UNIT 8 · STANDARD 6.SP.5C

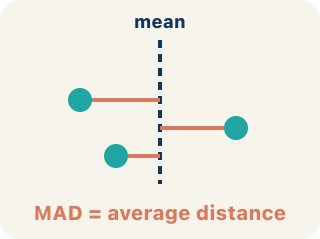
Mean Absolute Deviation

Lesson 8-3

Name: Type your name **Date:** Today's date **Class:** Class period

Key Vocabulary Level 2 Standard

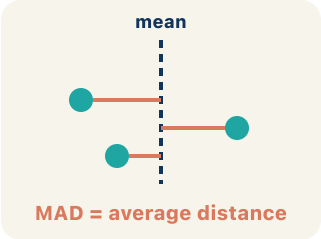
Picture first, then the word, then a plain-language meaning. Say each word out loud.



Data: 8, 10, 12. Mean = 10. Distances from mean: 2, 0, 2. MAD = (2+0+2) ÷ 3 = 1.33

Mean Absolute Deviation

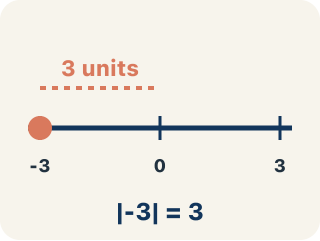
Write the definition:



If mean = 20 and value = 17, deviation = 17 − 20 = −3 (3 below the mean)

Deviation

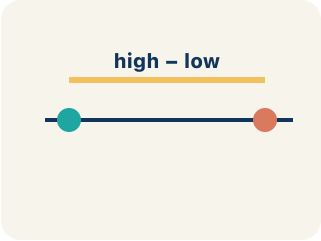
Write the definition:



|−3| = 3 and |3| = 3 — both are 3 units from zero

Absolute Value

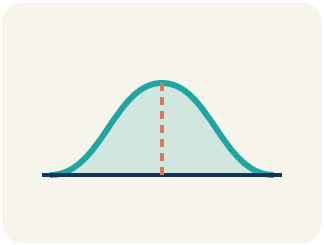
Write the definition:



Low spread: 8, 9, 10, 11 (close together). High spread: 2, 9, 10, 25 (far apart)

Spread

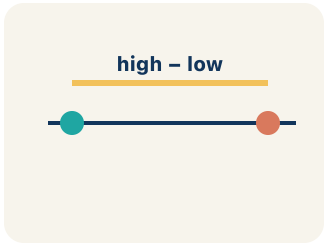
Write the definition:



A set clustered tightly around the mean has low MAD; a set spread far from the mean has high MAD

Data distribution

Write the definition:



Low variability (MAD = 1): very consistent. High variability (MAD = 8): very spread out

Variability

Write the definition:

Guided Notes Level 2 Standard

🎯 **WHAT WE'RE LEARNING TODAY**

I can find the mean absolute deviation (MAD) to describe how spread out data is.

✏️ **Fill in each blank as we go. Use the Word Bank to help you.**

📚 **WORD BANK — FILL EACH BLANK WITH THE BEST WORD**

Mean Absolute Deviation | Deviation | Absolute Value | Spread | Data distribution | Variability

☝️ *Tap any word to see what it means and a picture.*

1. The average distance of each value from the mean is the _____.

2. How far a single value is from the mean is its _____.

3. The distance of a number from zero, always positive, is its _____.

4. How far apart the data values are from each other is the _____.

5. The way data values are spread out is the _____.

6. How much the data values differ is the _____.

🧱 Watch & Try — Worked Examples

See the notes in action: watch one worked all the way through, then try the next with the same steps.

👀 I do — watch

Follow each step as your teacher solves it.

Problem: The mean of a data set is 15. One value is 11. What is the absolute deviation of that value from the mean?

A. 4

B. −4

C. 26

D. 11

Step 1 Deviation = 11 − 15 = −4.

Step 2 Absolute deviation = |−4| = 4.

✅ **Answer:** A. 4

🧩 Try — put the steps in order

Drag the cards (or use the ▲▼ buttons) to put the solution steps in the right order, then press **Check**.

Absolute deviation = |−4| = 4.

Deviation = 11 − 15 = −4.

🤝 We do — together

Solve this one with your class using the same steps.

Problem: A data set has absolute deviations of 3, 1, 5, 2, 4. What is the MAD?

A. 3

B. 5

C. 15

D. 1

Step 1 _____

Step 2 _____

Answer: _____

✏️ **You do — your turn**

Now try one on your own. Show every step.

Problem: The mean of a data set is 20. A value is 26. What is the absolute deviation?

A. 6

B. −6

C. 46

D. 26

Show your work:

Try It

Solve on your own. Check the answer key when you are done.

1. A guard scored 2, 4, 6, 8 points in four scrimmages, so the mean is 5 points. The distances from the mean are 3, 1, 1, 3. What is the mean absolute deviation (MAD)?

A. 1

B. 2

C. 5

D. 8

Show your work:

2. Two shooters average 11 points a game. Shooter A's MAD is 2 points and Shooter B's MAD is 6 points. Which shooter is MORE consistent?

A. Shooter A, because a smaller MAD means scores stay closer to the average

B. Shooter B, because a bigger MAD means a bigger average

C. They are equally consistent because they have the same mean

D. You cannot tell consistency from MAD

Show your work:

Stretch Your Thinking

Level 2 enrichment

Challenge task — explain your reasoning in full sentences.

Two basketball teams both average 75 points per game. Team A's last 5 scores: 73, 76, 74, 77, 75. Team B's last 5 scores: 60, 90, 65, 85, 75. Calculate the MAD for each team and explain which team a coach would prefer if they need predictable scoring.

Sentence starter: Team A's MAD = ____. Team B's MAD = ____. Team A is ____ because ____. A coach would prefer Team ____ for predictable scoring because ____.

Show your work:

Reflect — Exit Ticket

Data set: 4, 8, 6, 10, 2. The mean is 6. What is the MAD?

A. 2.4

B. 6

C. 0

D. 12

Your answer: