

Math Strategies for Grades 7-12

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Instructional Strategies

Improving Algebra Knowledge

Encourage students to intentionally choose from alternative algebraic strategies when solving problems.

1. Teach students to recognize and generate strategies for solving problems.
2. Encourage students to articulate the reasoning behind their choice of strategy and the mathematical validity of their strategy when solving problems.
3. Have students evaluate and compare different strategies for solving problems.

Reference: [WWC Algebra](#)

Assessment Strategies

KWL Chart

The KWL chart, what they know (K), what they want to know (W), and what they have learned (L) can be a useful formative assessment. It allows the teacher to identify students' prior knowledge on a particular topic and then gear upcoming lessons based upon this information. When starting a new topic, the KWL chart can be completed by the entire class or individually and added to throughout the unit. Further, a teacher can find out what students have learned at the conclusion of the lessons.

[Download the free printable KWL chart template.](#)



Standards of Mathematical Practices

Attend to Precision

Communicate precisely to others by using clear definitions in discussion with others and in their own reasoning. State the meaning of the symbols they choose, specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. Calculate accurately and efficiently, and express numerical answers with a degree of precision appropriate for the problem context. Examine claims and make explicit use of definitions.

[Standards for Mathematical Practice Grade Level Emphasis*](#)

Classroom / Time Management Strategies

The 4 Questions

When a teacher sees a student not on task or acting out, they need to ask the student the following questions:

1. What are you doing?
2. What are you supposed to be doing?
3. Why aren't you doing?
4. What are you going to do about it?

A question-based approach puts the response on the student. They are not receiving a punishment; they are being granted an opportunity to correct their behavior. There is no judgment in the tone of the questions, which stem from a belief that the student can get themselves on task without help or intervention from a teacher.