Name: Garfield Taylor
Grade level(s)/Subject taught: 7 grade / Math
Objectives: *What is mean and median? Using the TI calculator the students find the mean and median of 10 students birth month. A chronological graph models the students birth month.*

1. *Write* the Mathematical Concept or "key idea" that TI Technologies will be used to teach: (e.g. Students use mathematical modeling/ multiple representation to provide a means of presenting, interpreting, communicating, and connecting mathematical information and relationships)

Using TI calculator, I plan on having my students…: The TI calculator is used to model the 10 students birth months and show how many students share the same birth month. The TI calculator models the data creating a step chart. The step chart is shown to mimic the 10 student positions as they stood by chronological order with same birth month behind each other.   The students uses the TI calculator STAT button, CALC then 1-Var Stat menu. These buttons access mean, median, mode and standard deviation calculations. The math-7 grade concerns is the first 3.

APK: 5-10 min
At the start of class do the following problems:
1) Evaluate the following
$(1+2+3+4+5+6) / 6 = 3.5$

2) Find the middle number for the following sequence 1,2,3,4,5,6,7. 4

Mini Lesson: 10-15
1) What is the mean?
mean the numerical average of a set of numbers. Calculate the *mean* by adding all the numbers and dividing the total by how many numbers there are.
For example, given three numbers a, b, and c: The average is the following:

$$\frac{a + b + c}{3}$$

2) What is median?
median the number that is greater than or equal to one half of the data in a set and less than or equal to the other half of the data. Find the *median* by sorting the data in numerical order and looking for the element in the middle if there are an *odd* number of elements.
For example, the *median* of { 1, 2, 3 } is 2.

If there are an *even* number of elements, take the mean of the two middle terms.
For example, the *median* of { 1, 2, 3, 4 } is 2+3 / 2 or 2½.

Work Time: 45min
10 students are given post-Its. Each of the 10 student marks their birthday month on the post-It. The students with post-Its are called forward to stand in chronological order.   The students that have the same birth month stand behind each other.

The instructor place students' birthdays on board by month. The instructor at the same time constructs a table with 2 column, legend with titles Month and Number of Students. The 10 students are asked to go back to their seats. The instructor makes sure that at least 1 birth has multiple student birthdays, use more students if needed. The instructor creates a simple chronological graph from students standing together by month.

The TI calculator is used to model the 10 student birth months and show how many students share the same birth month. The TI calculator models the data creating a step chart. The step chart is shown to mimic the 10 student positions as they stood by chronological order with same birth month behind each other.   The students use the TI calculator 2nd, STAT (list) button, to input the 10 data months in L2. L1 list table the students create a sequence from 1 to 10.

Prepare the static graph table for dependent and independent variable legend setup.   Use the 2nd, "Y=" (plot stat) button to access the STAT PLOTs menu. Press the enter button to toggle on the PLOT 1 option.

The students use the TI calculator STAT button, then the CALC menu.   The '1-Var Stat' 2nd L1,L2 operation is used to determine the mean, median.

Essential question = 5min
What is the mean? Is an average found by adding all items and dividing by the sum of the items.
What is the median? Is the center value of all items when their in sequential order.

Closure: The consensus to the essential question

Assessment: Ticket to leave class is a quiz based on connecting (word) math example: 15 min
The temperature changed from -18 to -36 degrees from Monday at noon through Thursday at noon. On average, how many degrees per day did the temperature change?

Solution:
The temperature changed $-36 - (-18) = -18$ degrees.
Tues, Weds, Thurs. are three days. Therefore, the temperature changed $-18 / 3 = -6$ degrees each day.

Rubric:

Target	Acceptable	Points
Model *uses at least 5 functions* of TI for class assignment.	STAT edit; STAT calc; 2nd STAT plot (at Y= button), then PLOT1 toggling on/off, and Xlist/Ylist?	3
Model of the number line	To determine -18 degrees for the change	3
Understanding how to count the days of week	Show to partner(s) in group how to count the 3 days from Mon 12pm to Thursday at 12pm	1
Student is very capable of *describing the model to a small group of peers* and is able to respond meaningfully to questions about the model.	Show that the average is same as the mean. The number of days is the total number of elements in this question.	3