



Youcubed has joined with Polyup to create interactive lessons where students use Poly, their AI sidekick, to explore mathematical relationships. The student goal is to modify (mod) the poly machines. Each Machine contains 1 or more Chips that are representations of the problems posed in the Machine. In each case we have thought about learning goals that are important steps in a path towards deeper understanding of mathematical concepts. It is our goal for students to explore, create and make mistakes as they help Poly learn to solve problems.

Evenly Divided

Hi, I'm Poly your AI sidekick!



In this machine we have created some chips (lessons) where we ask students to help Poly understand division. This is our adaptation of the idea of partial quotients and our goal to assist students in building their own number flexibility. Students will add and subtract, building up and down to the dividend. In this Machine students will also encounter divisors that do not result in a whole number quotient. In the last chip we connect the gap amount to the term remainder.

Student Engagement:

When engaging students in these lessons we recommend they interact with the content in many different ways. Interacting across representations makes the learning greater. Ideas for lesson engagement could be...

- drawing to visualize the problem
- justifying/proving their thinking through drawing, speaking and writing
- color coding words to symbols to drawings
- making up another problem
- creating a similar problem

We love the engagement of the lessons where students are reading to understand a problem and then reading, writing and evaluating the machine text that makes Poly operate. We believe students will engage in all of the Standards of Mathematical Practice when they engage with our youcubed Polyup machines and lessons.

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning