Mini Unit ch. 10:

Learning Targets and Success Criteria:

1. I can determine if re-expression is a viable option to make a scatter plot straighter.
   I know I can because:

   o I can look at a residual plot to see if there is a curved pattern or a fan pattern and know that these can be straightened with re-expression.
   o I can identify cyclical patterns that increase, decrease, and increase repeatedly and know that re-expression cannot help these relationships.

2. I can calculate a predicted response using a linear model for a re-expressed data set.
   I know I can because:

   o I can plug in values for x.
   o I can use the appropriate inverse operation to "undo" the re-expression such as:
      ➔ Squaring squareroots
      ➔ 10-ing logarithms
      ➔ e-ing natural logarithms (ln)
      ➔ using -1 power for reciprocals
   o I can identify extrapolation and understand that these predicted values cannot be trusted.

3. I can write an appropriate model for re-expressed data.
   I know I can because:

   o I can use the calculator to try various re-expressions such as:
      ➔ squareroot(y)
      ➔ log y or ln y
      ➔ 1/y
      ➔ 1/squareroot(y)
      ➔ log x & log y

   o I can check the residual plots for each of these re-expressions to determine which one makes the scatterplot the most straight.
   o I can use the y-intercept and slope of the re-expressed data to write the linear model making sure I include the re-expression in the equation.

Day 1
Re-expressing Data

Standard: Exploring 2-Variable Data (5% - 7% of AP Exam)

Learning Target(s) & Success Criteria: #'s 1, 2, & 3 (see above)

Activator

Daily 10

<u>Direct Instruction</u>, <u>Guided Practice</u>, <u>Practice/Differentiation</u>:

Ch.10 Notes Guided Packet

<u>Summarizers</u>:

Selected Problems from Handout

<u>Homework</u>:

View Video in Google Classroom and complete p. 239 #'s 2-12 even

Day 2
Re-expressing Data

<u>Standard</u>: Exploring 2-Variable Data (5% - 7% of AP Exam)

<u>Learning Target(s) & Success Criteria:</u> #'s 1, 2, & 3 (see above)

<u>Activator</u>

Daily 10

<u>Direct Instruction</u>, <u>Guided Practice</u>, <u>Practice/Differentiation</u>:

Models Class Activity

<u>Summarizers</u>:

Selected Problems from Handout

<u>Homework</u>:

Re-espression HW 1

Day 3
Re-expressing Data

<u>Standard</u>: Exploring 2-Variable Data (5% - 7% of AP Exam)

<u>Learning Target(s) & Success Criteria:</u> #'s 1, 2, & 3 (see above)

<u>Activator</u>

Daily 10

<u>Direct Instruction</u>, <u>Guided Practice</u>, <u>Practice/Differentiation</u>:

Mini M&M Reexpression Lab

<u>Summarizers</u>:

Selected Problems from Handout

<u>Homework</u>:

Re-espression HW 2

<u>Day 4</u>
Re-expressing Data

<u>Standard</u>: Exploring 2-Variable Data (5% - 7% of AP Exam)

<u>Learning Target(s) & Success Criteria:</u> #'s 1, 2, & 3 (see above)

<u>Activator</u>

Daily 10

<u>Direct Instruction</u>, <u>Guided Practice</u>, <u>Practice/Differentiation</u>:

Re-expression Test Review's 1 & 2

<u>Summarizers</u>:

Selected Problems from Handout

<u>Homework</u>:

Finish Reviews and STUDY FOR TEST

<u>Day 5</u>
Re-expressing Data

<u>Standard</u>: Exploring 2-Variable Data (5% - 7% of AP Exam)

<u>Learning Target(s) & Success Criteria:</u> #'s 1, 2, & 3 (see above)

<u>Activator</u>

Daily 10

<u>Direct Instruction</u>, <u>Guided Practice</u>, <u>Practice/Differentiation</u>:

Re-expression Test (Mini Unit Ch. 10)

<u>Summarizers</u>:

Selected Problems from Handout

<u>Homework</u>:

Have a Happy Thanksgiving!