

UNIT OF STUDY

Title: “One Mean Tendency” (Unit 13) Subject/Course: Integrated Algebra B Part 1 Length: 2½ weeks	
Topic: Line of Best Fit / Central Tendencies Grade: 9 Designer: Foresee/ Phipps	
UNIT GOALS AND EXPECTATIONS	
IMPORTANT CONCEPTS/UNDERSTANDINGS: <ul style="list-style-type: none"> Find the Domain and Range of Functions Correlations determines the relationship between data points The average data is represented by the line of best fit in a linear function Linear inequalities are solved in the same manner as equations Inequalities have infinite number of solutions Central Tendencies help to understand the trend of a set of data The type of line on a graph of a linear inequality is determined by the symbol 	ESSENTIAL QUESTIONS: <ul style="list-style-type: none"> What is domain and range? What are the four types of correlation? How are trend line and line of best fit related? What is the difference between equations and inequalities? How do the central tendencies show the trend of the data? How does the symbol of an inequality relate to the graph? How can the solutions of an equation be used to solve a related inequality?
STUDENT LEARNING EXPECTATIONS: <ul style="list-style-type: none"> LF.3.AI.2 Determine <i>domain</i> and <i>range</i> of a relation from an algebraic expression, graphs, set of ordered pairs, or table of data LF.3.AI.4 Identify <i>independent variables</i> and <i>dependent variables</i> in various representational modes: words, symbols, and/or graph DIP.5.AI.1 Construct and use <i>scatter plots</i> and <i>line of best fit</i> to make <i>inferences</i> in real life situations 	<ul style="list-style-type: none"> SEI.2.AI.1 Solve multi-step equations and inequalities with rational <i>coefficients</i> <ul style="list-style-type: none"> numerically (from a table or guess and check) algebraically (including the use of manipulatives) graphically technologically DIP.5.AI.4 Determine the effects of changes in the data set on the measures of <i>central tendency</i> DIP.5.AI.10 Communicate real world problems graphically, algebraically, numerically and verbally
SPECIFIC DECLARATIVE KNOWLEDGE – What I know Vocabulary: <ul style="list-style-type: none"> coordinate systems correlation coefficient inequalities line of best fit mean median midrange mode parallel lines scatter plot stem and leaf trend line domain range series 	SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do <ul style="list-style-type: none"> Find the domain and range of functions Find terms in an arithmetic sequence Find the independent and dependent variables Determine the type of correlation represented in a scatter plot Sketch the trend line of data Find the line of best fit and extrapolate or interpolate Find the correlation coefficient Solve linear inequalities Solve real world problems involving inequalities Determine if coordinates are solutions to inequalities Graph linear inequalities in a variety of forms Find and compare the measures of central tendencies Estimate the slope and y-intercept of the line of best fit from a scatter plot.
UNIT ASSESSMENTS	

(Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)

- 1 Line of best fit activity over data collected during class
- 1 Central tendencies activity over data collected during class
- 1 Open Response prompts requiring students to interpret graphs, slopes, & equations of functions
- 1 Open Response prompt requiring students write equation in slope-intercept form
- 1 Open Response prompt requiring students to write equations in standard form and graph
- 1 Open Response prompt requiring students to find line of best fit and predict

Traditional Assessments:

- Multiple Choice Quizzes over: series, independent and dependent variables, domain and range, correlation, line of best fit, solving and graphing inequalities, and measures of central tendencies
- Unit Test over each topic mentioned above
- Matching Test over Unit Vocabulary
- Warm up Quizzes

Other Evidence of Learning:

- Daily Informal Assessment via In-Class Teacher Questioning & Observation
- Nightly "Homelearning"

ACTIVITIES AND LEARNING EXPERIENCES

- Use the 4-Step Vocabulary process to introduce key words from the unit
- 4-Step Vocabulary Group Work
- Data Collection Line of Best Fit Activity (students will collect data, make & interpret scatter plots, and create line of best fit to extrapolate)
- Oral Presentation of Project
- Individual Practice Worksheets
- Guided Practice Worksheets
- Use Class Surveys to interpret central tendencies among data

Resources

- 4-Step Vocabulary Worksheet
- Vocabulary List
- Project Rubric
- Mastery Math Material
- Rulers
- Stop watches
- Extra paper
- Checkers/ Coins

Career Connections

Sports statistician, Budget planning, Accountant, Consultant, Brokers, Teacher