

Can Take You Places

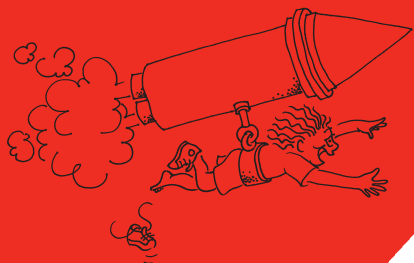
Professional Development Series

Thinking Algebraically

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Ice Breaker Activity



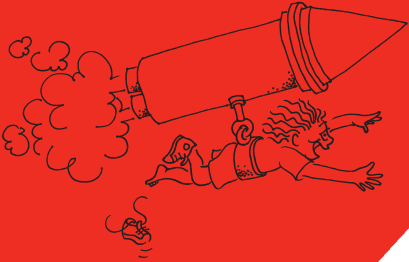
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Thinking Algebraically 2

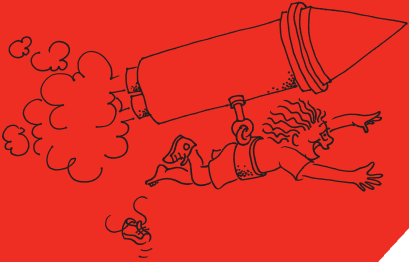
Session Goals

- ▶ Establish that algebraic thinking is a strand of mathematics that begins before formal instruction in Algebra I.
- ▶ Investigate connections between different algebraic representations, such as models, symbols, tables, graphs and verbal expressions.
- ▶ Collaboratively investigate a lesson topic.
- ▶ Share professional expertise.



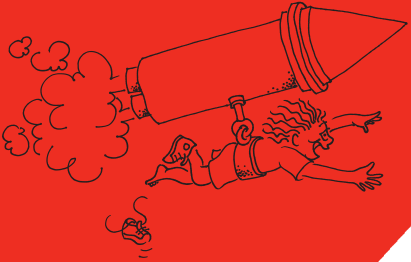
Algebra Autobiography

1. Write a mini-autobiography describing your experiences with learning algebra.
2. Each group member will share his or her story until everyone has had a chance to speak.
3. Record similarities and differences in your stories.



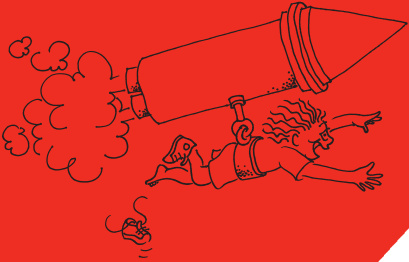
Now and Then

Reflecting on your experiences learning algebra, how do you think it compares – or will compare – to your students' instructional experiences in algebra?



Professional Discussion

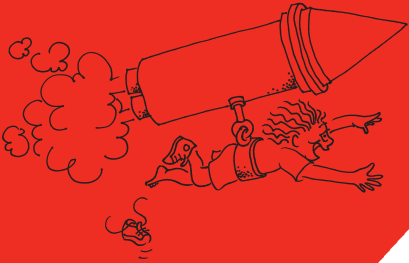
- ▶ Given current reforms in mathematics education, it is necessary to communicate to parents/guardians changes that have occurred in mathematics content and pedagogy.
- ▶ How would you explain to the parent of an elementary student that their child is learning algebra?



Thinking Algebraically Video Presentation

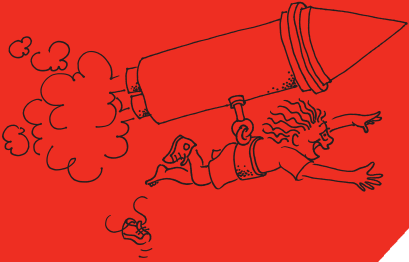
After watching the video, reflect on the following questions:

- ▶ How does my current instruction encourage students to think algebraically about patterns?
- ▶ How does my current instruction encourage students to think algebraically about numbers?
- ▶ How does my current instruction encourage students to think algebraically about writing and solving equations with unknowns?



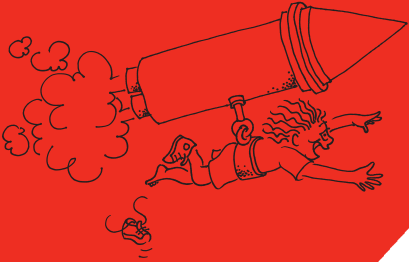
Planning a Lesson

Develop a lesson plan focusing on algebraic thinking. Center the lesson around a school related activity.



Thinking Algebraically Working at Home

Create a list of tips and activities that students can do at home to help build algebraic thinking skills.



Closing Activity

- ▶ This session validated my previous thoughts about...
- ▶ New information that I learned today was...
- ▶ I would still like more information about...

