

Lesson 06



# Uncover the Language of Math

WITH ANN DECHENNE



# Class Objectives



## OBJECTIVE 5



Students will gain tips and tools to work with evidence-based math practices that teachers, coaches, and mentors can use in the classroom.





# Evidence Based Practices



Introduction



There are so many tips, tricks, and strategies out in the world that it can get overwhelming. Do they work? Yes, and sometimes no. That is my experience. It all depends on the execution, timing, and class. These are tools for the toolbox. :)



# Visuals

The cool thing about visuals is that they speak for themselves—no need to go into some complicated explanation of what a word means. You can point at the visual, and that usually does the trick.

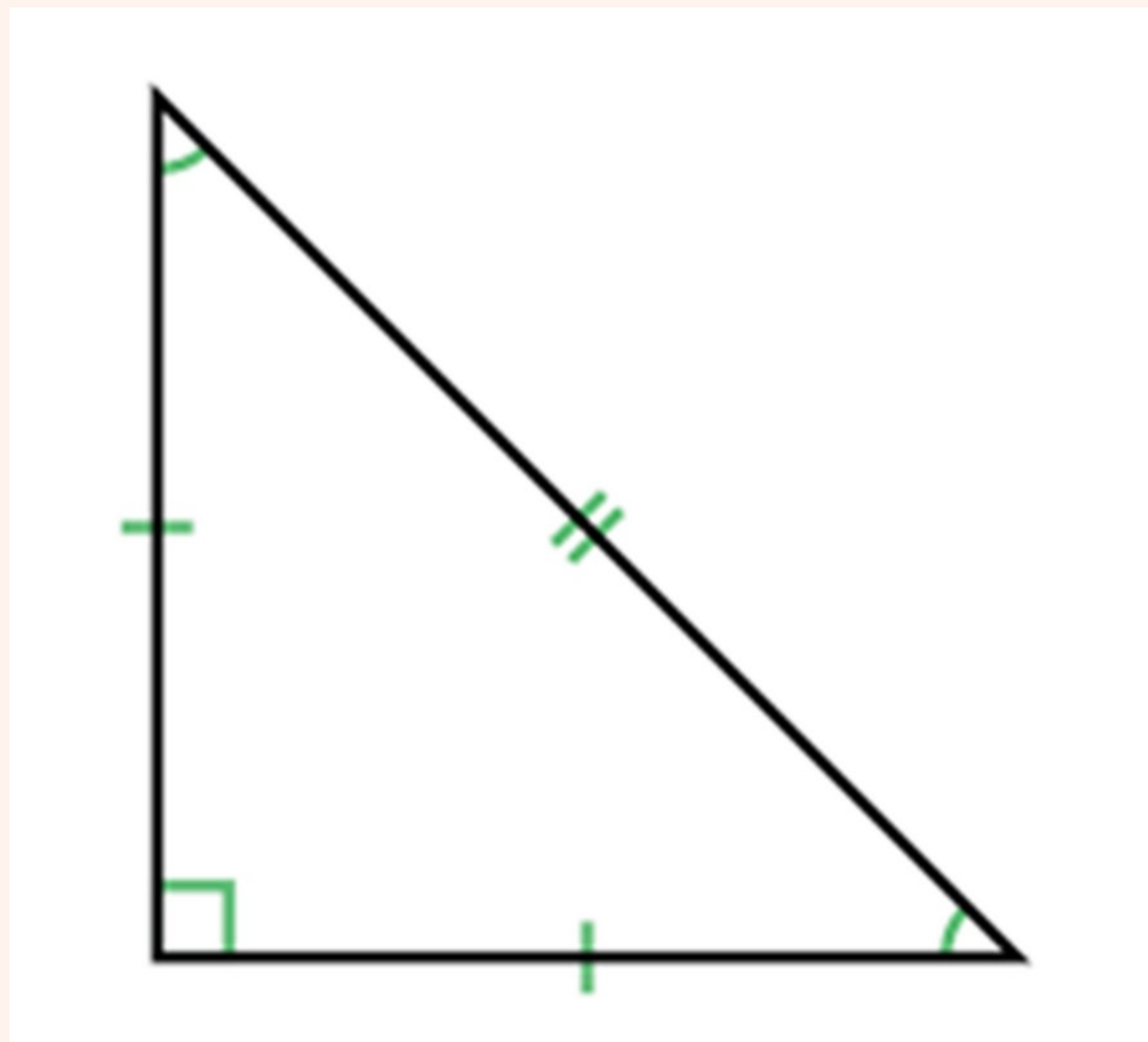
Word walls are great. Sometimes they are a pain to build and replace for the next lesson, but once it is done, they can be used again. Lamination is the best.



Right Angle  
Triangle

Visual

+

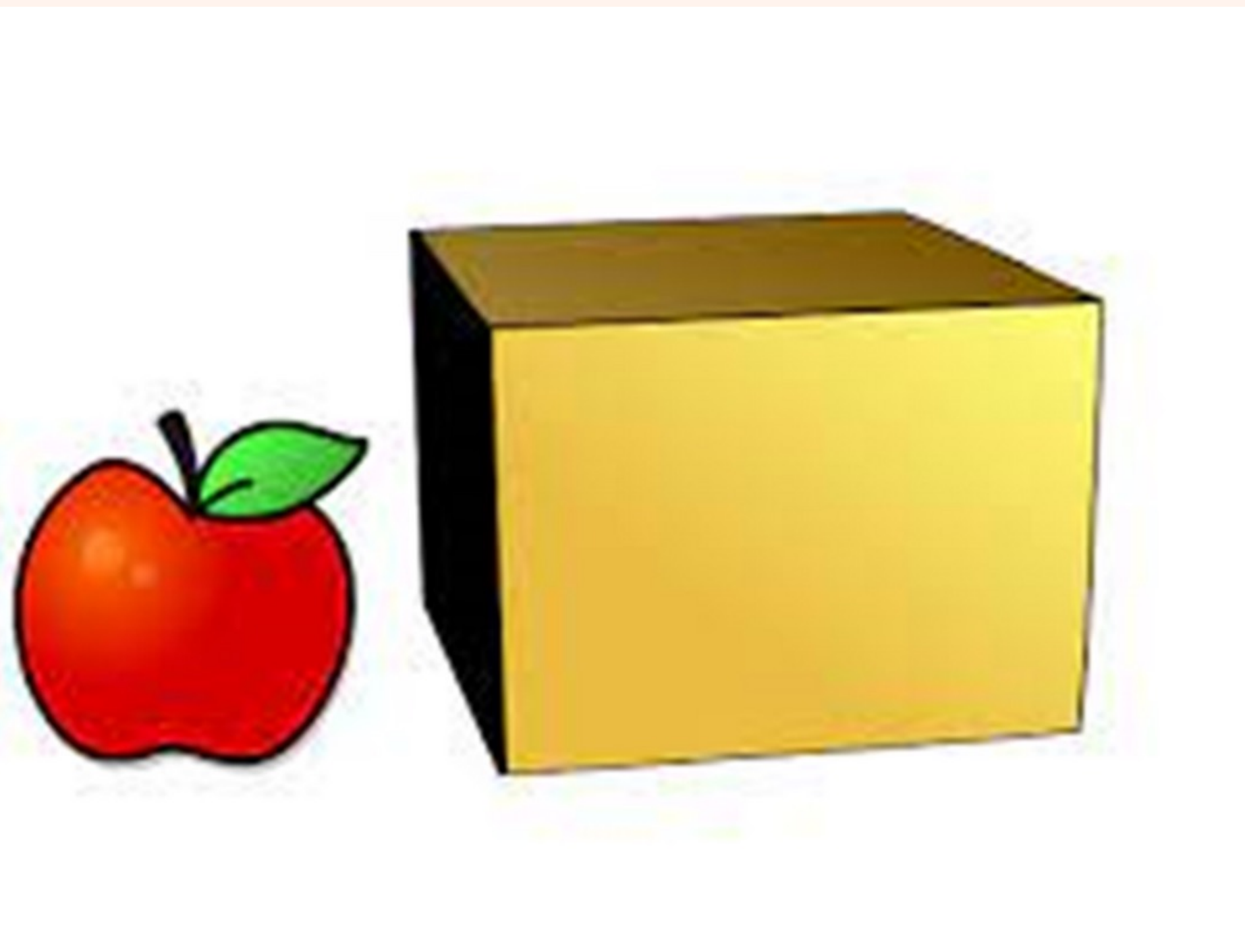






Adjacent

Visual

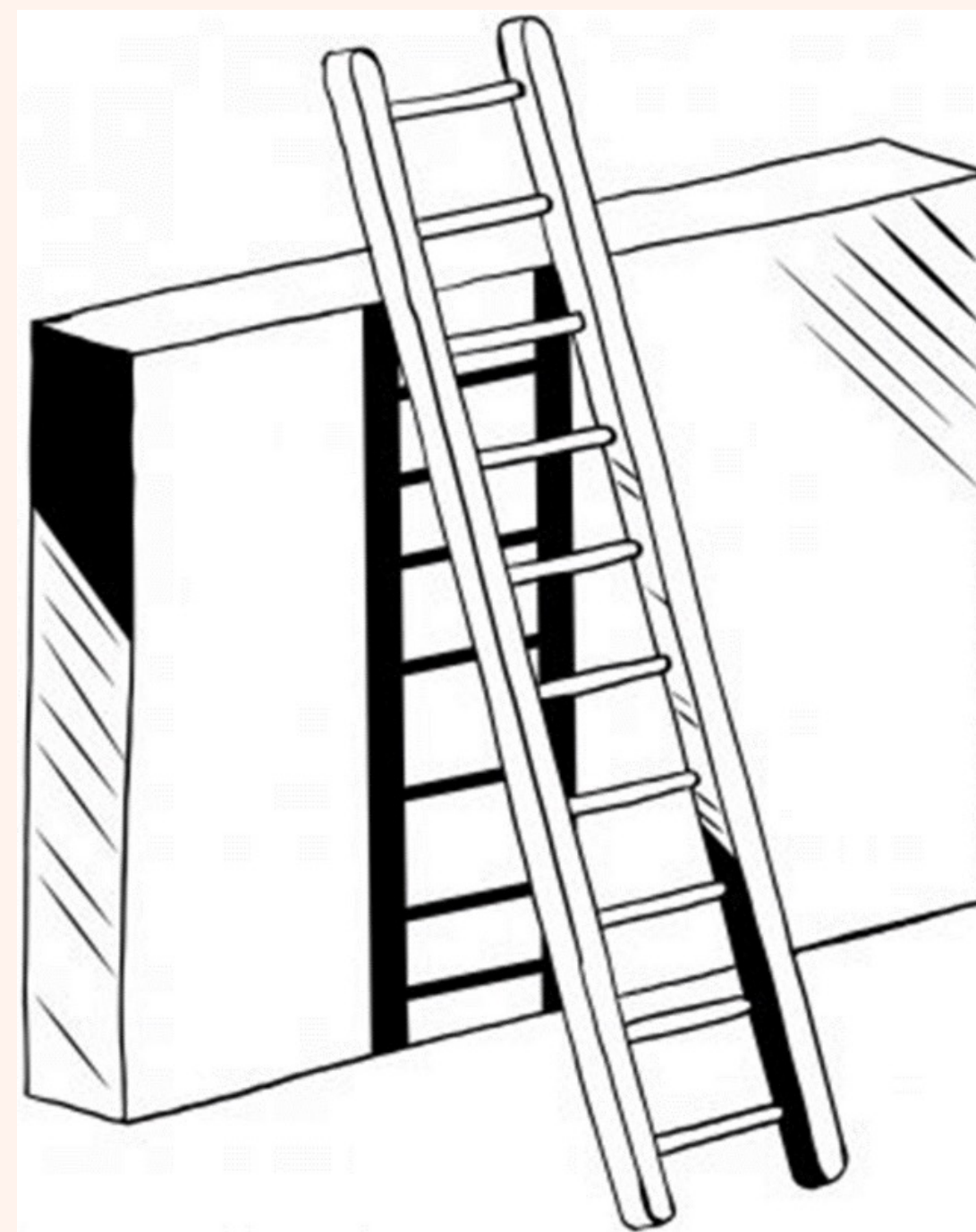




Ladder  
\*remember the  
literal thinking  
example?

Visual

+







## Kite

\*students tend to think kites are straight up not at an angle.

Visual







# Scaffold Supports

There are many different scaffold supports. I like sentence stems or starters because they get the student started when they need to finish the thought. Sometimes sentence frames look more like fill-in-the-blanks, and I want the students to use language and push themselves. Graphic organizers or skeleton notes are also excellent supports.



## Sentence Frames

Stem & Starters



First, I will \_\_\_\_\_.

Next I will \_\_\_\_\_.

Then I will \_\_\_\_\_.

Finally I will \_\_\_\_\_.

The \_\_\_\_\_ of \_\_\_\_\_ is \_\_\_\_\_

The \_\_\_\_\_ can be found by  
starting at \_\_\_\_\_ and \_\_\_\_\_.





Stem

+

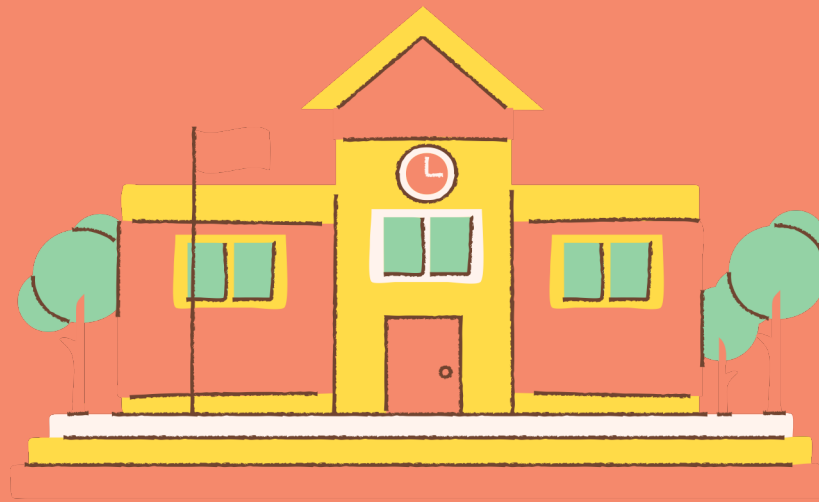
...

What students can say when they don't understand. Have this posted or on the table groups so students can access them.

"I understand how to do this, but I'm confused about..."

"Will you please repeat the question?"

"This part makes sense, but I'm unsure about..."



## MATH CLARIFYING BOOKMARK

What you  
can do



What you  
can say

**Identify what the problem is asking.**

**The unknown in the problem is.....**

**The units of the unknown are...**

**Reasonable values for the unknown would be.....**

**Identify the given data and constraints.**

**The variables or quantities in the problem are...**

**The values given in the problem are...**

**This problem assumes that ...**

**Draw a picture or model to represent the problem in a different way**

**I can show the problem by...**

**A model that represents this problem is...**

**I can represent this part of the problem with...**

Adapted from Amplifying the Curriculum  
-Aida Walqui and George C. Bunch Editors





Talking is so important  
to learning.

## Discussion



“Miles on the tongue” is a saying a friend of mine uses when we talk about discussion possibilities and our students. For learning to stick in the brain, it needs to pass through all 4 modalities: reading, writing, speaking, and listening. And multiples times. Teenagers love to talk except when called on in the classroom. Time for a change. Time to get kids talking about math.



Getting the students to talk about math.

## Discussion



Think Pair Share is an old standby. But let's add a twist to it. Give students a problem. Have them think about it, try to solve it, then share it with their partner. Think, Write (or do), Pair Share Problem-Solving groups or natural table groups. Give students time to solve a problem on their own, then have them work it out and present it as a group.





Getting the students to talk about math.

## Discussion



Providing students with scripts, starters, or frames that are easily accessible is a great way to get them to use the more advanced math language.

"Joe, I like what you are saying, but could you expand on that a bit? Take a look at the script on the table."

Giving students permission to use tools is vital. Some don't want to look less than smart but having all students use the scripts and starters can help.

# Class Recap

## POINT 1



We don't need students to speak like college mathematicians, but we are doing them a disservice by simplifying the language and not teaching language to them.

## POINT 2



Sentence stems, starters, and frames will help provide the language structure students need to speak mathematically.

## POINT 3



More miles on the tongue.  
Speaking using the mathematical target language will help with overall comprehension.







# Homework

I'd like you to reflect on your practice. Do you use any strategies and best practices mentioned in the presentation? If you do, which methods do you use, and how are they working for you? If you don't, are there any you are interested in trying, and how will you implement them in the classroom?



## Additional Resources



Amplifying the Curriculum

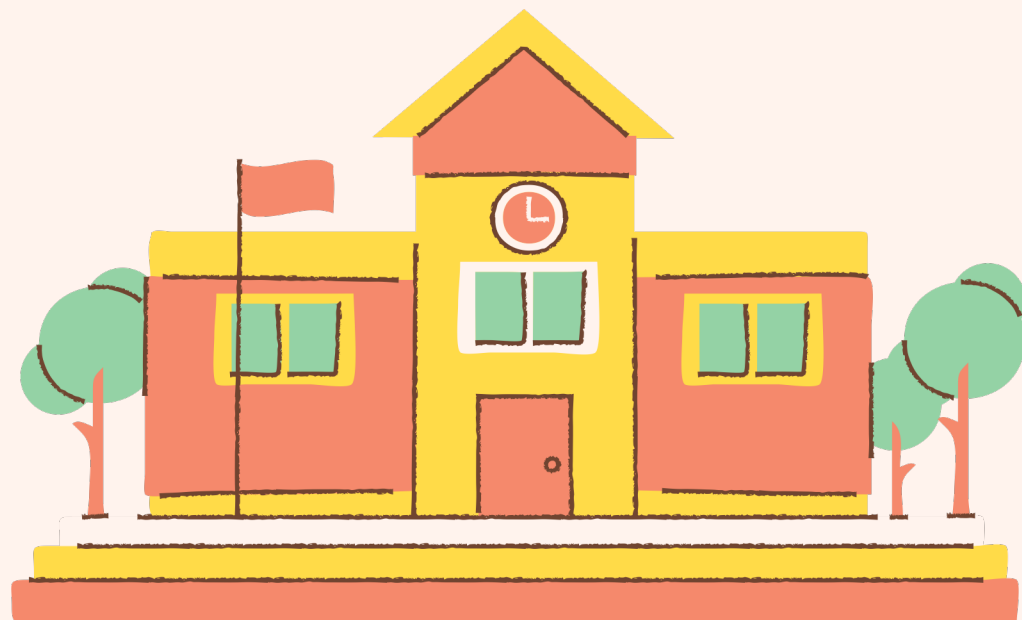
-Aida Walqui and George C. Bunch Editors

[iris.peabody.vanderbilt.edu/module/math/](https://iris.peabody.vanderbilt.edu/module/math/)





# Thank You



IF YOU HAVE ANY QUESTIONS, PLEASE  
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