

Color coding Key:**Answers**

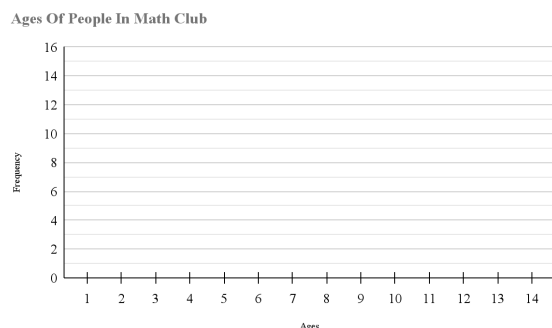
Teacher speaking

*Teacher's directions and guidance***PAGE 1-2: 20 minutes****TG: Advanced Statistics**

It's time for stats! Statistics is a very useful branch of mathematics. A part of statistics is gathering data. This can be done through a survey! Another part is the analysis, which uses math.

Let's gather some data first!

Conduct a survey of the math club students by having them raise their hands. Graph minimized below:

**Review terms:**

Ask to see if students can define it, if not, give them a refresher.

Mean: $\frac{\text{sum of all data points}}{\text{\# of data points}}$. *Clearly say/make sure a kid says this aloud.*

Median: **the value in the middle of the data set when ordered increasingly.** *Clearly say/make sure a kid says this aloud.*

New terms:

First ask to see if students can define it.

IQR: Q3-Q1

Show them how to find Q1 and Q3 (medians of lower and upper halves of data).

MAD: $\frac{\text{sum of all } |\text{mean} - \text{data point}|}{\text{\# of data points}}$

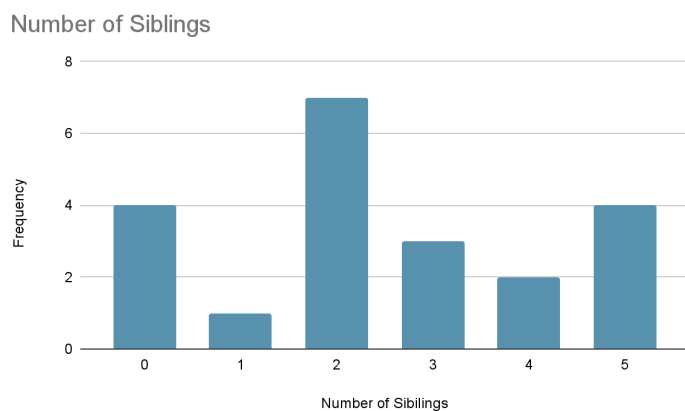
Clearly say that it is determined by the mean of how far every value is from the original mean.

Say that both of these are measures of spread. Higher IQR and MAD means more spread data.

PAGE 3: 5-10 minutes

Final graph! It has already been filled out for you!

Tell kids the data is already there, they just need to find the outliers, mean, median, mode. For MAD, tell them to round to 2 decimals:



Now find each value from the data given above:

Mean: 2.5

Median: 2

IQR: 2

MAD: ~1.34