

Strategies for breaking and remaking lesson plans

Before you start, know what you want students to learn and what experience you want to share. Have a sense for how quickly you want to get kids working on their own; 5-15 minutes is a good target.

- 1. Launch with a question instead of an answer**
This is almost always worth doing, if possible. If there's no way to do it, consider a related warmup exercise that will get everyone engaged.
- 2. Let students come up with the questions**
Pros: Students come up with great ideas you might not have thought of. Great feedback on how students are thinking. Builds buy-in. Most important, the art of asking questions is itself worth practicing.
Cons: It can be hard to assess whether questions are productive and worth exploring on the fly. It's often wise to find ways to solicit questions from students without committing to any for the particular lesson.
- 3. Knock off the ceiling** — find ways to extend the problem, or allow students to extend it and make it more challenging as suits their needs.
Pros: Differentiates the lesson, and keeps everyone engaged. Deepens the challenge and make it more mathematically rigorous. More honest mathematical experience.
Cons: Students may end up spread out when it's time to wrap things up. Make sure what the minimum you want everyone to know is, and that you'll have common ground on that topic.
- 4. Lower the floor**, make it easier to get started, and find more entry points to the problem.
Pros: Helps all students get started, and get started more quickly. Everyone starts from a place of meaning and understanding. More honest mathematical experience.
Cons: Don't want to make things easier than necessary, or pander.
- 5. Make it a game**
Pros: Can create greater motivation and buy in, especially if the task is rote.
Cons: If it feels too forced, can backfire.
- 6. Find a controversy**
Pros: Disagreement grabs students' attention. Argument is the soul of math.
Cons: Can potentially create confusion. Can be frustrating if no resolution is ever reached.