Comparing Data Distributions

Today's Standard

7.SP.B3 - Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable.

Real-World Applications for this Standard

Comparing average test scores between two classes; Analyzing the height differences between different age groups; Evaluating the performance of two different sports teams; Assessing the weight distribution of two different animal species

Today I Learned

Today, we learned how to compare two sets of numbers by looking at how much they overlap and how different their averages are. This helps us understand if one group is really different from another.

Common Stumbling Blocks

Sometimes, kids think that just because one group's average is higher, it means they are very different. But we also have to look at how spread out the numbers are. Another tricky part is mixing up two ways to measure spread: MAD and standard deviation. They are different and used in different ways.

Quiz Me

- What is the mean?
- What does MAD stand for?
- What is a dot plot?
- Why is overlap important?
- What does variability mean?

Help Me

We can use what we learned to compare things like test scores or heights. For example, if one class has an average score that's a bit higher than another, we also need to see how much the scores overlap to understand if the difference is important.