



WEST SHORE SCHOOL DISTRICT

Prob/Stats Learning Module 1

Title of Module	Data Collection	Grade Level	9-12
Curriculum Area	Mathematics	Time Frame	5 days

Desired Results

Best 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 (Deductive Reasoning)
8. Look for and express regularity in repeated reasoning.

Transfer Goals

Students will be able to independently use their learning to...

- Connect old problem solving techniques to new curriculum.
- Connect new material to real world applications.
- Create viable mathematical arguments and use them to critique the arguments of fellow classmates.

Key Learnings/Big Ideas

Students will learn the general methods of data collection. Furthermore, they will organize that data into levels of measurement.

Content and Reading and Writing Standards

CC.2.4.HS.B.1

Summarize, represent, and interpret data on a single count or measurement variable.

CC.2.4.HS.B.2

Summarize, represent, and interpret data on two categorical and quantitative variables.

CC.2.4.HS.B.5

Make inferences and justify conclusions based on sample surveys, experiments, and observational studies.

Essential Questions

Vocabulary (Best Practices)

Utilize concepts & competencies to add to vocabulary

<p>Unit EQ: Why is it important to be able to collect and organize data?</p> <p>LEQ:</p> <ol style="list-style-type: none"> 1. What methods are used to collect data? 2. How can data be organized? 3. What is the difference between descriptive statistics and inferential statistics? 4. What is a confounding variable and can it be limited? 	<p>random variable qualitative variable quantitative variable discrete continuous dependent variable confounding variable nominal, interval ordinal, ratio</p>
<p>Concepts Students will know...</p>	<p>Skills/Competencies (I Can...) Based on LEQs Students will be able to...</p>
<ol style="list-style-type: none"> 1. The concept of a variable in a study. 2. The difference between an independent variable and a dependent variable. 3. The manner in which variables are measured and organized. 4. The difference between a discrete variable and a continuous variable. 5. The difference between an observational study and an experimental study. 	<ol style="list-style-type: none"> 1. I can recognize variables in a study. 2. I can identify the difference between an independent and dependent variable. 3. I can effectively organize the variables depending on the type of variable being studied. 4. I can recognize the difference between an observational study and an experimental study.

Assessment Evidence

Formative Assessment

Questioning, Think Pair Share, Graphic Organizers, Find Someone Who Can, Visual Representations

Summative Assessment

Common Assessments

Best Instructional Practices

Subject Specific Best Practices (example: Science Processes)

DO NOT DO- Dr. Whye will fill this in...

Extended Thinking

Summarizing

Vocabulary in Context

Advance Organizers

Non-verbal Representation

Integration of Webb's Depth (examples)

Integration of 21st Century Skills (examples)

Reading and writing across disciplines (examples)

Differentiated options (examples)

Resources

Student	Teacher

Adapted from Wiggins, Grant and J. Mc Tighe. (1998). Understanding by Design, Association for Supervision and Curriculum Development, ISBN # 0-87120-313-8 (ppk)