

# APPLE FRACTIONS

## OVERALL EXPECTATIONS

- Demonstrate and explain the concept of equivalent fractions, using concrete materials.

## LEARNING GOALS

- Understand the concept of equivalent fractions.
- Understand how to find equivalent fractions arithmetically.

## RESOURCES

- Apples
- Paper
- Writing materials
- Fraction Cards (see Worksheets as examples)
- White board/chalk board

## INTRODUCTORY ACTIVITY

- ASK: What does equivalent mean?
- ASK: What do you think "equivalent fractions" mean?
- Define equivalent fraction (equivalent fractions are different fractions that name the same number)

## MAIN ACTIVITY

- Using apples, show students the concept of equivalent fractions (i.e.,  $\frac{1}{2}$  and  $\frac{2}{4}$  are equivalent)
- Give students some time to explore the concept of equivalent fractions
- Explain how to find equivalent fractions arithmetically (divide or multiply both the numerator and denominator with a same number)

## CONSOLIDATION

- The teacher will hand out a fraction card, facedown, to each student. When the teacher plays music, students will move around in the classroom. Once the music stops, s/he will switch their card with someone else. The teacher will do this 3 times. On the third stop, students will flip the card, find an equivalent fraction that are taped on the walls and do an exercise, for example, 10 push-ups (fractions that are taped on the wall will have a set of exercise written on it). healthy lifestyle that stood out to them from their own research or from the presentations.



3

9

15 JUMPING JACKS

5

10

10 PUSH UPS

2

3

15 LUNGES

4

6

15 SIT UPS

7

8

15 BURPEES

$\frac{1}{3}$	$\frac{6}{18}$	$\frac{12}{36}$	$\frac{18}{54}$	$\frac{21}{63}$
$\frac{27}{81}$	$\frac{1}{2}$	$\frac{10}{20}$	$\frac{20}{40}$	$\frac{25}{50}$
$\frac{35}{70}$	$\frac{40}{80}$	$\frac{6}{9}$	$\frac{8}{12}$	$\frac{12}{18}$
$\frac{20}{30}$	$\frac{18}{27}$	$\frac{10}{15}$	$\frac{2}{3}$	$\frac{8}{12}$
$\frac{28}{42}$	$\frac{24}{32}$	$\frac{36}{54}$	$\frac{16}{24}$	$\frac{14}{16}$
$\frac{35}{40}$	$\frac{42}{48}$	$\frac{49}{56}$	$\frac{63}{72}$	$\frac{77}{88}$

# BROCCOLI CONSUMED

## OVERALL EXPECTATIONS

- Collect data by conducting a survey or an experiment.
- Collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs.
- Read, interpret, and draw conclusions from primary data.

## LEARNING GOALS

- Conduct a survey based on broccoli consumption
- Collect data by using a tally graph

## RESOURCES

- Pencils and paper
- Calculator

## INTRODUCTORY ACTIVITY

- Students will begin with a think, pair, share. "How much broccoli do you think this class consumes in one week?"
  - Students will discuss with their table group and Teacher will record estimates on the board and follow up with more questioning
  - "How could we find out?"
  - "How could we use math to figure this out?"

## MAIN ACTIVITY

- Students will begin with a think, pair, share. "How much broccoli do you think this class consumes in one week?"
  - Students will discuss with their table group and Teacher will record estimates on the board and follow up with more questioning
  - "How could we find out?"
  - "How could we use math to figure this out?"
- Students in small groups will create a tally chart with the survey question, "How much broccoli do you eat in 1 week?"
- Students will ask their classmates their survey question and when they are done they will survey at least one neighbouring class the same question.
- Students will then meet as a class and discuss findings.
  - What did we find out?"
  - "If we know, on average, how much broccoli a 10 year old might eat in a week, could we find out how much they consume in a month?"
  - Students will work with their table groups to come up with an estimate of broccoli consumption in 1 month
- Students will create either a bar or line graph to represent their findings
- Following the completion of their graphs students will participate in a gallery walk where the class will get to view and discuss others' bar/line graphs.

## CONSOLIDATION

- Students may then make predictions about where broccoli may be most or least consumed on a global level.
- In addition to this, students may make predictions regarding broccoli's origins and how much broccoli may be consumed per month worldwide!



# CARROTS LEARNING MEASUREMENT THROUGH BAKING

## OVERALL EXPECTATIONS

- Estimate, measure, and record perimeter, area, temperature change, and elapsed time, using a variety of strategies.
- Select and justify the most appropriate standard unit to measure mass.
- Determine, through investigation, the relationship between capacity (i.e., the amount a container can hold) and volume.

## LEARNING GOALS

- Learn real life application of measurement properties: cups, tablespoons, teaspoons.
- Learn the use of fractions when measuring the required baking materials needed.

## RESOURCES

- Recipe card attached with ingredients
- Oven

## INTRODUCTORY ACTIVITY

- In order to introduce this lesson, it is important that the students are taught the proper and safe ways of baking (which starts with hand washing!).
- Students should be encouraged to work together to make their muffins successfully.
- Talk with the students about different measurement techniques. Let them know the importance of using correct measurements to ensure the muffins are baked correctly. They will need to know how to measure using cups and teaspoons.

## MAIN ACTIVITY

- Break the students up into 4-5 groups.
- Provide each group with recipe cards and materials.
- Allow the students to use the recipe card to prepare the muffin mix. Walk around with your own recipe card and help the students.
- Once the groups have completed preparing the muffins, put them in the oven.
- While the muffins are baking, have the students think, pair, share about their experiences of baking.

## CONSOLIDATION

- Allow the students to each enjoy a muffin that they made.
- Explain to the students the real life applications they can apply to measurement in math.
- Ask them to share some other real life skills that they can use measurement for in the future; i.e., measuring time, speed, temperature, height, weight, etc.
- Formative assessment - Cooking reflection
- Have the students write a short reflection on their experiences baking. The students can talk about both the measurement aspect, as well as the community building techniques they used within their groups to be successful.



**GRADE 5 | MATH | 50 MINUTES**

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The opinions contained are those of the authors and that no official endorsement by CFDR is intended or should be inferred. Please contact Dr. Sarah Woodruff (woodruff@uwindsor.ca) for more details.

## **Carrot Muffin Recipe**

**Ready In:** 40 minutes

**Serves:** 12 muffins

### **Ingredients:**

1 Egg  
 $\frac{3}{4}$  cup orange juice  
 $\frac{1}{2}$  cup melted margarine  
 $\frac{1}{2}$  cup sugar  
1 cup white flour  
1 cup whole wheat flour  
1 teaspoon baking powder  
1 teaspoon baking soda  
 $\frac{1}{2}$  teaspoon salt  
1 teaspoon cinnamon  
2 cups shredded carrots

### **Directions:**

Beat egg lightly in a large bowl.  
Add orange juice, margarine and sugar. Beat well.  
Sift together dry ingredients.  
Stir into egg mixture. Mix only until moistened.  
Gently fold in shredded carrots.  
Spoon into well greased muffin pan.  
About  $\frac{2}{3}$  full.  
Bake for 15-20 minutes at 400 degrees.



# CUCUMBERS PATTERNING AND ALGEBRA

## OVERALL EXPECTATIONS

- Patterning and Algebra: determine, through investigation using a table of values, relationships in growing and shrinking patterns, and investigate repeating patterns involving translations.

## LEARNING GOALS

- By the end of this lesson, students will be able to identify and demonstrate their knowledge on an alternating, repeating, and shrinking patterns.

## RESOURCES

- Snap cubes
- Cucumbers

## INTRODUCTORY ACTIVITY

- Using snap cubes, have students work in small groups and make patterns.
- Allow students to make the any pattern they see fit (i.e., colour, numerical, size).
- Teacher will circulate to ensure students are on task.
- Select one or two groups to present to highlight any errors or misunderstanding that students might have, along with any successes.

## MAIN ACTIVITY

- In small groups, students will create their own patterning word problems using cucumbers (using size, numerical, or colour characteristics)
- Once word problems are complete, each group needs to solve their own problem, making an answer sheet.
- Before students break off into their groups, review examples of good word problems.

### Checklist for Good Writing Good Word Problems:

- What type on pattern are you using?
- Can students use words, pictures, and numbers to solve?
- Is your question based on a real-life scenario?
- Is your final question clearly asked?

### How to Solve Word Problems:

- C - Circle the important numbers
- U - Underline the question
- B - Box any key words
- E - Eliminate any useless information and Evaluate
- S - Solve and Check

## CONSOLIDATION

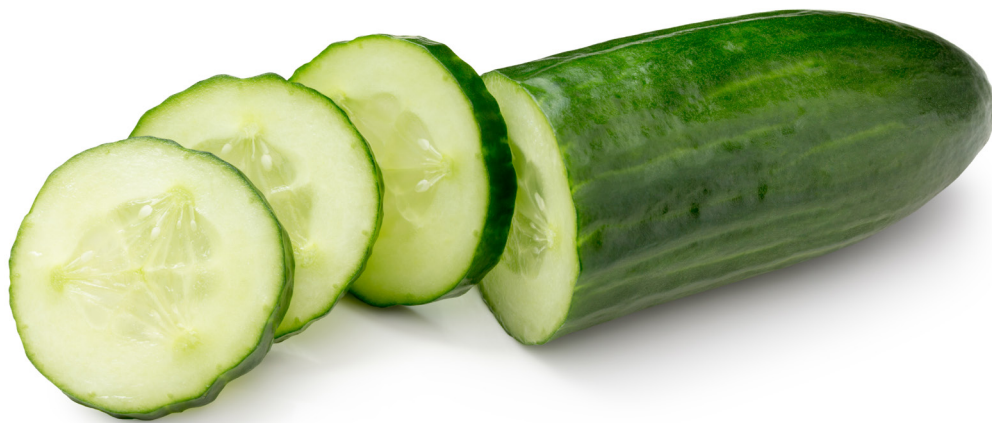
- Once everyone has completed the Action activity:

### Option 1

- Have all students present their word problems and solution to the class.
- After the presentation is complete, highlight what went well for each group and what still needs work.

### Option 2

- With a teaching partner, invite another class into your class to solve each groups word problems.
- Once students are done solving word problems, have a class discussion highlighting student success (in making of the word problems and in the groups solutions)
- Teacher will collect both the word problems and answers to each problem and provide the students with descriptive feedback, and next steps.



**GRADE 5 | MATH | 40 MINUTES**

# FRUIT AND VEGETABLE BASKET PROBABILITY GAME

## OVERALL EXPECTATIONS

- Represent as a fraction the probability that a specific outcome will occur in a simple probability experiment, using systematic lists and area models.
- Collect data by conducting a survey or an experiment to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements.
- Collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs (including broken-line graphs) that have appropriate titles, labels (e.g., appropriate units marked on the axes), and scales that suit the range and distribution of the data.
- Pose and solve simple probability problems, and solve them by conducting probability experiments and selecting appropriate methods of recording the results (e.g., tally chart, line plot, bar graph).

## LEARNING GOALS

### STUDENTS WILL BE ABLE TO

- Conduct a survey based on fruits and vegetables being pulled out of a basket
- Collect data by using a tally graph

## RESOURCES

- Basket of mixed fruit and vegetables
- Pencils and paper
- Coloured pencils

## INTRODUCTORY ACTIVITY

- Teacher will bring the assorted produce and place all of the fruit and vegetables into a large box or basket.
- Teacher will walk around the room with this basket and ask students to name all of the fruit and vegetables they see and will write them on the blackboard.

## MAIN ACTIVITY

- Teacher will break up students into groups of 4-5. Each group will receive a large basket with 30 different fruit/vegetables in them. Each basket should contain an equal number of each fruit/vegetable.
- One student from each group will have the responsibility of choosing 10 fruit/vegetables from the basket. The rest of the students in the group will take a tally of how many times each fruit/vegetable gets chosen.
- Once 20 fruit/vegetables are chosen and the tally is complete, the group will get a large piece of chart paper. They will be required to create a pie chart based on their findings. Students must convert the tallies into percentages in order to successfully create an accurate pie chart. They will be required to make these conversions on the bottom of the chart paper in order to show their work.
- Students must colour in their pie chart and include a legend.

## CONSOLIDATION

- When each group completes their pie chart, the class will have a gallery walk in order to see how each group most likely had completely different results.
- The teacher will lead a class discussion based on each groups findings and mention that each group had a different outcome because of probability.
- Completion of pie chart with proper legend
- Correct mathematical conversions from tallies to percentages



## OVERALL EXPECTATIONS

- Collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including broken-line graphs.
- Read, describe, and interpret primary data and secondary data presented in charts and graphs, including broken-line graphs;
- Collect data by conducting a survey or an experiment (e.g., gather and record air temperature over a two-week period) to do with themselves, their environment, issues in their school or community, or content from another subject, and record observations or measurements.
- Collect and organize discrete or continuous primary data and secondary data and display the data in charts, tables, and graphs (including broken-line graphs) that have appropriate titles, labels.
- Demonstrate an understanding that sets of data can be samples of larger populations.
- Read, interpret, and draw conclusions from primary data (e.g., survey results, measurements, observations).

## LEARNING GOALS

- Students will learn to draw a stem and leaf plot.
- Students will learn how to take a sample population of their school.
- Students will use pears to represent their data.
- Students will calculate the measure of central tendency from their collected data.

## RESOURCES

- Pears
- Blank paper
- Pencils



## INTRODUCTORY ACTIVITY

- Explain what we will be doing today and what a stem and leaf plot is used for.
- Drawing the Stem and Leaf Plot:
  - Hand out pears to students and ask them to taste them if they would like and have them rank how much they like the taste of the pear from 0-5, zero being not at all and 5 being very good.
  - Have them record their answer on a piece of paper.
  - Have the students take out a piece of paper to begin drawing the stem and leaf plot. Go through the process on the blackboard or smartboard if you have it.
  - Once they have drawn the plot begin to fill it in with their data as a class making sure all students are moving at the same speed.
  - Once the plot is complete ask the students how the stem and leaf plot represents their data and why it is a good way to show the data they collected?

## MAIN ACTIVITY

- Making conclusions and calculating central tendencies:
  - Students will use their completed charts to calculate the mean, median, and mode for their class.
  - Again ask why we would use these measures on a set of data and was it easy to do with this type of graph/plot?
  - Finally spark the discussion of how this classes data sample could be similar to the schools population and that if we took more samples from other classes that they could be similar to theirs and that sampling data from a smaller population is generally a good indicator for the larger population. In this case, the school they are in.

## CONSOLIDATION

- Students will be assessed on the neatness and accuracy of there stem and leaf plot. Participation and the calculation of the mean median and mode of there data.
- Checklist of success criteria and learning goals should be provided to the students for their knowledge of the assessment.

### Example Stem and Leaf Plot:

Stem	Leaf
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# PEPPERS NUMBER SENSE AND NUMERATION

## OVERALL EXPECTATIONS

- Read and print in words whole numbers to ten thousand, using meaningful contexts (e.g., newspapers, magazines).
- Represent, compare, and order whole numbers and decimal numbers from 0.01 to 100 000, using a variety of tools.

## LEARNING GOALS

- Read an article about peppers which includes numbers and underline/highlight those numbers
- View large numbers visually and in a real-life context using the Scoville Heat Chart
- Represent numbers up to 10,000 numerically and in words
- Order numbers up to 10,000 from lowest to highest
- Use the greater than and less than symbols to compare numbers up to 100,000

## RESOURCES

- News Article (attached below)  
[www.newsela.com/read/hot-peppers-burn/id/22276/](http://www.newsela.com/read/hot-peppers-burn/id/22276/)
- By clicking the link, the text can be adapted for different reading levels from the Newsela website.
- Students worksheet and answer key (attached below)
- Scoville Heat Chart (attached below)

## INTRODUCTORY ACTIVITY

- As a quick minds-on activity, ask students: Have you ever eaten a very hot pepper? Was it on purpose or by accident? Do you think there is a way to measure how hot different peppers are? What might this look like?
- Students should also have some experience representing and comparing whole numbers from 0-100,000 using different tools such as base ten blocks, diagrams, or number lines.

## MAIN ACTIVITY

- Read article ("Some people love their peppers as hot as they come") as a class. During reading, have students highlight or underline every time they see a number. (10 min.)
- Distribute the Scoville Heat Chart (or project on the board). Ask students to select a pepper from the chart and as a class determine how the number(s) would be written in words. Go through examples as needed regarding how to change numbers into words and vice-versa (up to 10,000).

## CONSOLIDATION

- Students will have the remainder of the class to fill out the worksheet. This will be handed in at the end for formative feedback.
- Time permitting, students may be given the following exit ticket question: *Can you think of something else we could measure using a scale such as the Scoville Heat Chart?*




## SCOVILLE CHILE HEAT CHART

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### SCOVILLE HEAT UNITS

### TYPES OF PEPPERS



15,000,000	Pure Capsaicin
2,000,000-5,300,000	U.S. Grade Pepper Spray
1,000,000	Bhut Jolokia
577,000	Red Savina
200,000-350,000	Habanero
100,000-250,000	Chiltepin
30,000-50,000	Cayenne
15,000-30,000	Arbol
12,000-30,000	Manzano
8,000-23,000	Serrano
5,000-8,000	Yellow Hot
3,500-8,000	Jalepeño Pepper
2,500-4,000	Guajillo
1,500-2,500	Chilaca
1,000-2,500	Pasilla
1,000-2,000	Pablano
500-2,000	Anaheim
500-1,500	Chile Verde
500-1,000	Yellow Genetics
500-750	Red Chile
0	Sweet Bells

Some

## **people love their peppers as hot as they come**

By The Sacramento Bee, adapted by Newsela staff

10/03/2016

Mike and Patty Hultquist love hot food. They especially love hot peppers. Some of their favorites have scary names, like Scorpion and Ghost. These are the names of some superhot peppers. For the Hultquists, the hottest peppers are the best peppers.

The Hultquists call themselves "chili heads." They even make their own hot sauce. When they go out to eat, they put some on their food. All of their sauces are made with superhot peppers.

Superhots are the hottest of hot peppers. They top 1 million on the Scoville Heat Unit scale. This tool measures how hot a pepper is. On the same scale, a jalapeño pepper is only 5,000.

The Hultquists run a website about hot peppers. It is called Chili Pepper Madness. It offers tips for enjoying hot peppers.

The Hultquists are not alone. Americans have fallen in love with really hot peppers. Now there are all different kinds in grocery stores and restaurants.

September is pepper season. The fresh crop includes peppers of all sizes and flavors. They range from mild to superhot.

Many people around the world eat hot peppers every day. It is not just about wanting to feel the burn. Hot peppers are good at killing germs. This helps preserve food. It is especially helpful in warm places, because heat causes food to go bad. If the food has peppers in it, it will last longer.

Peppers get their heat from a certain chemical. It is called capsaicin. People's tongues react to it the same way they react to fire. This is why people think peppers are "hot." But capsaicin is not harmful. Scientists think eating it makes people feel good.

The king of the superhots is the Carolina Reaper. It is the hottest pepper in the world. The next hottest peppers are the Trinidad Scorpion and the "ghost pepper." They are much hotter than regular hot sauce. At zero on the Scoville scale, sweet bell peppers are the mildest. Poblano, another mild stuffing pepper, rates 1,000. Cayenne rates about 40,000.

The Hultquists make their own hot sauce at home. "Always open the windows when working with peppers," Mike Hultquist said. "Turn on the fan."

He has some tips for new pepper lovers. Start with peppers that are not too hot, he said. Then explore different kinds. "All peppers have something to offer," he said.

## Whole Numbers & The Scoville Heat Unit Scale

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. Fill in the chart below for the following examples of different types of peppers.

Type of Pepper	Heat Unit (numbers)	Heat Unit (words)
1) Jalapeno	3,500	Three thousand five hundred
2) Chile Verde	560	
3) Pasilla	1,210	
4) Pablano		One thousand four hundred
5) Yellow Hot	5,125	
6) Serrano		Nine thousand six hundred and fifty-nine
7) Anaheim		Seven hundred and forty-three
8) Guajillo	3,999	
9) Yellow Genetics	750	
10) Chilaca	2,481	

2. Using the chart you have completed, order all ten peppers from **lowest** to **highest** Scoville Heat Units on the lines below.

Chile Verde, \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. Use the greater than (>) and less than (<) signs to show which pepper is hotter.

Chilaca (2,481)	_____	Guajillo (3,999)
Serrano (8,210)	_____	Cayenne (30,100)
Cayenne (30,100)	_____	Arbol (15, 270)
Manzano (12,850)	_____	Serrano (8,210)



## Whole Numbers & The Scoville Heat Unit Scale (Answer Key)

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. Fill in the chart below for the following examples of different types of peppers.

Type of Pepper	Heat Unit (numbers)	Heat Unit (words)
1) Jalapeno	3,500	Three thousand five hundred
2) Chile Verde	560	Five hundred and sixty
3) Pasilla	1,210	One thousand two hundred and ten
4) Pablano	1,400	One thousand four hundred
5) Yellow Hot	5,125	Five thousand one hundred and twenty-five
6) Serrano	9,659	Nine thousand six hundred and fifty-nine
7) Anaheim	743	Seven hundred and forty-three
8) Guajillo	3,999	Three thousand nine hundred and ninety-nine
9) Yellow Genetics	750	Seven hundred and fifty
10) Chilaca	2,481	Two thousand four hundred and eighty-one

2. Using the chart you have completed, order all ten peppers from **lowest** to **highest** Scoville Heat Units on the lines below.

Chile Verde, Anaheim, Yellow Genetics, Pasilla, Pablano, Chilaca, Jalapeno, Guajillo, Yellow Hot, Serrano

3. Use the greater than (>) and less than (<) signs to show which pepper is hotter.

Chilaca (2,481) < Guajillo (3,999)  
Serrano (8,210) < Cayenne (30,100)  
Cayenne (30,100) > Arbol (15,270)  
Manzano (12,850) > Serrano (8,210)

# STRAWBERRIES ADDING DECIMALS

## OVERALL EXPECTATIONS

- Read, represent, compare, and order whole numbers to 100 000, decimal numbers to hundredths, proper and improper fractions, and mixed numbers.
- Solve problems involving the multiplication and division of multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to hundredths, using a variety of strategies.
- Represent, compare, and order whole numbers and decimal numbers from 0.01 to 100 000, using a variety of tools.
- Add and subtract decimal numbers to hundredths, including money amounts, using concrete materials, estimation, and algorithms.

## LEARNING GOALS

- Add decimal numbers to hundredths using the column strategy numbers up to 100,000

## RESOURCES

- Handouts
- Post-it notes
- Laptop or computer
- Projector
- Speakers

## INTRODUCTORY ACTIVITY

- Students will begin the lesson by answering the Minds On question of how many pounds of strawberries they eat on their post-it note. Students are encouraged to use decimal numbers as it will help later in the lesson.
- Inform the students they are to stand up and order themselves in a line from least to greatest based on their responses. Students are to do this part without speaking. This should demonstrate if students understand how to order decimal numbers.
- Once students are in their line, ensure they are in the proper order. Inform the students the average American eats 4.85 pounds of strawberries each year, where would they fit in the line? Does that seem like a lot or not enough?
- Pick two students who used a decimal number. How could we determine how many pounds they eat combined in a year?

## MAIN ACTIVITY

- Show students the following video up to the 3:15 point. This video demonstrates how to add decimal numbers.  
[www.youtube.com/watch?v=kwh4SD1ToFc](http://www.youtube.com/watch?v=kwh4SD1ToFc)
- Go back to the question of how much the two students would eat combined. Work through this problem as a class. Have students walk through each step such as stacking the numbers, lining up the decimals, inserting zeros (if needed), adding each column, carrying over (if needed), and inserting the decimal in the final solution.
- Distribute the "Adding with Decimals" handout. Students are to solve the addition problem for each square, and colour in the squares based on their values.

## CONSOLIDATION

- Near the end of class, check the progress students are making on the handout. Have students share what their pictures looks like if they are done or near completion.



Name:

Date:

## Adding with Decimals

## Strawberry

0.15 <u>+ 0.49</u>	1.44 <u>+ 2.18</u>	3.18 <u>+ 1.46</u>	2.48 <u>+ 1.69</u>	0.14 <u>+ 6.11</u>	0.22 <u>+ 9.68</u>	2.08 <u>+ 4.16</u>	2.63 <u>+ 1.90</u>	0.22 <u>+ 1.31</u>	2.54 <u>+ 1.90</u>
2.21 <u>+ 1.02</u>	2.37 <u>+ 0.69</u>	4.39 <u>+ 2.51</u>	6.13 <u>+ 1.46</u>	4.44 <u>+ 2.46</u>	8.66 <u>+ 0.43</u>	4.36 <u>+ 2.65</u>	4.13 <u>+ 2.05</u>	3.74 <u>+ 0.14</u>	3.29 <u>+ 0.53</u>
2.13 <u>+ 3.81</u>	1.12 <u>+ 8.70</u>	3.02 <u>+ 7.82</u>	4.32 <u>+ 1.47</u>	0.86 <u>+ 9.24</u>	2.44 <u>+ 9.50</u>	5.23 <u>+ 3.87</u>	2.73 <u>+ 7.32</u>	3.26 <u>+ 2.67</u>	2.11 <u>+ 1.62</u>
3.77 <u>+ 0.74</u>	4.85 <u>+ 7.40</u>	7.88 <u>+ 6.41</u>	7.56 <u>+ 3.48</u>	7.87 <u>+ 9.43</u>	9.00 <u>+ 3.42</u>	3.66 <u>+ 6.42</u>	4.04 <u>+ 6.66</u>	3.52 <u>+ 7.41</u>	1.94 <u>+ 1.23</u>
0.63 <u>+ 2.62</u>	9.00 <u>+ 1.51</u>	7.78 <u>+ 9.07</u>	8.26 <u>+ 6.32</u>	9.08 <u>+ 5.15</u>	6.05 <u>+ 4.83</u>	6.46 <u>+ 4.70</u>	9.28 <u>+ 5.88</u>	9.40 <u>+ 1.21</u>	1.31 <u>+ 0.47</u>
1.49 <u>+ 0.27</u>	4.23 <u>+ 7.47</u>	8.21 <u>+ 3.65</u>	4.32 <u>+ 7.27</u>	9.90 <u>+ 2.76</u>	7.71 <u>+ 8.88</u>	7.38 <u>+ 6.41</u>	9.51 <u>+ 0.59</u>	6.24 <u>+ 4.95</u>	2.28 <u>+ 1.67</u>
2.25 <u>+ 1.43</u>	9.98 <u>+ 3.01</u>	7.64 <u>+ 4.99</u>	9.66 <u>+ 7.45</u>	4.29 <u>+ 8.23</u>	5.07 <u>+ 5.96</u>	0.86 <u>+ 9.20</u>	4.89 <u>+ 8.50</u>	9.72 <u>+ 2.79</u>	0.23 <u>+ 3.82</u>
2.59 <u>+ 0.73</u>	1.51 <u>+ 1.38</u>	3.53 <u>+ 7.18</u>	3.50 <u>+ 8.82</u>	6.33 <u>+ 7.33</u>	3.17 <u>+ 9.97</u>	9.35 <u>+ 7.24</u>	7.05 <u>+ 6.94</u>	0.41 <u>+ 0.63</u>	1.54 <u>+ 1.66</u>
0.85 <u>+ 4.15</u>	1.20 <u>+ 2.60</u>	9.29 <u>+ 2.11</u>	6.97 <u>+ 8.02</u>	8.44 <u>+ 8.89</u>	8.68 <u>+ 2.12</u>	2.97 <u>+ 8.51</u>	2.67 <u>+ 9.79</u>	1.82 <u>+ 1.75</u>	2.46 <u>+ 2.29</u>
2.04 <u>+ 2.69</u>	2.39 <u>+ 2.07</u>	1.82 <u>+ 1.18</u>	7.94 <u>+ 6.99</u>	3.83 <u>+ 9.60</u>	5.46 <u>+ 6.54</u>	5.35 <u>+ 6.36</u>	3.30 <u>+ 1.36</u>	0.14 <u>+ 3.91</u>	0.88 <u>+ 0.59</u>

Key:

From 1.01 to 5	Blue
From 5.01 to 10	Green
From 10.01 to 15	Red
From 15.01 to 20	Black

Name:

Date:

## Adding with Decimals

## Strawberry

0.15 <u>+ 0.49</u>	1.44 <u>+ 2.18</u>	3.18 <u>+ 1.46</u>	2.48 <u>+ 1.69</u>	0.14 <u>+ 6.11</u>	0.22 <u>+ 9.68</u>	2.08 <u>+ 4.16</u>	2.63 <u>+ 1.90</u>	0.22 <u>+ 1.31</u>	2.54 <u>+ 1.90</u>
2.21 <u>+ 1.02</u>	2.37 <u>+ 0.69</u>	4.39 <u>+ 2.51</u>	6.13 <u>+ 1.46</u>	4.44 <u>+ 2.46</u>	8.66 <u>+ 0.43</u>	4.36 <u>+ 2.65</u>	4.13 <u>+ 2.05</u>	3.74 <u>+ 0.14</u>	3.29 <u>+ 0.53</u>
2.13 <u>+ 3.81</u>	1.12 <u>+ 8.70</u>	3.02 <u>+ 7.82</u>	4.32 <u>+ 1.47</u>	0.86 <u>+ 9.24</u>	2.44 <u>+ 9.50</u>	5.23 <u>+ 3.87</u>	2.73 <u>+ 7.32</u>	3.26 <u>+ 2.67</u>	2.11 <u>+ 1.62</u>
3.77 <u>+ 0.74</u>	4.85 <u>+ 7.40</u>	7.88 <u>+ 6.41</u>	7.56 <u>+ 3.48</u>	7.87 <u>+ 9.43</u>	9.00 <u>+ 3.42</u>	3.66 <u>+ 6.42</u>	4.04 <u>+ 6.66</u>	3.52 <u>+ 7.41</u>	1.94 <u>+ 1.23</u>
0.63 <u>+ 2.62</u>	9.00 <u>+ 1.51</u>	7.78 <u>+ 9.07</u>	8.26 <u>+ 6.32</u>	9.08 <u>+ 5.15</u>	6.05 <u>+ 4.83</u>	6.46 <u>+ 4.70</u>	9.28 <u>+ 5.88</u>	9.40 <u>+ 1.21</u>	1.31 <u>+ 0.47</u>
1.49 <u>+ 0.27</u>	4.23 <u>+ 7.47</u>	8.21 <u>+ 3.65</u>	4.32 <u>+ 7.27</u>	9.90 <u>+ 2.76</u>	7.71 <u>+ 8.88</u>	7.38 <u>+ 6.41</u>	9.51 <u>+ 0.59</u>	6.24 <u>+ 4.95</u>	2.28 <u>+ 1.67</u>
2.25 <u>+ 1.43</u>	9.98 <u>+ 3.01</u>	7.64 <u>+ 4.99</u>	9.66 <u>+ 7.45</u>	4.29 <u>+ 8.23</u>	5.07 <u>+ 5.96</u>	0.86 <u>+ 9.20</u>	4.89 <u>+ 8.50</u>	9.72 <u>+ 2.79</u>	0.23 <u>+ 3.82</u>
2.59 <u>+ 0.73</u>	1.51 <u>+ 1.38</u>	3.53 <u>+ 7.18</u>	3.50 <u>+ 8.82</u>	6.33 <u>+ 7.33</u>	3.17 <u>+ 9.97</u>	9.35 <u>+ 7.24</u>	7.05 <u>+ 6.94</u>	0.41 <u>+ 0.63</u>	1.54 <u>+ 1.66</u>
0.85 <u>+ 4.15</u>	1.20 <u>+ 2.60</u>	9.29 <u>+ 2.11</u>	6.97 <u>+ 8.02</u>	8.44 <u>+ 8.89</u>	8.68 <u>+ 2.12</u>	2.97 <u>+ 8.51</u>	2.67 <u>+ 9.79</u>	1.82 <u>+ 1.75</u>	2.46 <u>+ 2.29</u>
2.04 <u>+ 2.69</u>	2.39 <u>+ 2.07</u>	1.82 <u>+ 1.18</u>	7.94 <u>+ 6.99</u>	3.83 <u>+ 9.60</u>	5.46 <u>+ 6.54</u>	5.35 <u>+ 6.36</u>	3.30 <u>+ 1.36</u>	0.14 <u>+ 3.91</u>	0.88 <u>+ 0.59</u>

Key:

From 1.01 to 5	Blue
From 5.01 to 10	Green
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# STRAWBERRIES MEAN, MEDIAN, MODE & RANGE

## OVERALL EXPECTATIONS

- To understand the basic foundation of 'Central Tendency', mean, median, mode, and range through strawberry manipulatives.
- Student will also build leadership and social skills necessary for teamwork.
- Students will also gain experience in presenting their final product.

## LEARNING GOALS

- Describe, through investigation, how a set of data is collected (e.g., by survey)
- Collect and organize discrete or continuous primary data and secondary data
- Calculate the mean, median, mode, and range for a small sample size of the population
- Determining best measures of central tendency [i.e., mean, median, and mode]

## RESOURCES

- Survey Worksheet
- Pencil
- Chart Paper at the end

## INTRODUCTORY ACTIVITY

### INDIVIDUAL:

- Students will be separately given a worksheet that has provided a survey table to complete a tally count in order to have a set of data in a sample size (see attached).
- This is an individual task at first. Every student must ask everyone in the class as well as record him/herself as part of the data collection.
- Survey sheets will be filled out individually and then checked by the teacher and signed off when finished.

## MAIN ACTIVITY

- Once that whole class has completed this (should give only 2 minutes of extra time for students to collect final data), students will then form TWO separate groups based on class size (population) formed by the teacher.
- Each group is then responsible for choosing a LEADER to come up and grab a piece of chart paper, and marker for his/her group.
- As a group, select 2 of the 5 questions and determine the mean, median, mode, and range of everybody's findings.
- Once students are placed in their groups, students will take turns leading, communicating, and recording the population sample size in order to determine the mean, median, mode, and range of whole populations data collections.
- Students are to only record those who answered YES to the questions.
- Can do NO at a later date if choose to.
- Students may organize their chart paper how they feel but has to be legible and have a clear mean, median, mode, and range labelled.
- Students will then come up at the front of the class to share what they found.
- Students that are sitting and listening to those presenting are to then share as a class; What they liked about their mini presentation, what could be improved, What can we take away from this set of data, and if they believe they got the correct mean, median, mode, and range. This is a more so student-oriented task.

## CONSOLIDATION

- Students should be given 15 minutes at the end of class to present their work and answer the prompted questions provided (in activity).
- Teacher can grade the final product, teamwork, use of time, and/or presentation quality looks like if they are done or near completion.



## STRAWBERRY SURVEY WORKSHEET:



Name \_\_\_\_\_

Date \_\_\_\_\_

\*\*\* **ONLY** calculate the *mean, median, mode, and range* for those who answered **YES** to the prompted selected questions.

STRAWBERRY QUESTION	YES ✓	NO ✗	TOTAL
1. My favorite fruit is a strawberry			
2. I have tried strawberry ice cream			
3. I enjoy strawberry pie			
4. I would enjoy strawberries in my shake			
5. Have you ever put strawberries in your cereal/yogurt?			

### When finished...

- As a group, discuss and select **TWO** of the questions above to determine the mean, median, mode, and range from the sample populations set of data.
- Grab ONE piece of chart paper
- As a group, select 2 of the 5 strawberry questions to record everyone's findings