Curriculum Sample Template
Max. 8 Pages

Grade Level	5th Grade	**Content Area**	Math
Course Title (grades 9-12 Only)	Mathematics 5		
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	• Students understand how to work in precision partnerships effectively. • Students know how to use their math journals effectively. • Students have used Excel and know how to insert a chart. • Students are familiar with, and have used, the 8 CCSS mathematical practices.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	This unit is built on the framework of the SIOP Model and incorporates all 8 of the SIOP Model components. Sentence framing and precision partnering are instructional strategies, which promote the use and mastery of academic language. Instructional technology is incorporated by teacher and students. The core curriculum is implemented with fidelity. All teachers also actively engage in rigorous questioning that uses the answer as the starting point, requiring students to use evidence and reasoning to justify how they found their answers and why they believe they are correct. A wide variety of algorithms and methods are honored, and process is highly valued. All math instruction grades K-8 explicitly teaches, models, and honors the 8 CCSS mathematical practices: 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning		
Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	Domain: Measurement & Data Cluster: Represent and Interpret Data Standard: #2: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, fill the amount of*		

	liquid each beaker would contain if the total amount in all the beakers was redistributed equally.
Materials/Resources Needed	• 7 Laffy Taffy bags • Poster board and markers • SMART Board • Chromebooks • Data circuit problems • Summative assessments

* ***Standard Number****: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	**Instructional Strategies**	**Student Activities**
1	1. Teacher shares a large bag of Laffy Taffy with the students and asks this question of partnerships: "How could I show how much taffy is in this bag". 2.Teacher shows an interactive illustration of a line plot using coins at: http://www.learner.org/courses/learningmath/data/session5/part_c/index.html. 3. The teacher shows the traditional plot and asks students what is being shown. Once this conversation concludes, the teacher presses 'start' to show the line plot creation from the initial data. Students are then asked to discuss if this new format changes or maintains the data. 4. The teacher will have partners use Chromebooks to convert table data into line plots. 5. The teacher asks students to open Laffy Taffy bags and create both tables and line plots (on poster board) to represent the colors/quantity of taffy in the bag.	1. Students work together with whiteboards to list possible ways to share this data. 2. Students view a line plot interactive and have peer discussions about the representation changes. 3. Using Chromebooks, students will visit the site: http://www.ixl.com/math/grade-5/create-line-plots and actively convert table data into line plots. 4. In pairs, students to open Laffy Taffy bags and create both tables and line plots to represent the colors/quantity of taffy in the bag.
2	1. Teacher facilitates short Laffy Taffy line plot presentations that includes invitations for students to critique/question each other's work. 2. Teacher distributes Chromebooks to student partnerships to convert poster data into spreadsheet/chart data. Teacher offers a quick, spiraled review of Excel and how to insert a chart. Teacher will facilitate the chart sharing to provide multiple models to the class. 3.Teacher shows a short video from Math Planet to introduce students to a stem/leaf plot: http://www.mathplanet.com/education/algebra-2/equations-and-inequalities/line-plots-and-stem-and-leaf-plots 4. Teacher asks students to create stem/leaf plots from their Laffy Taffy data.	1. In pairs, students present their posters/findings to the class and field peer questions/critiques. 2. In pairs, students input their table data into Excel and select a viable chart representation for their data. Students will write a short explanation of the chart they selected and justify its appropriateness. Students will quickly share their charts with the class to provide multiple models. 3. Students watch a short stem/leaf plot video. 4. Students create stem/leaf plots from their Laffy Taffy data.

3	1.Teacher facilitates a data circuit for student pairs. Students rotate through six data stations to look at a variety of visual representations of data (including tables, stem/leaf plots, line plots, bar graphs, and pie charts). 2.Teacher facilitates a 'data analysis debrief' after the stations so that students can share their findings, critique each other's analysis, and revise their thinking.	1. Students write an analysis for the data presented in each of the six data stations. 2. Students participate in a whole-group 'data analysis debrief' during which they offer their own findings and justify them, critique peer work, and revise their own thinking.
4	1. Teacher projects the Laffy Taffy poster of one group for the whole class to use. 2.Teacher asks the question: "How can you express the amount of strawberry Laffy Taffies to the whole bag of candy?" 3. Teacher posts all considerations, but guides students to focus on the concept of # of strawberry / # in the whole bag. 4. Teacher provides a 'fraction lab' questionnaire that guides students to provide 'fractions in a unit' representations for all colors in the bag and color combinations.	1. In a whole-group, students analyze a Laffy Taffy chart to begin thinking about their data as parts of a whole. 2. Students participate in a 'fractions in a unit' introductory conversation as an additional way to think about their Laffy Taffy data. 3. Students work with partners in a 'fraction lab' to practice providing 'fractions in a unity' representations. As a part of this lab, students will make a line plot to display their measurements in fractions of a unit.
5	Teacher provides the summative assessment	Students complete the summative assessment independently.

Summative Assessment Items: *Attach here.* For each summative assessment item, include an answer key or scoring rubric describing how points are to be awarded.

Measurement & Data: Representing & Interpreting Data Quiz

Domain: Measurement and Data

Cluster: Represent and Interpret Data

Standard: Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. *For example, given different measurements of liquid in identical beakers, fill the amount of liquid each beaker would contain if the total amount in all the beakers was redistributed equally.*

Essential Student Question: Can you make a line plot to display data and consider data in fractions of a unit?

1. A group of loggers from a forestry organization cut logs of various sizes for a small building project. The following are the sizes of the logs rounded to the nearest fraction of a yard(s). Order the measurements in from least to greatest.

1¼, 2, ¾, 1¾, 2¼, ¼ _____, _____, _____, _____, _____, _____

2. In preparation to stock a vending machine, the vending machine owner opened and measured a 30-pack variety of Hershey's chocolate candy bars. He measured them in fractions of a foot to the nearest ¼. Create a line plot to display the measurements of the lengths of candy bars from the 30-pack.

½, ½, ¾, ¼, ¾, ½, ¼, ¾,¾, ½, ¼, ¾,¾, ½, ¼, ¾,¾, ½, ¼, ½, ½, ¾,½, ¼, ½, ½, ¾,¼, ¾,¾

3. The table below shows the number of each color of M&M found in a bag of candy. Using the data, create a stem and leaf plot to show the data in the table.

M&M colors	number in bag
Red	10
Green	5
Brown	13
Yellow	6
Blue	12
total M&Ms	**46**

Stem/Leaf Plot for M&M Data

STEM LEAF
0 |

1 |

2 |

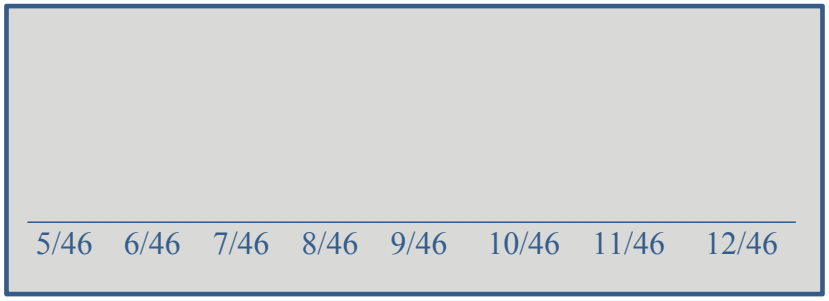
4. Using the M&M data above, what fraction of a unit would best represent the number of green M&Ms in the whole bag?

a. 5/10
b. 5/46
c. 5/6
d. 5/13

5. Using the M&M data above, what fraction of a unit would best represent the number of red and brown M&Ms compared to the amount of candy in the entire bag?
a. 25/26
b. 11/13
c. 23/46
d. 5/6

6. The table below shows the number of each color of M&M found in 3 bags of candy with the exact number of M&Ms in each bag. Using the data, line plot that represents the number of M&Ms in the table.

M&M colors	**Number in bag #1**	**Number in bag #2**	**Number in bag #3**
Red	10/46	10/46	8/46
Green	12/46	8/46	10/46
Brown	8/46	9/46	8/46
Yellow	5/46	7/46	9/46
Blue	11/46	12/46	11/46
total M&Ms	**46**	**46**	**46**



7. Your teacher holds an attendance contest for the 20 school days in August, and the results for the top ten attenders are: 20/20, 20/20, 20/20, 20/20, 20/20, 19/20, 19/20, 19/20, 19/20 and 18/20. Create a line plot that displays these results:

Measurement & Data: Representing & Interpreting Data Answer Key

1. ¼, ¾, 1¼, 1¾, 2, 2¼

2. ~~½, ½, ¾, ¼, ¾, ½, ¼, ¾,¾, ½, ¼, ¾,¾, ½, ¼, ¾,¾, ½, ¼, ½, ½, ¾,½, ¼, ½, ½, ¾,¼, ¾,¾~~

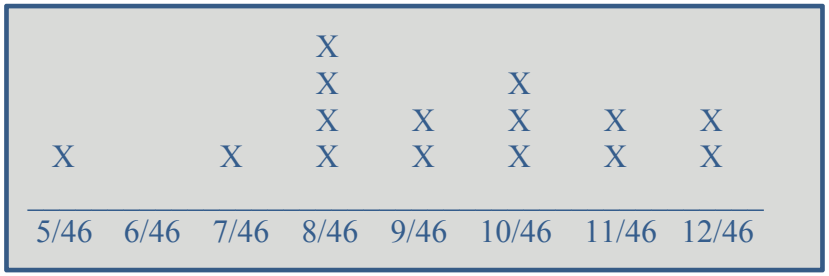
3.

Stem/Leaf Plot for M&M Data

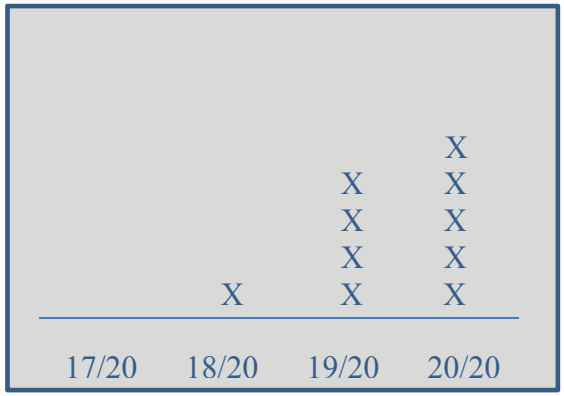
STEM	LEAF
0	5, 6
1	0, 3, 2
2	

4. B
5. C

6.



7.



Measurement & Data: Representing & Interpreting Data Scoring Guide

7 questions weighted at 1 point each = **7 points total**

Points earned

_____7_____ X 100 **=** _____total points earned (out of the 100 points possible)

The 100 points possible assessment will reflect the school's grading scale:

90 -100 = A – Mastery

80 – 89 = B - Mastery

70 – 79 = C – Needs Screening for Remediation

60 – 69 = D – Needs Remediation

0 – 59 = F – Needs Intensive Remediation