What happens in the social, problem-based classroom?

In the social, problem-based 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.
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 anything other than the right answer 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, problem-based 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 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.

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**The Amplify Math problem-based learning model**

1. **Doing the math from the start in a connected environment**
   Students immediately begin to interact with the math and each other.

2. **Surfacing strategies**
   Students share their observations and reasoning giving teachers examples to select and sequence.

3. **Formalizing understanding**
   Students connect the ideas they find useful with the underlying mathematics.

4. **Applying and practicing learning**
   Students are given ample opportunities to solidify their learning.
How can I know I am asking the right questions to support student thinking and understanding?

Amplify Math’s comprehensive, yet easy-to-use Teacher Edition was created with Peg Smith and Mary Kay Stein’s *5 Practices for Orchestrating Productive Classroom Discussions* in mind. The Teacher Edition allows you to facilitate conversations that reveal student understanding and create meaningful discussions.

The 5 Practices make social, collaborative instruction possible. Where you’ll find support in the Amplify Math Teacher Edition:

<table>
<thead>
<tr>
<th>The 5 Practices make social, collaborative instruction possible.</th>
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<tbody>
<tr>
<td><strong>Anticipating</strong> students’ solutions to a mathematics task</td>
<td>The <em>Look for Points of Confusion</em> section helps teachers identify misconceptions or unproductive strategies. Effective and productive strategies are identified in the <em>Look for Productive Strategies</em> section.</td>
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<td><strong>Monitoring</strong> students’ in-class, real-time work on the task</td>
<td>The <em>Monitor</em> section of each activity provides instructional techniques on how to monitor student progress in real time.</td>
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<td><strong>Selecting</strong> approaches that student will share</td>
<td>Using the <em>Look for Productive Strategies</em> section, teachers are provided with strategies they should be observing and ones they should be pointing out.</td>
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<td><strong>Sequencing</strong> students’ presentations purposefully</td>
<td>To help with sequencing, the <em>Look for Productive Strategies</em> section typically lists strategies in a suggested order for sequencing, from simple to abstract.</td>
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<td><strong>Connecting</strong> students’ approaches and the underlying mathematics</td>
<td>The <em>Connect</em> section in each activity connects the lesson, different approaches students used, and highlights the mathematics that is present.</td>
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Amplify Math supports students and teachers in the social, problem-based classroom

Isn’t it challenging to implement a problem-based curriculum?

No, it doesn’t have to be. Amplify Math is made for both teacher and student success, no matter your implementation model. Based on the highly-rated Illustrative Mathematics, Amplify Math makes high-level inquiry-based instruction easy to teach and engaging to learn. With rich tasks, collaborative challenges, and equity at the center, Amplify Math invites everyone into the conversation and makes math learning visible, social, and accessible to all.

Whether you’re new to problem-based learning or made the shift to standards-aligned materials years ago, Amplify Math is designed for you with easy to understand:

• Unit goals and pacing.
• Lesson goals and supports.
• Student progress and opportunities for differentiation.

Want to see more? Visit amplify.com/math to learn more about social, problem-based classrooms.

What role can technology play?

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

To bring our vision of what digital lessons can and should be to life, we’ve partnered with Desmos to create our complete library of Amps—social, collaborative lessons powered by Desmos technology that recast technology from simply mirroring what can be done in a workbook to presenting captivating scenarios where students work together and interact with the mathematics in real time.

When you launch an Amp either in class, or for students working at home, you’re connecting yourself to your students, students to students, and students’ early ideas to more mature understandings.