

Why is making math
visible vertically
important to
students?



Why should students work vertically?

Working on vertical surfaces promotes high quality collaboration and facilitates questions and rich conversations among students.

All research is quoted from Peter Liljedahl's book Building Thinking Classrooms in Mathematics 2021

Why should students work vertically?

Research has shown that when students are presented with challenging tasks and work vertically, they attend to the task more quickly and also spend longer working on the task.

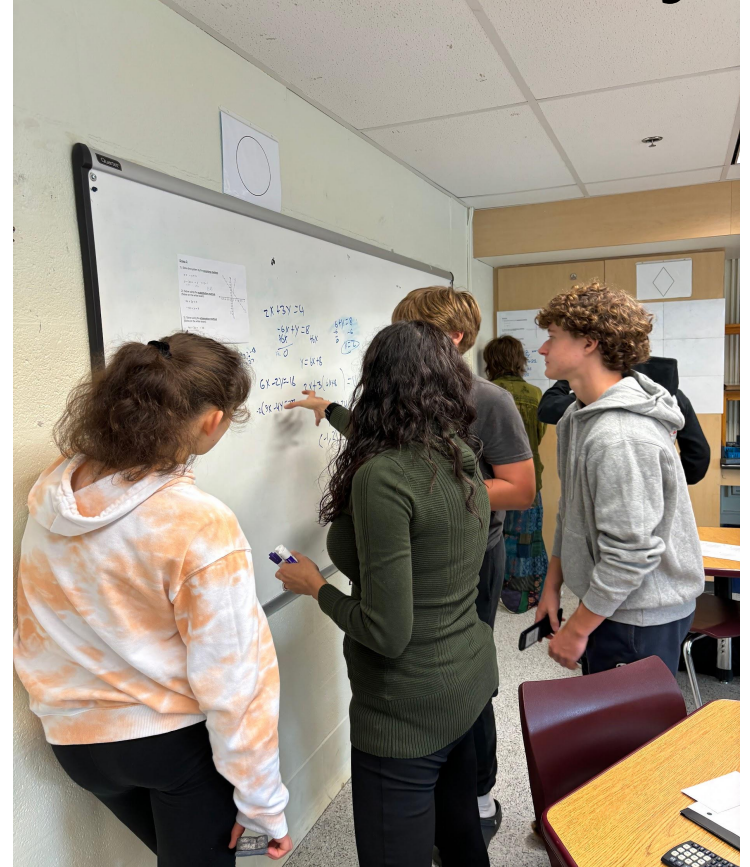
Why should students work vertically?

Working vertically at non-permanent surfaces is low stakes, erasable and allows for rough draft thinking.

Why should students work vertically?

The large surfaces spread out around the room also allow students to see the work their peers are doing in other groups, and build off of each other's understanding.

Making Math Visible Vertically



Vertical Task from Open Middle

Directions: Using the digits 1 to 9 exactly one time each, place a digit in each box to make the sum as close to 1000 as possible.

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Vertical Task more information

Beginning this problem is fairly straightforward. Just place the nine digits in their own box and find the sum. As a result, every person begins with success.

However, you quickly realize that randomly choosing digits won't be effective in the long run and so you have to think strategically by using your conceptual understanding of place value.

For a task like this one, we can say, that it has a very low floor (so that anyone can attempt it) but very high ceiling (so that it can challenge even the most advanced students).

Questions and Feedback

