

Vocabulary Review Sheet Lesson – Mean, Median, and Mode: School Demographics

How to Use

- Review each vocabulary word before your quiz.
- Connect **math definitions** to **real-world fairness in school representation**.
- Keep this sheet in your *Equity in Numbers Student Journal*.
- Remember: *Statistics help us see patterns — and fairness — that numbers alone can't show.*

Data Set

- **Definition:** A collection of numbers or information to analyze.
- **Math Example:** 12%, 20%, 35%, 38%, 52%.
- **Real-Life Example:** Percentages showing the representation of different student groups in five schools.
- **Fairness Example:** A balanced dataset helps identify whether some schools are more or less inclusive.

Mean (Average)

- **Definition:** The sum of all numbers divided by how many numbers there are.
- **Math Example:**
[(12 + 20 + 35 + 38 + 52) ÷ 5 = 31.4%]
- **Real-Life Example:** The average percentage of Black students across schools.
- **Fairness Example:** The mean gives an overall view — but can hide big differences between schools.

Median

- **Definition:** The middle value when numbers are arranged from least to greatest.

- **Math Example:** For 12%, 20%, 35%, 38%, 52% → **Median = 35%**.
- **Real-Life Example:** The median shows what a “typical” school looks like.
- **Fairness Example:** Median helps us see what’s common without being distorted by extremes.

Mode

- **Definition:** The number that appears most often in a data set.
- **Math Example:** 15%, 20%, 20%, 22%, 30% → **Mode = 20%**.
- **Real-Life Example:** The mode shows the most frequent school representation level.
- **Fairness Example:** Mode reveals what’s most common — even if it’s not fair or balanced.

Range

- **Definition:** The difference between the highest and lowest values in a data set.
- **Math Example:** $(52 - 12 = 40)$.
- **Real-Life Example:** One school has 12% and another 52% — a wide range in representation.
- **Fairness Example:** A large range shows inequality — some schools are far less diverse than others.

Outlier

- **Definition:** A value much higher or lower than the others in a data set.
- **Math Example:** 12%, 20%, 22%, 23%, **52%** → Outlier = 52%.
- **Real-Life Example:** A school that’s much more or less diverse than the rest.
- **Fairness Example:** Outliers can reveal which schools are not reflecting community diversity.

Representation

- **Definition:** How well different groups are included or reflected in a setting.
- **Math Example:** Comparing percentages of different racial or ethnic groups across schools.
- **Real-Life Example:** A district where each school reflects the diversity of the city shows strong representation.
- **Fairness Example:** Representation in data helps ensure equity in access and belonging.

Equity Gap

- **Definition:** The difference between groups or schools showing unequal outcomes or opportunities.
- **Math Example:** School A (12%) vs. School E (52%) → Gap = 40 percentage points.
- **Real-Life Example:** Differences in demographics can indicate where equity work is needed.
- **Fairness Example:** Smaller gaps mean more equal opportunities for all students.

Outlier Impact

- **Definition:** The way extreme values change the mean and distort results.
- **Math Example:** Adding 52% to smaller numbers pulls the mean up, making it higher than most schools.
- **Real-Life Example:** One school with a very high percentage of a group can make averages misleading.
- **Fairness Example:** Outliers remind us to look deeper — averages don't always show the full story.

Distribution

- **Definition:** How data values are spread out or clustered.

- **Math Example:** 12%, 20%, 35%, 38%, 52% → uneven distribution.
- **Real-Life Example:** Some schools have similar percentages, others differ widely.
- **Fairness Example:** Uneven distributions may show imbalance in access or community zoning.

Interpretation

- **Definition:** Explaining what data means in real life.
- **Math Example:** “Mean = 31.4%” means on average, one-third of students in the district are Black.
- **Real-Life Example:** Numbers become meaningful when we connect them to fairness and inclusion.
- **Fairness Example:** Interpretation transforms statistics into stories that drive equity conversations.

Summary of Math + Fairness Connections

Concept	Math Focus	Fairness Connection
Mean	Average of all values	Shows overall representation
Median	Middle value	Represents the “typical” school
Mode	Most frequent value	Highlights the most common experience
Range	Highest – Lowest	Reveals spread in access or diversity
Outlier	Extreme value	Identifies imbalance or isolation
Representation	Inclusion of all groups	Promotes visibility and belonging