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| Date:  | Duration of Lesson: 30 minutes |
| Title of Unit: Statistical Reasoning | Title of Lesson: Find the Median |
| Lesson Objectives: Students will use their understanding of place value, ordering and magnitude to find the median of a data set. |
| Groupings: any arrangement  |
| Skills & Standards: [CCSS.MATH.CONTENT.6.SP.B.5.C](http://www.corestandards.org/Math/Content/6/SP/B/5/c/) Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered. |
| **Progression of Learning & Teaching** |
| Opener: | Show a photo of a [median divider](https://epg.modot.org/files/b/be/231.1_Photo2_Barrier_Median.jpg), the local Intermediate School and size medium shirt. Focus on discourse that elicits same/different/what do you notice? What do these things have in common in the language? The goal of this activity is for students to derive the definition of median Mid/med= middle  | **Points to Remember**Model and expect conventions of notation for data sets. $$\left(4,6,3,2,8\right) reordered as a data set for median $$$$\left(2,3,4,6,8\right)$$ |
| Activities & Tasks: | 1. Distribute a set of numerical cards for students to analyze and order *(note this lesson uses odd quantities in data sets- next lesson addresses median calculation with even quantities in data sets)*.
2. Invite them to analyze and describe their data. Focus on mean, mode and range from previous lessons. Challenge them to find the middle/median of their data set.
3. Invite them to justify their thinking using reasoning and appropriate language.
 | Resources: See below for possible set of number cards (copy and paste table into word document to add other numbers)Key Vocabulary: Data: factual information (such as measurements or statistics) used as a basis for reasoning, discussion, or calculationMean: The mean is the same as the average. Add up a series of numbers and divide the sum by the total number of values to find the mean.Median: The median is the "middle value" in a series of numbers ordered from least to greatest. When the total number of values in a list is odd, the median is the middle entry. When the total number of values in a list is even, the median is equal to the sum of the two middle numbers divided by two.Mode: The mode in a list of numbers are the values that occur most frequently.Range**:** The difference between the maximum and minimum values of a data setMeasure of Central Tendency: numbers that describe what is average or typical within a distribution of dataMonitoring/Scaffolding:* Consider students’ math ability with respect to adding/dividing. Are calculators needed or should the data sets be adjusted so the focus is on the concept not on their math skills?
* Remind students to refer to anchor charts and data sets and notes from previous lessons.
* Students will be using card decks of numbers that can be moved and reordered.
* Card deck sizes and magnitude of number can be customized to students’ needs. This may include fractions, decimals and integers.
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| Level of Cognitive Complexity: | ☐ Creating ✅☐ Evaluating ✅☐ Analyzing✅ | ☐ Applying ✅☐ Understanding ✅☐ Remembering |
| Key questions: | * What would be the median of the set of data? How did you know? Describe the process.
* What if we added some other number cards?
* Why is it important to represent data using measures of central tendency?
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| Closure: | * Students will take another data set and go through the protocol with that set of data. Calculating the median
* Add to the anchor chart the definition of median
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| Next Steps: | * Identify in review of closure if students need additional practice before beginning the even data sets
* Students will be assigned a number card, a specified number of data points and have to create a data set with the assigned number as the median.
* Students will next learn about finding the median when you have an even number of data.
 | **Evidence of Mastery /Criteria for Success:** The evidence of mastery today would be their classwork assignment working independently and their participation. |

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| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
| **11** | **12** | **13** | **14** | **15** | **16** | **17** | **18** | **19** | **20** |
| **21** | **22** | **23** | **24** | **25** | **26** | **27** | **28** | **29** | **30** |
| **31** | **32** | **33** | **34** | **35** | **36** | **37** | **38** | **39** | **40** |
| **41** | **42** | **43** | **44** | **45** | **46** | **47** | **48** | **49** | **50** |
| **51** | **52** | **53** | **54** | **55** | **56** | **57** | **58** | **59** | **60** |
| **61** | **62** | **63** | **64** | **65** | **66** | **67** | **68** | **69** | **70** |
| **71** | **72** | **73** | **74** | **75** | **76** | **77** | **78** | **79** | **80** |