Big Idea – Understanding Spread and Variance

Box plots and histograms show how data is distributed across groups, helping us recognize differences in access, opportunity, and outcomes. In schools, these visuals can uncover **performance gaps**—not because students differ in ability, but because access to resources, support, and opportunities isn't always equal. By using math to analyze these patterns, we turn data into a conversation about **fairness, inclusion, and improvement**—ensuring every learner gets what they need to succeed.

Math + Equity Example

Group	Scores	Median
A	70, 72, 74, 76, 78	74
B	55, 60, 62, 65, 68	62

- Group A's scores are clustered higher on the histogram.
- Group B's scores are clustered lower, showing a **12-point gap** between median scores.

This data doesn't assign blame—it sparks insight. It helps teachers, families, and communities ask:
"What supports, resources, and opportunities could close this gap and help all students thrive?"

Equity Connections

Performance gaps often reflect differences in school funding, access to tutoring, family support, or technology. Using data visualizations like **box plots and histograms** helps us spot these trends and guide decisions that create fairness. When educators and communities work together to close gaps, math becomes more than numbers—it becomes a **tool for justice and empowerment.**

Data Reflection

Instructions:
Circle or underline the word that stands out to you most:
fairness | opportunity | access | improvement | inclusion

The word I picked is: _____

I picked this word because:

How does this word connect to what we are learning about performance gaps and educational fairness?

Student Equity Reflections

1. Which group has the higher median score? By how much?

2. What does this data show about differences in access or opportunity?

3. What kinds of supports could help close the gap between the two groups?

4. Why is it important to use data as a tool for equity instead of judgment?