

Instructional Strategies

Ratios

A ratio is a way to compare two values. In math, it is important to give examples. Picking the right example will help keep the students engaged so use relatable examples. For example, in basketball, there are 5 players on the court while in football there are 11 players on the field. This makes the ratio of basketball players to football players 5:11. Explain to the students that ratios can be put into fractions and if there are 5 basketball players to 11 football players, we can write the fraction with either sport on top. It is a good idea to make each student come up with a ratio of their own and turn it into a fraction, which is high on Webb's Depth of Knowledge. If they can come up with their own ratio and understand the concepts, they are ready to progress to proportional reasoning.

Assessment Strategies

Self-Check Assignments

Self-check quizzes can provide frequent feedback for students while helping to manage the grading and feedback workload. Self-assessments are a valuable source of formative feedback. Use a variety of question types, including short answers. Consider allowing students multiple attempts on self-check quizzes. Limit the amount of time students must take the self-check as students may be less likely to look up answers. The self-check will be a better learning experience if you explain why particular answers are incorrect and suggest specific follow-up actions that students can take to reinforce their understanding.

Standards of Mathematical Practices

Look for and express regularity in repeated reasoning

Use repeated reasoning to understand algorithms and make generalizations about patterns. Solve and model problems. They may notice that $a/b \div c/d = ad/bc$ and construct other examples and models that confirm their generalization. Connect place value and their prior work with operations to understand algorithms to fluently divide multi-digit numbers and perform all operations with multi-digit decimals. Create, explain, evaluate, and modify probability models to describe simple and compound events. [Standards of Mathematics Practices](#)



Classroom / Time Management Strategies

5-to-1 Ratio

Five positive interactions to every one negative interaction best supports and sustains constructive student-teacher relationships. Positive interactions may include friendly conversations, specific praise or positive feedback, nonverbal acknowledgment while negative interactions may include criticism or reprimands. The 5-to-1 ratio is meant to improve students' feelings of connectedness and positivity in order to facilitate the classroom experience. It can improve academic engagement and reduce classroom disruptions, simply because the classroom has a more positive climate. [Reference](#)