# What happens in the social, collaborative classroom?

In a social, collaborative classroom, students are sharing what they notice, wonder, think, and can show about mathematics. Instruction designed for social, collaborative learners makes space for multiple strategies and empowers students to articulate and defend (and often revise) their thinking.

$$2(3x+y)+2z=$$
$$2(2y+x)+2z$$
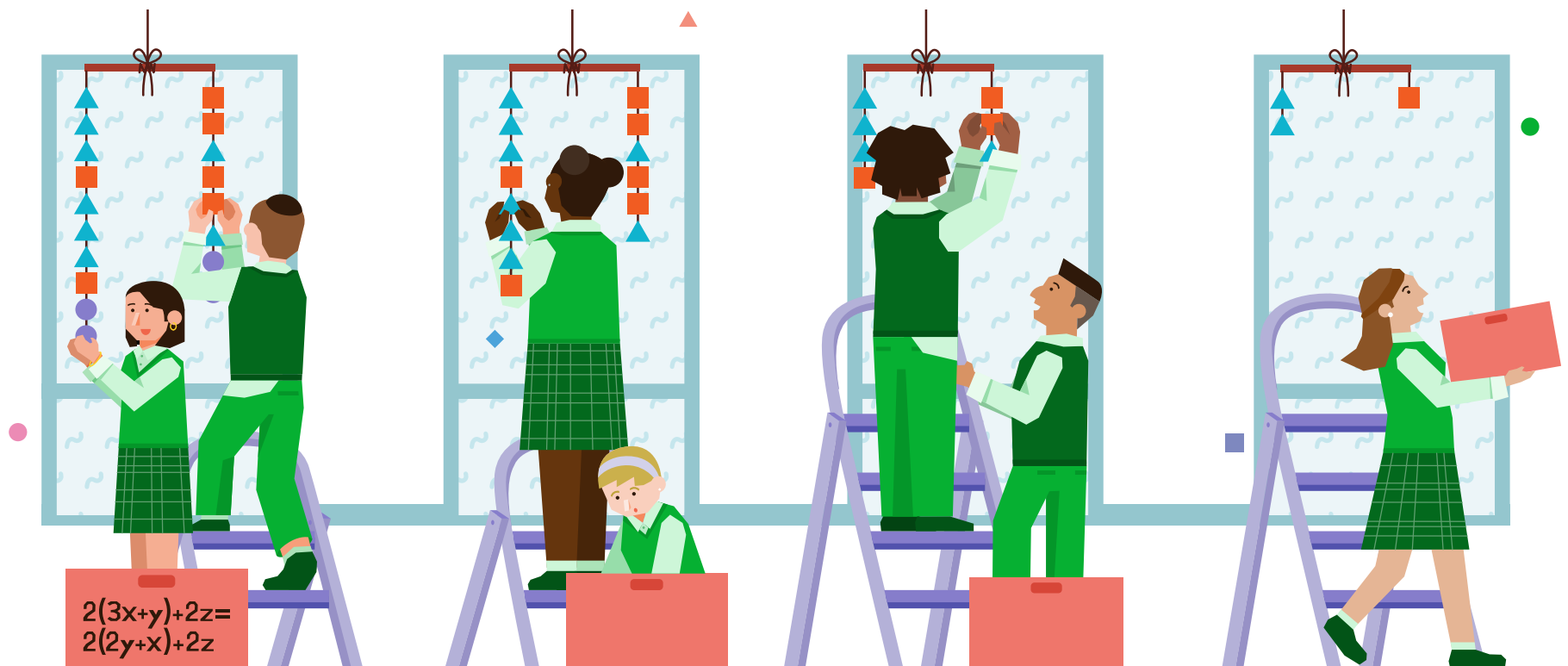
Situating productive discussions in compelling contexts

What does instruction designed to engage social, collaborative learners look like?

It's all about piquing interest with a realistic (or sometimes wacky) scenario, asking students to tinker and explore, scaffolding as necessary up to a big reveal, and providing opportunities for students to talk about what they're observing, and potential solutions along the way.

The key to sparking productive discussions is situating the instruction and prompts in compelling contexts. That can be achieved through a well-thought-out learning model.

So are my students just talking the whole time?

Not the whole time, no! Sometimes they're working quietly, independently, or in pairs, or groups, to come up with a response to a prompt. Sometimes they're considering their peers' work. The point isn't that they're talking the whole time, it's that they're engaged in contributing to the larger conversation every step of the way. If your students are only working in workbooks, this can be challenging because they have to share everything they record. If they're working online, they can draw, type, and drag to outline their thinking and immediately share with others.

Amplify Math

1 — **2** — **3** — **4**

Warm-up (5 minutes)

Each lesson begins with students diving into the math and interacting with each other during a Warm-up task. Lessons include automatic, just-in-time supports called **Power-ups**.

Activities (30 minutes in middle school; 35 minutes in high school)

Students dig into one to four tasks and share their observations and reasoning, allowing the teacher to use the strategy of sequencing and selecting to promote more math talk.

Summary and Reflection (5 minutes)

The teacher helps students connect their ideas with the overall mathematical picture of the lesson, unit, and course.

Exit Ticket and Practice (5+ minutes)

The lesson concludes with students completing an embedded, formative Exit Ticket. Additionally, teachers can assign practice problems to work on outside of class.

How can I know I am asking the right questions to support student thinking and understanding?

Peg Smith and Mary Kay Stein's *5 Practices for Orchestrating Productive Classroom Discussions* surfaces in several places in the Teacher Edition.

The 5 Practices make social, collaborative instruction possible.	Where you'll find support in the Amplify Math Teacher Edition:
Anticipating students' solutions to a mathematical task	The *Look for Points of Confusion* section helps teachers identify misconceptions or unproductive strategies. Effective and productive strategies are identified in the *Look for Productive Strategies* section.
Monitoring students' in-class, real-time work on the task	The *Monitor* section of each activity provides instructional techniques for how to monitor student progress in real time.
Selecting approaches that students will share	Using the *Look for Productive Strategies* section, teachers are provided with strategies they should observe and ones they should point out.
Sequencing students' presentations strategically	To help with sequencing, the *Look for Productive Strategies* section typically lists strategies in a suggested order that teachers can highlight during discussion.
Connecting students' approaches and the underlying mathematics	The *Connect* section in each activity connects the tasks, different approaches students used, and highlights the mathematics that is present.

Smith, M. S., & Stein, M. K. (2011). *5 Practices for Orchestrating Productive Mathematics Discussions*. Reston, VA: National Council of Teachers of Mathematics.

Amplify Math makes productive discourse easier to facilitate and more accessible for students.

Isn't it challenging to implement engaging, discourse-rich math lessons?

No, it doesn't have to be. Amplify Math is made for both teacher and student success. By starting with the *Illustrative Math* content, an extensively field-tested and highly-rated curriculum, Amplify Math is full of interesting and relevant problems as well as proven teaching strategies. You'll see this in our lessons framed around compelling narratives, from both current and historical contexts.

All lessons include straightforward "1, 2, 3 step" guidance for launching and facilitating discussions around the tasks. Thoughtful and specific differentiation supports are included for every activity.

Whether you're new to discourse-rich math lessons or have already made the shift, Amplify Math is designed to make it easy to understand with:

- A clean and clear lesson design.
- Flexible, social problem-solving experiences online.
- Real-time insights, data, and reporting to inform instruction.

What role can technology play?

Digital lessons can be powerful in their ability to surface student thinking and spark interesting and productive discussions.

Amps powered by Desmos

By partnering with Desmos, we've been able to deliver digital lessons, which we call Amps, that get students thinking, talking, revising, and celebrating their ideas. As students work in the interactive slides, new functionality may appear and they will often be asked to justify their actions and thinking. **All of this is made visible to the teacher in real time.**

Automatic, just-in-time supports

Our **Power-ups provide just-in-time support** at point of use before activities for your students. Not teaching online? They're available in the Teacher Edition, too. Advisor Phil Daro partnered with us on this feature to ensure we were giving all students—even the ones who might be three years behind in math, but only 15 minutes behind the day's lesson—the chance to experience success in math.
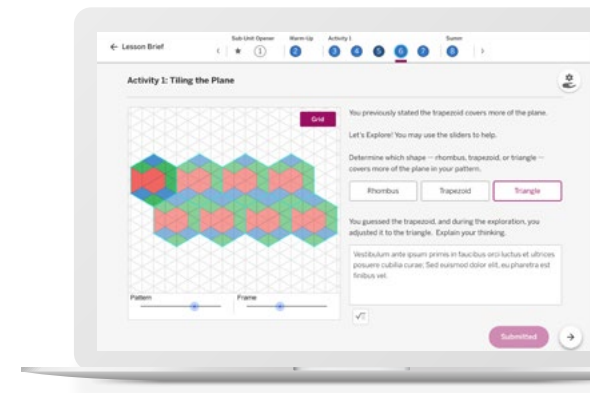
Want to see more? Visit amplify.com/math to learn more about social, collaborative classrooms.

Amplify.