

# Math Strategies for Grades 4-6

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## Instructional Strategies

### Develop Mathematical-Language Skills

Just because mathematics involves the manipulating of numbers does not mean that you should forget language skills. Improving language skills can also help improve math skills. Language skills are defined as how well you listen, speak, read, and write. Students can't learn math unless they first listen and read about it. Then, students can't improve at math unless they write and practice problems. Lastly, students need to speak with their peers and teachers to show that they fully understand the math problems. Students internalize vocabulary words—both their definitions and correct usage—through repeated exposures to the words in meaningful contexts. Appropriately facilitated classroom discourse provides the perfect opportunity for students to practice using new vocabulary terms, as well as to restate definitions in their own words. Additionally, since many math concepts build on prior knowledge, classroom discussions allow students to revisit vocabulary words; use them in multiple, varied contexts; and thus keep the terms current.

## Assessment Strategies

### Use Entrance Tickets

Entrance tickets are almost identical to an exit ticket but are used at the beginning of a lesson instead of at the end. Post 1-3 math problems and give the students a few minutes to complete. As they work, circle the classroom to see how the students are approaching the problem. Provide the correct answer or walk through how to solve the problem.

Use entrance tickets when:

- You want to see if students retained previously taught information
- Starting a new topic without a pre-test
- You need students to self-assess

### Which mathematician is right?

There are a variety of ways to analyze errors. This strategy allows students to analyze a peer's work. Students decide whom they think did the problem correctly and explain why they agree and disagree with the students' work. If your students struggle to know why one solution is right and the other isn't, then they might not really get the concept.

## Standards of Mathematical Practices

### Construct Viable Arguments and Critique the Reasoning of Others

- Construct arguments using concrete referents, such as objects, pictures, and drawings.
- Explain their thinking and make connections between models and equations.
- Refine their mathematical communication skills as they participate in mathematical discussions involving questions like "How did you get that?" and "Why is that true?"
- Explain their thinking to others and respond to others' thinking

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



## Classroom / Time Management Strategies

### Rethink Your Classroom Design

There are plenty of ways to arrange desks and tables to best match your teaching style and your students' learning preferences. This allows students to interact with more than just their close circle of friends, and it helps make adjustments based on individual students' needs. Get creative and change the look of your room to maximize your classroom management success. The bonus with middle school students is that you can think a little more creatively since they're old enough to allow for some more unique configurations in terms of desk or table arrangement to promote discussion or group work. But at the same time, they're young enough to be open to working with different students.

The resources listed are provided as options and examples.

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