# A Note on the 6th Grade Standards: Incorporating Mean Absolute Deviation (MAD)

In the CCSSM, the concept of mean absolute deviation (MAD) is first introduced in sixth grade in standard 6.SP.5c: Summarize numerical data sets in relation to their context, such as by: 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. However, in the Massachusetts Frameworks, MAD is not introduced until seventh grade. The curriculum on Match Fishtank follows the Massachusetts frameworks and therefore does not include MAD in the sixth grade curriculum.

Below is guidance around how to incorporate MAD into the sixth grade curriculum for those educators whose state standards call for it.

| Action | Rationale |
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| Add Lesson 5 from 7th grade Unit 7: Statistics into the 6th grade curriculum. | This seventh-grade lesson introduces the concept of mean absolute deviation as a measure of variability of a data set. It does not assume any prior experience with MAD. |
| Place this lesson after Lesson 9 in the 6th grade curriculum, teaching the lesson as written, excluding Anchor Problem #3. | In Lesson 9 of the sixth grade curriculum, students understand range and interquartile range as measures of spread and variability of a data set. Placing the lesson on MAD after this lesson continues student learning around measures of variability. |
| Include Anchor Problem #3 in the following lesson (current 6th grade Lesson 10) either as an additional Anchor Problem or as part of the Problem Set. | Anchor Problem #3 asks students to consider both the mean and the MAD of two cities and make a decision based on the measures of center and variation. This is aligned with the objective from the following lesson (current Lesson 10) in the sixth grade curriculum. |

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<td>Adapt Anchor Problem #3 in current 6th grade Lesson 10 to include MAD instead of interquartile range. The bottom row of the table becomes:<br><br><table><tr><td></td><td>Plan #1</td><td>Plan #2</td><td>Plan #3</td></tr><tr><td>MAD</td><td>1.84</td><td>0.56</td><td>3.84</td></tr></table></td>
<td>Currently, Lesson 10 does not include any work with MAD. Changing this Anchor Problem allows students to consider what a given MAD tells them about a data set in context.</td>
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<td>Add in additional practice of finding mean absolute deviation in the problem sets for both current 6th grade Lesson 9 and Lesson 10.</td>
<td>Provide students with opportunities to practice finding MAD and to deepen their understanding of it as a measure of variation.</td>
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