East Wake Middle School Daily Lesson Plan

Teacher: Hall

Lesson Date: May 28th - June 1st

Subject: Math 6

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| **Common Core//Essential Skill Standard(s):** *(What are the skills being taught? Which standards are being specifically addressed in these lessons?*  **6.SP.1** Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in  the answers.  **6.SP.2** Understand that a set of data collected to answer a statistical question has a distribution which can be described by its  center, spread, and overall shape.  **6.SP.3** Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a  measure of variation describes how its values vary with a single number.  **6.SP.4** Display numerical data in plots on a number line, including dot plots, histograms, and box plots.  **6.SP.5** Summarize numerical data sets in relation to their context, such as by:  **a**. Reporting the number of observations.  **b**. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.  **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 pattern  with reference to the context in which the data were gathered.  **d**. Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were  gathered. |
| **The Learning Targets**: (Written in student friendly language)  **Monday:** Holiday/No School  **Tuesday:** SW calculate MAD given a data set.  **Wednesday:** SW calculate MAD given a data set.  **Thursday:** Students will rotate through real world stations and calculate MAD given a data set.  **Friday:** Students will complete the performance task for Unit 13. |
| **Vocabulary:** Analyzing Data, Box Plot, Center, Cluster, Collecting Data, Continuous Data, Data, Discrete Data, Distribution, Dot Plot, Five-Number Summary, Frequency Table, Gap, Histogram, Inter-Quartile Range, Interpreting Data, Interval, Line Plot, Lower Quartile, Maximum Value, Mean, Mean Absolute Deviation, Measures of Center, Measures of Variability, Median, Minimum Value, Mode, Outlier, Peak, Quartiles, Range, Skewed, Spread, Statistics, Summary Statistics, Symmetrical, Upper Quartile, Variability |

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|  |  | Monday | Tuesday | Wednesday | Thursday | Friday |
|  | **Engage**  **Greet students with a handshake at the door.**  **“Good Things”** | ~Teacher Greets Students at the Door with a handshake.  ~T/SW do “Good Things” (sw lead this each day/select student leader for the week) | ~Teacher Greets Students at the Door with a handshake.  ~T/SW do “Good Things” (sw lead this each day/select student leader for the week) | ~Teacher Greets Students at the Door with a handshake.  ~T/SW do “Good Things” (sw lead this each day/select student leader for the week) | ~Teacher Greets Students at the Door with a handshake.  ~T/SW do “Good Things” (sw lead this each day/select student leader for the week) | ~Teacher Greets Students at the Door with a handshake.  ~T/SW do “Good Things” (sw lead this each day/select student leader for the week) |
| 5 min | **Xplore**  **Success Starter:** *(What meaningful and relevant activity will students complete as soon as they enter the classroom?)*  **“Good Things” Teacher determines when this will take place, beginning, middle, or maybe end of class if appropriate.** | SW complete Success Starter “Two Daily Word Problem” which requires them to choose a word problem to explain their thinking using writing weekly.  T/SW do “Good Things”  [Unit 13 Vocabulary](https://drive.google.com/open?id=1VAvcwr-32wTMaq1m0mBvfhQbOpP9PaQggZie3ogdKC4)  [Quarter 4 Week 6 Spiral Review](https://drive.google.com/open?id=1DgoxgDaa_gsp-0viDWzl0rstl-R2oZGV) | SW complete Success Starter “Two Daily Word Problem” which requires them to choose a word problem to explain their thinking using writing weekly.  T/SW do “Good Things” | SW complete Success Starter “Two Daily Word Problem” which requires them to choose a word problem to explain their thinking using writing weekly.  T/SW do “Good Things” | SW complete Success Starter “Two Daily Word Problem” which requires them to choose a word problem to explain their thinking using writing weekly.  T/SW do “Good Things” | SW complete Success Starter “Two Daily Word Problem” which requires them to choose a word problem to explain their thinking using writing weekly.  T/SW do “Good Things” |
| 10 min | **Communicate**  **Whole Group Instruction:** *(Focused lessons [explicit teaching/modeling, strategy demonstration,graphic supports, activate prior knowledge], shared reading, shared writing, video clips, illustrations, discussion, writing process.)* | **Holiday/No School** | TW begin by having students take out their video notes from the night before.  TW model thinking aloud how to solve the problems using “In Class Practice”. (Teacher may choose student leaders to model this section)  [Unit 13 Video 9 Notes](https://drive.google.com/open?id=1A5FkyGbmRp_0lMnYMviCkVTNp_RtTJbj)  TW then have students take out “MAD’’ Notes and displaying “MAD” Powerpoint.  TW work through the powerpoint as a whole class. Making sure to pause for student understanding/ask questions.  SW follow along using the MAD Notes  [MAD Powerpoint](https://drive.google.com/open?id=0B68Rhu0F2PwtOGVCZm5EbzdEUUE) (May Use)  [MAD Student Notes](https://drive.google.com/open?id=0B68Rhu0F2PwtcW4zMEpsQkMwYVU)  Please see additional notes below: If time permits model the problem to give students more exposure. | TW then have students take out their video notes from the previous night.  TW will model/review over the “You Try” section of the notes. (Teacher may select student leaders to share out/model problems)  [Unit 13 Video 10 Notes](https://drive.google.com/open?id=1IBjr0BNwTOnGQaJPyRV5nGbJEy6olFG4)  TW begin the lesson with a review of MAD.  [MAD ppt 2 review](https://drive.google.com/open?id=1BL8JBBiFzUHv_dgazivXgG5nRvcEDLXQ)  SW discuss with their table groups and describe how to find “MAD” and what it means.  (See solution at end of lesson plan) | TW explain to students that today they will be rotating around the room with a partner on a MAD Scavenger Hunt.  TW review classroom expectations/rules for working in stations. (See additional rules on the link below)  TW explain that students will need to rotate through the stations with their partner, but must show all their work individually.  [MAD Scavenger hunt](https://drive.google.com/open?id=1WaFkBgBLS5xSA6gUtspokMuEmtc_uEdz) | TW have students take out the Entrance ticket. (Depending on your class you may have students do this independently or you can review together as a whole class) This will check for understanding before completing the performance task.    [Summary Stats Entrance Ticket](https://drive.google.com/open?id=0B68Rhu0F2PwtQXNCUU0taXQwNUk)  TW then explain that today students will be independently completing a Performance Task to demonstrate the combined knowledge they have learned in Unit 13 in a Real World Scenario..  TW review the directions and rubric as a whole class.  [Unit 13: Collect, Analyze and Display Data Performance Task](https://drive.google.com/a/wcpss.net/file/d/0BzNo4UBREaUbRUZnQVlGSGwwM0U/view?usp=sharing) |
| 25 min | **Empower**  **Group Activity//Small Group Instruction:** (teacher-facilitated group discussion, student learning team activity, re-teaching or intervention) |  | SW continue to work through the powerpoint using their notes.  SW work with a partner on the “Classwork” section on their handouts.  TW select student leaders to share out their answers on the classwork portion and discuss as a whole class. | SW work with a partner to complete MAD Task Cards.  TW rotate through the room to provide assistance where needed and to listen to math discourse.  TW select student leaders to share out answers.  [MAD Task Cards](https://drive.google.com/open?id=0B68Rhu0F2PwtenZfY0xUcmIxMjQ) | SW continue to rotate around the room completing the stations.  Once complete TW select student leaders to share out their answers and discuss as a whole class making sure to use math vocabulary.  [MAD Scavenger hunt](https://drive.google.com/open?id=1WaFkBgBLS5xSA6gUtspokMuEmtc_uEdz) | TW explain that today students will be independently completing a Performance Task to demonstrate the combined knowledge they have learned in Unit 13 in a Real World Scenario..  TW review the directions and rubric as a whole class.  [Unit 13: Collect, Analyze and Display Data Performance Task](https://drive.google.com/a/wcpss.net/file/d/0BzNo4UBREaUbRUZnQVlGSGwwM0U/view?usp=sharing) |
| 10 min | **Independent Practice**: *(individual practice, discussion,)* |  | SW independently complete the MAD Exit Ticket  [MAD Exit Ticket](https://drive.google.com/open?id=0B68Rhu0F2PwtZ0I0N01BbW5MdUU)  **Homework:** SW need to watch Unit 13, Video 10 and complete the homework portion of their notes.    [Unit 13 Video 10](https://www.youtube.com/watch?v=fn1OdbuJSxs)  [Unit 13 Video 10 Notes](https://drive.google.com/open?id=1IBjr0BNwTOnGQaJPyRV5nGbJEy6olFG4) | SW independently complete Evidence 2 on Mastery Connect.  [https://student.masteryconnect.com](https://student.masteryconnect.com/)  **Homework:** SW complete MAD Homework    [MAD Homework](https://drive.google.com/open?id=0B68Rhu0F2PwtS1N6ZC1KY1RGOTQ) | SW independently complete MAD Scavenger Hunt Exit Ticket.  [MAD Scavenger Hunt Exit Ticket](https://drive.google.com/open?id=0B68Rhu0F2PwtZUY1cTIxM0FIbWc)  **Homework:** SW begin working on their Unit 13 Study Guide  Students can work on Khan Academy Assignments too.  SW independently complete Summary Stats Exit Ticket    [Summary Stats Exit Ticket](https://drive.google.com/open?id=0B68Rhu0F2PwtQXNCUU0taXQwNUk) | SW independently complete Unit 13 Performance Task. (Evidence 3)  [Unit 13: Collect, Analyze and Display Data Performance Task](https://drive.google.com/a/wcpss.net/file/d/0BzNo4UBREaUbRUZnQVlGSGwwM0U/view?usp=sharing)  **Homework:** SW complete Unit 13 study guide  [Unit 13 Study Guide](https://drive.google.com/open?id=1PcvfeTZJkqVHWQ4Oen78wLIvYf0S3yLdr68yrFVic-c) |
| less than 5 min | **Launch**  **Evaluate Understanding/Assessment:** *(How will I know if students have achieved today’s objective? Exit ticket, performance task, collaborative google doc, rubric, self and peer assessment, grade cam* |  | MAD Exit Ticket | Evidence 2 on Mastery COnnect | MAD Scavenger Hunt Exit Ticket | Performance Task |
| 29  min | **WIN Time**  **(What I Need)** | This will change daily depending on student needs.  ~Students that need enrichment will work on Khan Academy or Project Based Learning Activity  ~PBL: Book Project  ~Students that need intervention will work with the teacher on that particular skill or Mrs. Huff.  **Notes:** | This will change daily depending on student needs.  ~Students that need enrichment will work on Khan Academy or Project Based Learning Activity  ~PBL: Book Project  ~Students that need intervention will work with the teacher on that particular skill or Mrs. Huff.  **Notes:** | This will change daily depending on student needs.  ~Students that need enrichment will work on Khan Academy or Project Based Learning Activity  ~PBL: Book Project  ~Students that need intervention will work with the teacher on that particular skill or Mrs. Huff.  **Notes:** | This will change daily depending on student needs.  ~Students that need enrichment will work on Khan Academy or Project Based Learning Activity  ~PBL: Book Project  ~Students that need intervention will work with the teacher on that particular skill or Mrs. Huff.  **Notes:** | This will change daily depending on student needs.  ~Students that need enrichment will work on Khan Academy or Project Based Learning Activity  ~PBL: Book Project  ~Students that need intervention will work with the teacher on that particular skill or Mrs. Huff.  **Notes:** |

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| **Enrichment/Extension/Re-teaching/Accommodations:** *How will my lesson satisfy the needs of all learners? How will you scaffold for your EC and or ESL learners?*  Students will be on iReady and Khan Academy for support and remediation on their devices and at home.  Lessons may change depending on student needs and exit tickets  Math 6+ will have SuperStars on Tuesday and Pull Out PBL Activity with Ms. Forrest weekly during WIN Time.  All classes have Remediation done daily during our intervention block. Remediation is based off of student need.  Other classes have an enrichment activity with Ms. Forrest during WIN Time (Algebra Book Project: Digital)  Mrs. Huff pulls students on Wednesday and Thursday during WIN Time in both 1st and 5th Period for remediation of skills needed. |

Note: Students describe the context of the data, using the shape of the data and are able to use this information to determine an appropriate measure of center and measure of variability. The measure of center that a student chooses to describe a data set will depend upon the shape of the data distribution and context of data collection. The mode is the value in the data set that occurs most frequently. The mode is the least frequently used as a measure of center because data sets may not have a mode, may have more than one mode, or the mode may not be descriptive of the data set. The mean is a very common measure of center computed by adding all the numbers in the set and dividing by the number of values. The mean can be affected greatly by a few data points that are very low or very high. In this case, the median or middle value of the data set might be more descriptive. In data sets that are symmetrically distributed, the mean and median will be very close to the same. In data sets that are skewed, the mean and median will be different, with the median frequently providing a better overall description of the data set. Both the interquartile range and the Mean Absolute Deviation are represented by a single numerical value. Higher values represent a greater variability in the data.

Reminder: Mean Absolute Deviation (MAD) describes the variability of the data set by determining the absolute deviation (the distance) of each data piece from the mean and then finding the average of these deviations

IF TIME PERMITS:

TW model and think aloud the following data set:

The following data set represents the size of 9 families:

3, 2, 4, 2, 9, 8, 2, 11, 4.

What is the MAD for this data set?

Wednesday Solution: The mean is 5. The MAD is the average variability of the data set. To find the MAD:

1. Find the deviation from the mean.

2. Find the absolute deviation for each of the values from step 1

3. Find the average of these absolute deviations.

The table below shows these calculations:

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| **Data Value** | **Deviation from Mean** | **Absolute Deviation** |
| 3 | -2 | 2 |
| 2 | -3 | 3 |
| 4 | -1 | 1 |
| 2 | -3 | 3 |
| 9 | 4 | 4 |
| 8 | 3 | 3 |
| 2 | -3 | 3 |
| 11 | 6 | 6 |
| 4 | -1 | 1 |
| MAD | | 26/9 = 2.89 |

This value indicates that on average family size varies 2.89 from the mean of 5.

Can model this problem too if needed:

The following values are the maximum speeds of six roller coasters at Busch Gardens: 57, 71, 89, 65, 40, 80. What is the MAD of the data set? What does it represent in the context of this problem? Why might it be a good idea for Busch Gardens to have roller coasters of varying speeds?

Key: MAD: 13. This is a higher MAD, so it means that the data has a wide variation. The roller coaster speeds are not closely clustered. It is a good idea for Busch Gardens to have roller coasters of varying speeds so they can appeal to many different types of clients (old and young).