	Total
Heads		
Tails		

3) Did you get as many heads and tails as you were supposed to? Why not?

Rolling a Dice - Experiment

When we roll a dice, there are 6 outcomes we could get – 1, 2, 3, 4, 5, or 6. This means it is less likely we will roll a specific number.

Directions

Follow the instructions below



1) If you roll a dice 30 times, how many times will you roll each number on a dice? Write your predictions in the table below. Make sure your totals add up to 30!

	3	4	5	6

2) Perform the experiment by rolling a dice 30 times. Record your results as they appear in the table below.



1	2	3	4	5	6

3) Was your prediction accurate? Explain what you guessed right and what you guessed wrong.

4) Is it easy to guess what will happen in the future? Why or why not?

Dene Hand Games – Probability Experiment

Objective

What are we learning about?

Students will predict the chance of an event happening and then compare their prediction to what actually happens after playing a game many times.

Materials

What you will need for the activity.

- One object to hide (coin, marker, or counter)
- Recording sheet
- Pencils

Instructions

How you will do the activity



1. Begin by teaching students about probability and hiding games and explaining that these games involve guessing and probability, which relates to probability.
2. Set up the game by dividing the class into two teams of 10. One team will be the hiding team and will have the item. The hiding team may huddle together and use their bodies or quick hand movements to pass the item around in the group, making it difficult for the other team to see who has it.
3. Explain that before playing, students will make a prediction. Ask them to think about how likely it is to choose the correct person when there are five people in the group and have them record how many correct guesses they think there will be over 25 rounds.
4. Have the guessing team watch carefully while the hiding team chooses who will hold the item. The guessing team must then choose one person they think has the item.
5. Play the game for 25 rounds, recording each correct guess using tally marks on the worksheet.
6. After 25 rounds, have students count the total number of correct guesses and compare this number to their original prediction.
7. Switch roles so the other team becomes the hiding team, and repeat the game if time allows.
8. End with a class discussion about whether students got more, fewer, or about the same number of correct guesses as they predicted, and why results may not match predictions exactly.

Directions

Follow the instructions below

1) If you do 25 rounds of this game, how many times do you think you will choose the right person holding the item?

2) Setup the game by having 2 teams of 5. One team will have an item and will give it to one person in their group. The other team is allowed to watch, so the hiding group should not use or use slight of hand while choosing someone else to hold the item. After the rounds are over, they should switch roles, so the other team gets a chance to hold the item. How many times were you able to correctly choose the person that was holding the item?

3) Were you able to guess it correctly more or less than your prediction? Why do you think this happened?

4) Was there any skill to this game? Were some teams better than others at finding the item? Explain.

5) How does adding skill to a probability game affect the probability? Do you need to factor in skill when determining the probability of an event before the event happens? Explain with an example.

Unit Quiz - Probability

Part 1

Circle the likelihood of the event happening

a) You will eat today.



Certain
Possible
Impossible

b) The sun will rise tomorrow morning.



Certain
Possible
Impossible

c) You will drink juice today.



Certain
Possible
Impossible

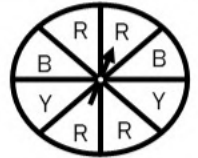
d) You will sleep today.



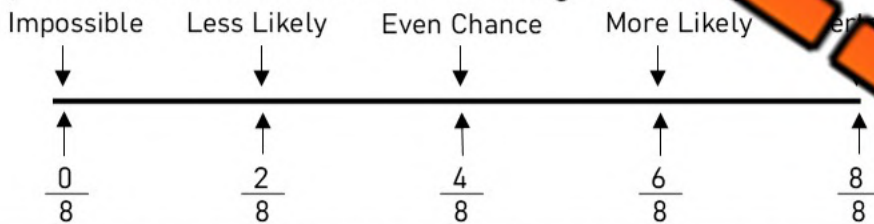
Certain
Possible
Impossible

Part 2

Read the spinner and circle the likelihood of each scenario. Then write the fraction.

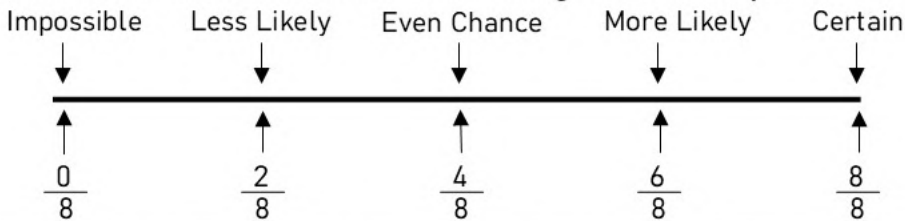


1) What is the likelihood of landing on a red part?



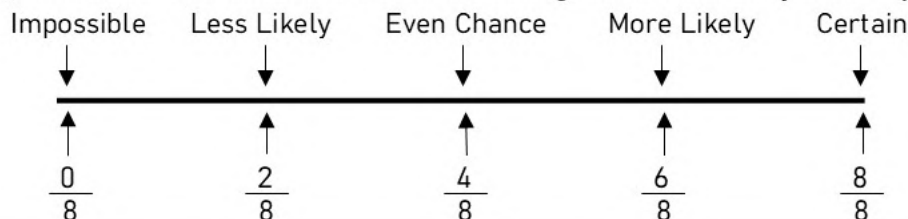
Fraction

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



Fraction

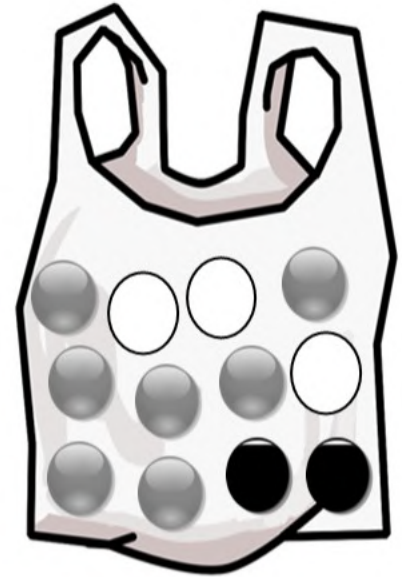
3) What is the likelihood of landing on a red or yellow part?



Fraction

Marbles

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



Part 3 Fill in the frequency table below

Marble Colour	Frequency
White	

Part 4

1) Describe the probability as impossible, less likely, equally likely, more likely or certain
 2) Then write the exact fraction

	Fraction
1. What is the probability of pulling out a black marble? Probability:	
2. What is the probability of pulling out a grey marble? Probability:	
3. What is the probability of pulling out a white marble? Probability:	
4. What is the probability of pulling out a black, white, or grey marble? Probability:	
5. What is the probability of pulling out a black or white marble? Probability:	
6. What is the probability of pulling out a green marble? Probability:	