Curriculum Sample Template
Max. 8 Pages

Grade Level	8th Grade	**Content Area**	Math
Course Title (grades 9-12 Only)	Mathematics 8		
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 are practiced in the experimental format of Connected Math.		
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.		
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: Statistics & Probability Cluster: Investigate patterns of association in bivariate data Standard: #2: Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.		
Materials/Resources Needed	• Connected Math: Samples & Populations, Data & Statistics Workbooks • Vocabulary journals • Student requested data (Day 2) • 30 tape measures • Document camera		

* ***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	Vocabulary: **positive relationship** **negative relationship** **scatter plot** 1. Start with an inquiry: The higher the students grade in this class, the better his/her _____. 2. Collect data requests from students.	1. Students add vocabulary definitions, pictures, and sentences/examples into their vocabulary journals. 2. In pairs, students will create hypothesis for the inquiry question. When they are done, they will participate in a class brainstorm and discussion . . . then the whole class will vote on their strongest three hypothesis.
2	1. Teacher will distribute phantom student data (in a data chart) that provides the information agreed upon by the class the prior day. 2. Teacher will guide students as they work in pairs to graph the chart data.	1. In pairs, students will review the data provided by the teacher and work in their partnership to graph it. 2. Pairs of students will determine whether the data they have collected has a positive or negative relationship 3. Three pairs will be selected to present their findings to the whole group, model, and field questions.
3	1. When students arrive, have an unlabeled scatter plot projected. Prompt the students to talk for 3-4 minutes about what the chart could be representing (in this positive relationship example, daily temperature and beach visitors). Let students share their ideas. At the end, give the labels. 2. Launch Investigation 4.2 in Connected Math: Samples and Populations. 3. Facilitate the measurement activity.	1. Make conjectures about the sources of scatterplot data. Evaluate their conjectures against the actual data representations. 2. In teams of 4, students will create a scatter plot for the class of height and arm span. 3. Students will summarize their data in a graph.
4	1. When students arrive, have an unlabeled scatter plot projected. Prompt the students to talk for 3-4 minutes about what the chart could be representing (in this negative relationship example, number of donuts sold and cost per donut). Let students share their ideas. At the end, give the labels. 2. Launch Investigation 4.3 in Connected Math: Samples	1. Make conjectures about the sources of scatterplot data. Evaluate the reasonability of their (and others') conjectures against the actual data representations. 2. In pairs, students will explore the relationship between safe water and life expectancies for several different countries. 3. In pairs, students will complete problems A1-3 and B1-3.

	and Populations. 3. Facilitate the activity. 4. Teacher will lead a whole-group debriefing during which students will compare and contrast their findings between Days 3 and 4.	4. Students will summarize their data from a box and whisker plot. 5. Students will compare today's data to yesterday's.
5	1. When students arrive, have an unlabeled scatter plot projected for which no line can be determined. Prompt the students to talk for 3-4 minutes about what the chart could be representing Let students share their ideas. At the end, give the labels. 2. Teacher will facilitate the summative assessment.	1. Make conjectures about the sources of scatterplot data. Evaluate the reasonability of their (and others') 2. Students complete the summative assessment.

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

Data Patterns Quiz Scoring Guide:

10 questions weighted at 1 point each **10 points total**

Raw score_____X = ____10_____/100 points

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

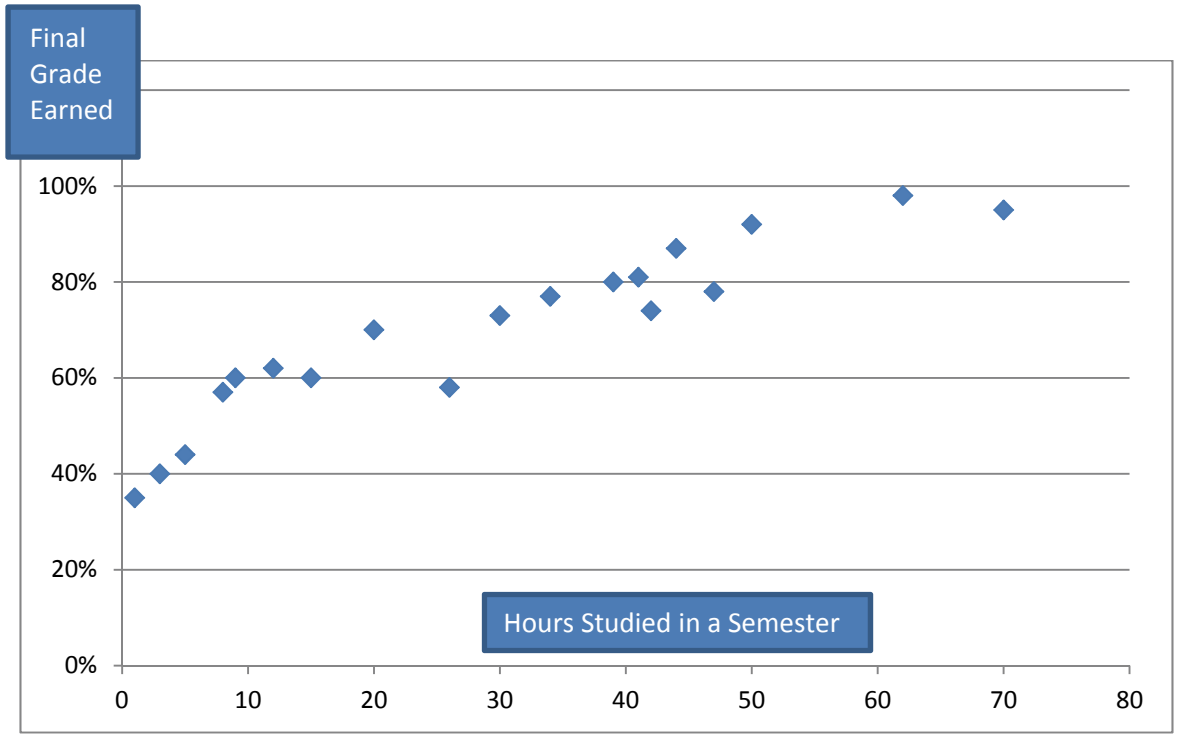
Data Patterns Quiz

Domain: Statistics and Probability

Cluster: Investigate patterns of association in bivariate data

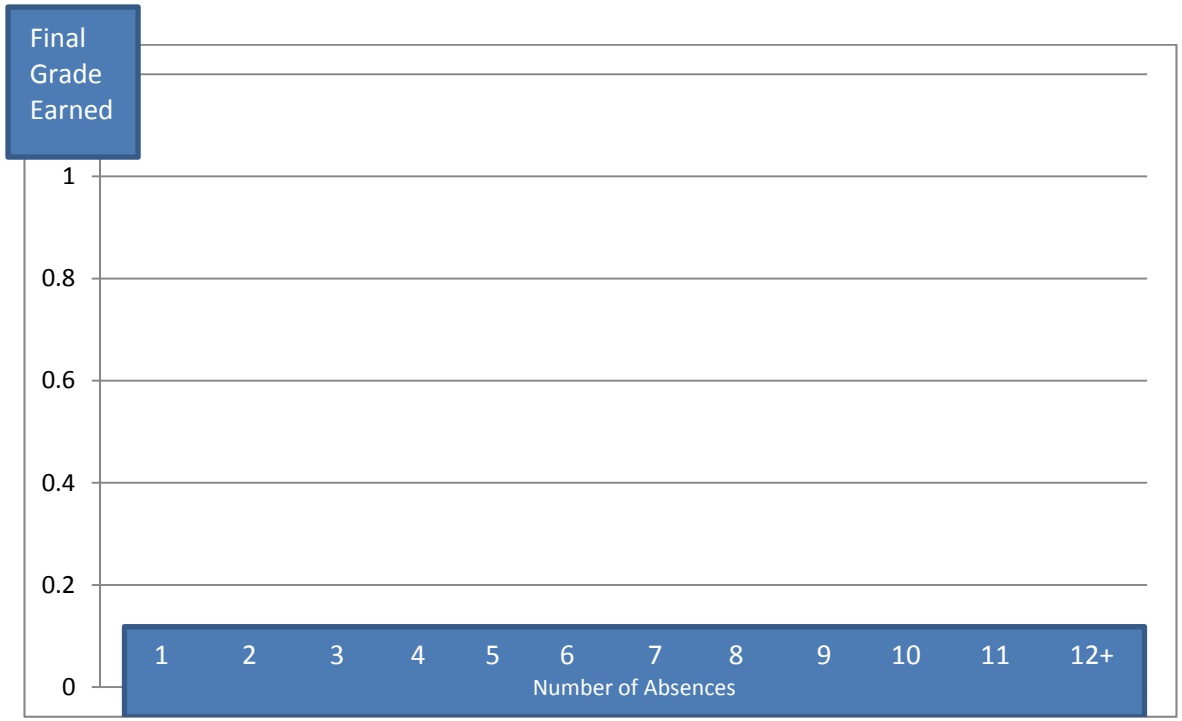
Standard: Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

Essential Student Question: Can you identify the relationship between two things represented by lines and 'fit' a line into a scatter plot?



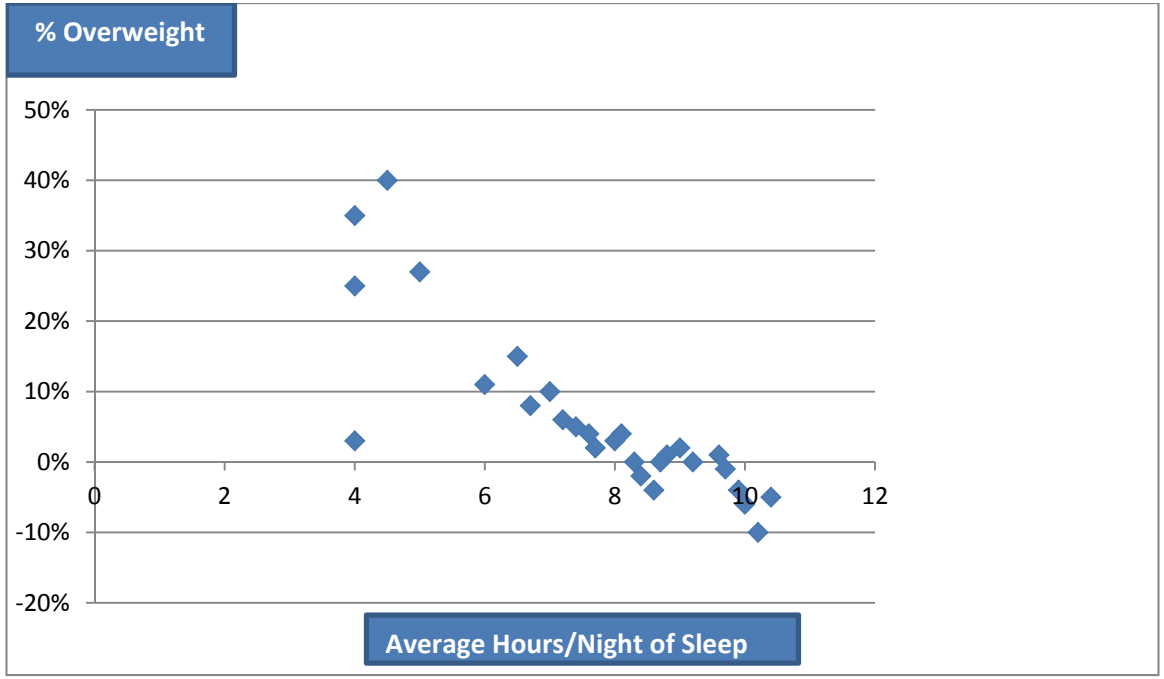
1. Which statement best describes the relationship depicted in the scatterplot above?
   a. There is a strong positive relationship between study hours and final grades.
   b. There is a weak positive relationship between study hours and final grades.
   c. There is a strong negative relationship between study hours and final grades.
   d. There is a weak negative relationship between study hours and final grades.

2. Draw a line (right on the graph above) to represent a linear relationship that best fits into the scatterplot.



3. On the graph above, draw a line that you believe would best represent the relationship between final grades and student absences.

4.Explain the line that you drew below, and discuss what it represents:

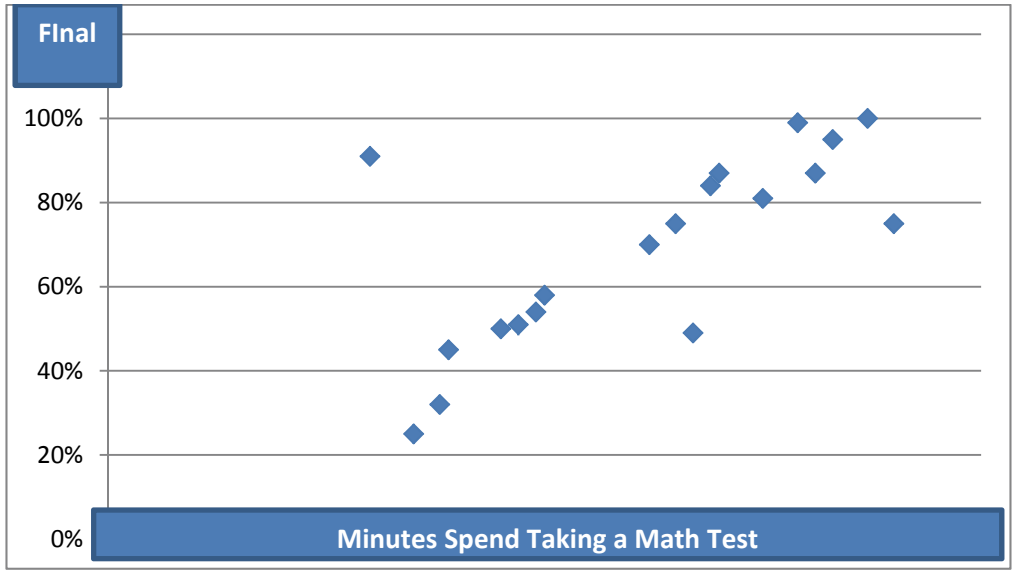


5.What statement best describes the relationship represented by the scatterplot above?
a. There is a strong positive relationship between obesity and sleep deprivation.
b. There is a weak positive relationship between obesity and sleep deprivation.
c. There is a strong negative relationship between obesity and sleep opportunity.
d. There is a weak negative relationship between obesity and sleep opportunity.

6.Draw a line (right on the graph above) that best represents the linear relationship displayed by the plots above.

7.What might be a reasonable explanation for the data above?
a. Obesity in children has been linked to too much sleeping and sedentary behavior.
b. Active, energetic kids are less likely to be overweight.
c. Lack of sleep impacts hormones that control metabolism in children.
d. Overweight children are often exposed to foods that are high in calories and fat.

8. If you had to write the title for a magazine article that discussed the above graph, what might it be?
a. Obese Children Starved for Sleep
b. Wake Up and Stop Childhood Obesity
c. The Under-Sleeping Epidemic
d. The Power of Sleep for Children

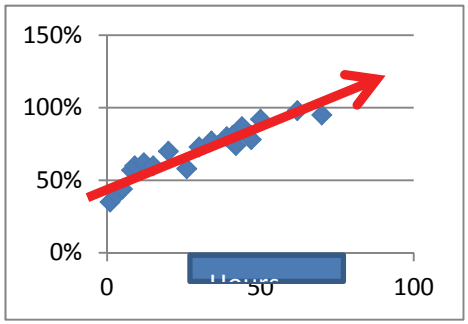


9. On the above chart, what statement best fits the plotted data?
a. Smart students who finish early get higher grades.
b. There is no clear correlation between grades earned and time spent.
c. Students who took longer to test performed better.
d. Students who took longer to test performed worse.

10. What might be the best reasonable explanation that supports the data above?
a. Students who took less time made the long test takers more confident.
b. Students who took longer checked their work to avoid careless mistakes.
b. Students who took less time knew the material better.
c. Students who took longer struggled with the material.

ANSWER KEY:

1. A

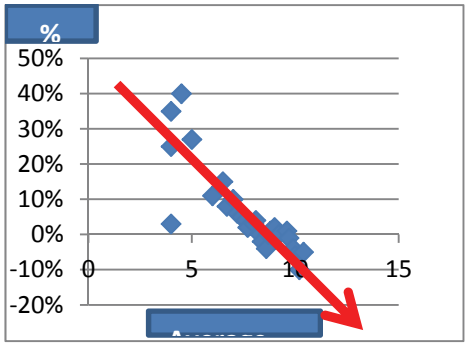


2.

3.

4. The description should state that there is a negative correlation because the grade would actually decrease as the absences increase.

5. C



6.

7. C

8. A

9. C

10. B