

**Compare and Discuss to Deepen Algebra Learning**  
Bethany Rittle-Johnson, Jon Star, Kelley Durkin & Abbey Loehr  
Vanderbilt and Harvard University  
[my.vanderbilt.edu/cems](http://my.vanderbilt.edu/cems)

VIDEO EXAMPLE 1

- In what ways is this lesson leveraging the power of comparison?
  - How do the **materials** support **comparison**?
  - How does the **teacher** facilitate **comparison**?

**Think:** First, think about the question(s) above independently. Write your thoughts here:

**Pair:** Get with a partner and discuss your answers. After talking with your partner, what are your ideas?

**Share:** After reviewing together, summarize the ideas we agreed on.

**Big Idea.** When asked, write what you think is the big idea of this video example and discussion, in your own words.

VIDEO EXAMPLE 2

- How does the **teacher** facilitate **comparison**?

**Think:** First, think about the question(s) above independently. Write your thoughts here:

**Pair:** Get with a partner and discuss your answers. After talking with your partner, what are your ideas?

**Share:** After reviewing together, summarize the ideas we agreed on.

VIDEO EXAMPLE 3

- How does the **teacher** facilitate **discussion**?

**Think:** First, think about the question(s) above independently. Write your thoughts here:

**Pair:** Get with a partner and discuss your answers. After talking with your partner, what are your ideas?

**Share:** After reviewing together, summarize the ideas we agreed on.

## Compare and Discuss to Deepen Algebra Learning

Bethany Rittle-Johnson, Jon Star, Kelley Durkin & Abbey Loehr

Vanderbilt and Harvard University

[my.vanderbilt.edu/cems](http://my.vanderbilt.edu/cems)

***Student learning of math, and attitudes toward math, can be improved through the use of Comparison and Discussion***

KEY PRINCIPLES:

### I. Leveraging the Power of Comparison

1. Present two different strategies for solving the *same* problem.
  - i) Two correct strategies or
  - ii) A correct strategy and a common incorrect strategy
2. Make both examples visible and clear; present side-by-side
3. Prepare to compare: take time for students to understand each strategy
4. Compare:
  - i) Prompt students to explain multiple similarities *and* differences. Mark or list them.
  - ii) Prompt students to compare strategies to identify pros and cons.
  - iii) Push students to reflect on a key point about the comparison. (e.g., E.g., *When* is it best to use a particular strategy?)

### II. Leveraging the Power of Discussion

1. During the discussion:
  - i) **Think – pair – share** routine as a way to structure the discussion
  - ii) Asking open-ended questions (e.g., “Why do you think that’s true?”)
  - iii) Re-voicing and summarizing contributions
  - iv) Hearing from many voices
  - v) Holding participants accountable for listening to others: “Do you agree or disagree with Morgan? Why?”
2. Summarizing the Big Idea of the discussion
  - i) Asking students to summarize the big idea in their own words.

