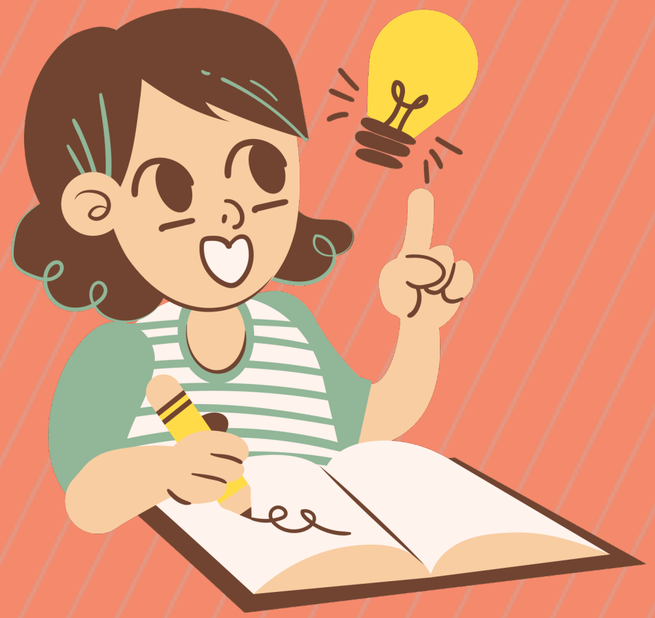
Lesson 04

# Uncover the Language of Math

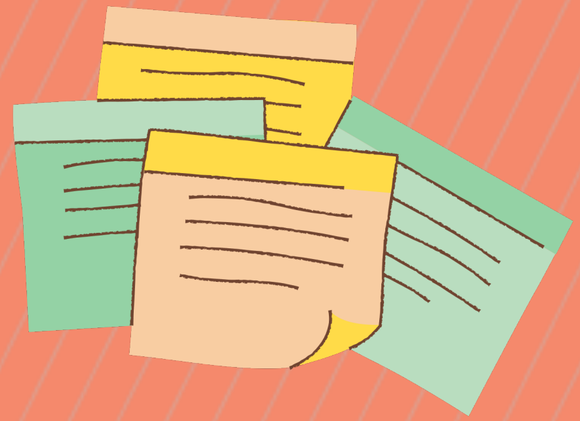
WITH ANN DECHENNE

# Class Objectives

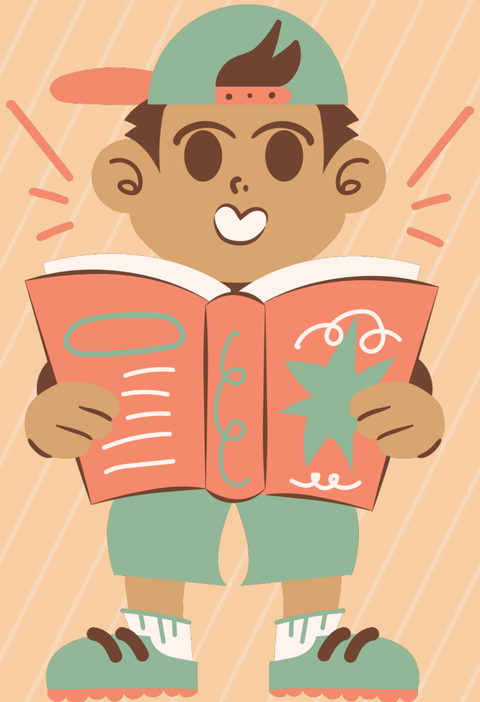


OBJECTIVE 3

Students will familiarize themselves with academic language and how it supports learning.



# Academic Language



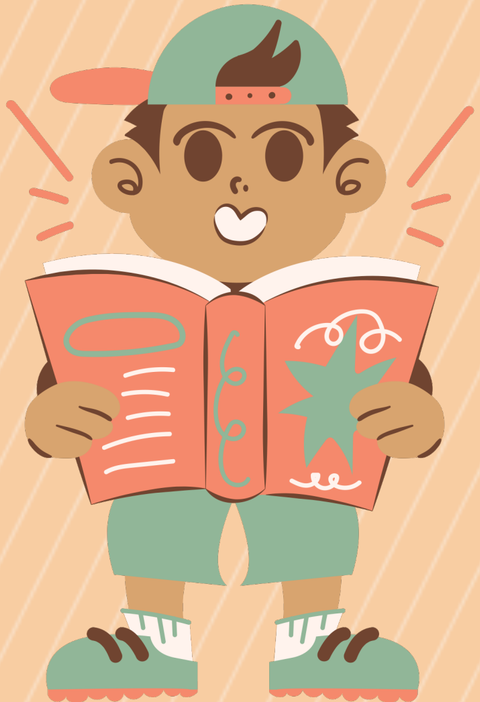
Discusssion

There could be courses and more courses on academic language. For the purposes of this course we limit our discussion to a brief overview  and how academic language plays out in the math classroom.

# Academic Language Defined

Academic language is a set of words, grammar, and organizational strategies used to describe complex ideas, high-order thinking processes, and abstract concepts.

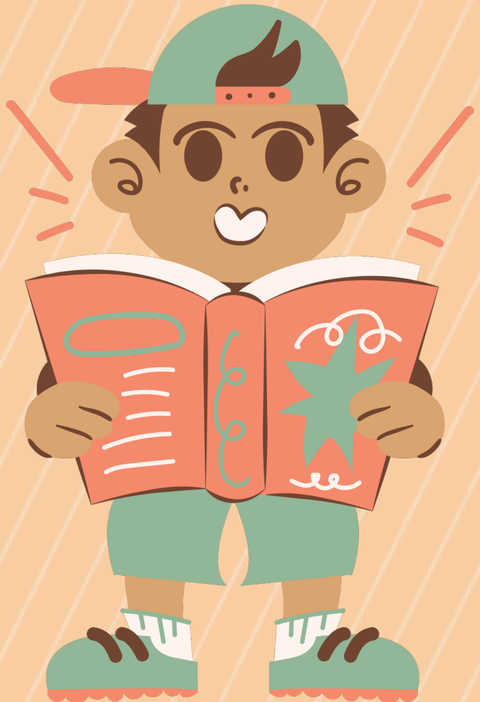
# Academic Language



Discusssion

Academic vocabulary & academic language are important aspects of students' comprehension. Students in math classes may be able to do math programs perfectly in practical lessons. However, the minute the problems are moved toward applications involving more language, students tend to struggle.

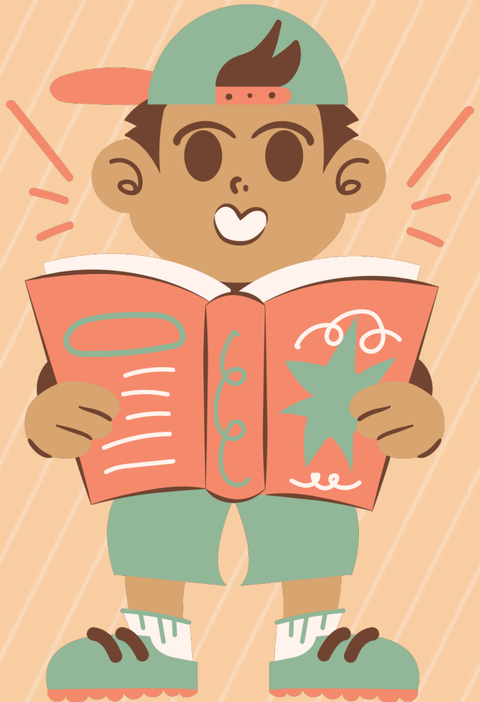
# Academic Language



Discusssion

There was a time when the belief was to simplify language to help students learn; however, that did not serve the students.
Students need to learn the language of math.  Amplify, not simplify.

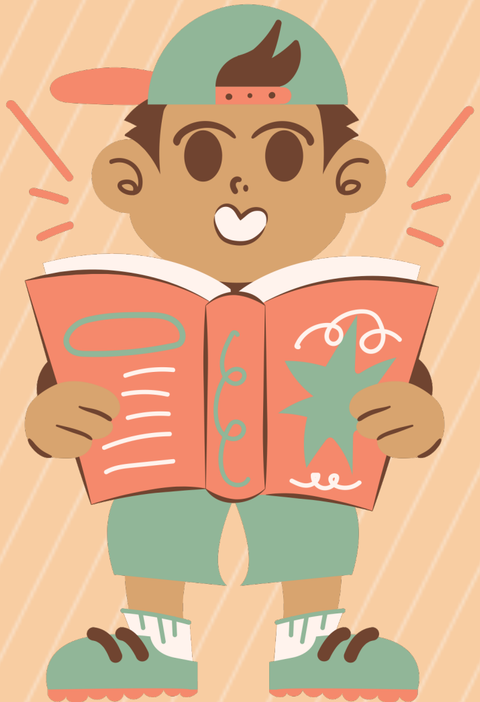
# Academic Language



Discusssion

Teach the language. The lessons need to be comprehensible; if students understand the words, truly learning the skills will be easy. Providing them with a solid language base will also help them in future classes.

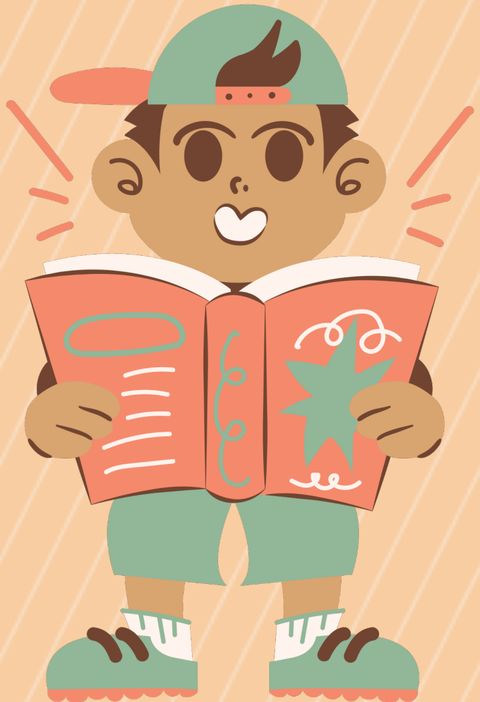
# Academic Language



Discusssion

Simply modeling how to do the math problem on the whiteboard and then having students work on problems or avoiding using mathematical terms does more harm in the long run.

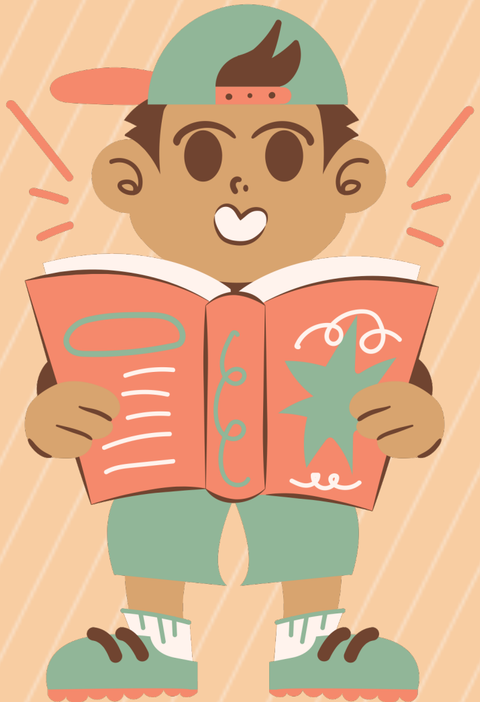
# Academic Language



Discusssion

Many texts use many synonyms. Take a look at your lesson and be aware of your speech. A conversation about synonyms may be beneficial.

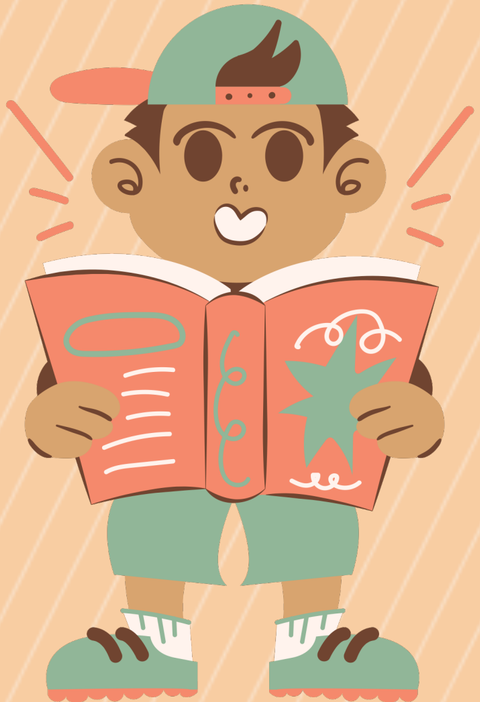
# Academic Language



Discusssion

According to Jeff Zwiers, math can be more challenging than any other subject.  There is less overlap with vocabulary concepts and theories used in different fields of study.  There are specific vocabulary words used solely in math.

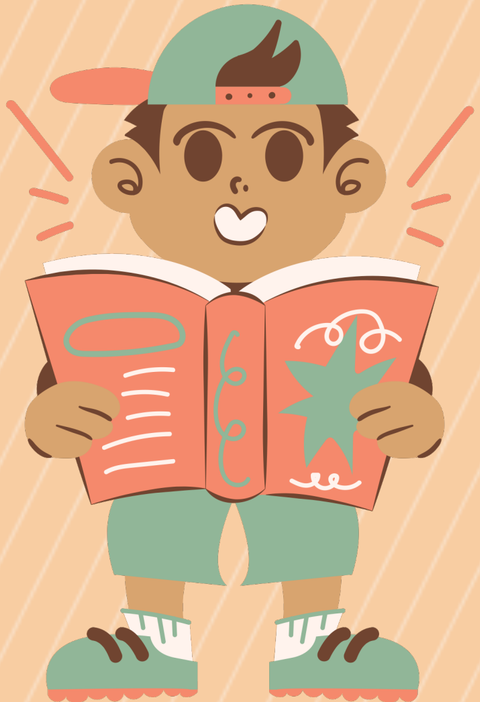
# Academic Language



Discusssion

A student has to develop the ability to read and use a variety of symbols.  In problems, a variety of symbols, numbers, letters, images, and words are frequently combined.

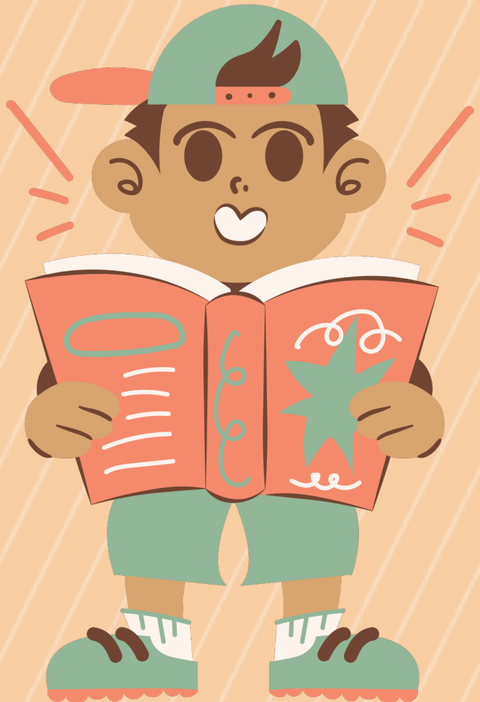
# Academic Language



Discusssion

In math, students also need to read left to right, right to left, and up and down, along with symbols.  Sentences are made up of more than words from the alphabet.  Graphs and tables need to be read and understood as well.

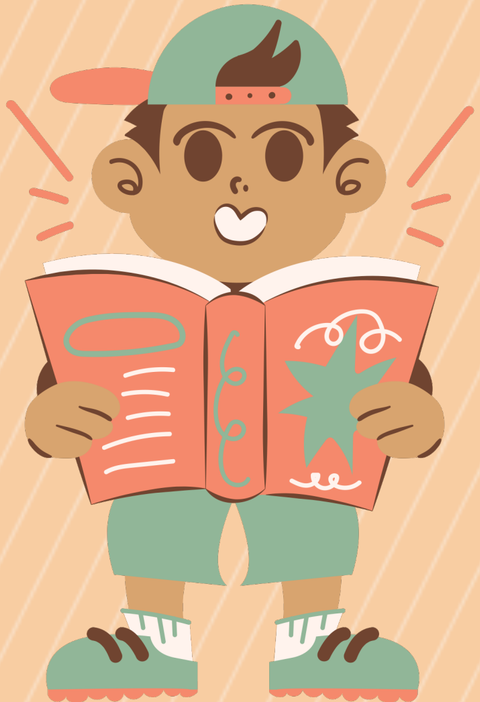
# Academic Language



Discusssion

Math texts feature a higher concentration of abstract ideas than other academic texts.  The brain has to work with more concepts in each sentence.  Each word or phrase in a math text must be understood since the texts are interconnected.

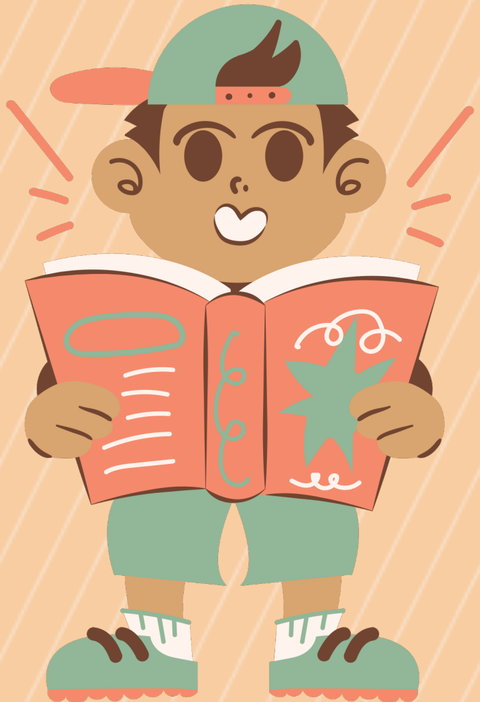
# Academic Language



Discusssion

Learning is best when it hits the four domains: reading, writing, speaking and listening.  Speaking and listening are often overlooked by teachers, presenters, and textbook companies, and both are vital to comprehension and memory.

# Academic Language



Discusssion

Hint: to help students use or expand their speaking or writing, provide them with short scripts or sentence starters. This will help reinforce and solidify their language knowledge, and it will help them speak as well.

# Class Recap

POINT 1

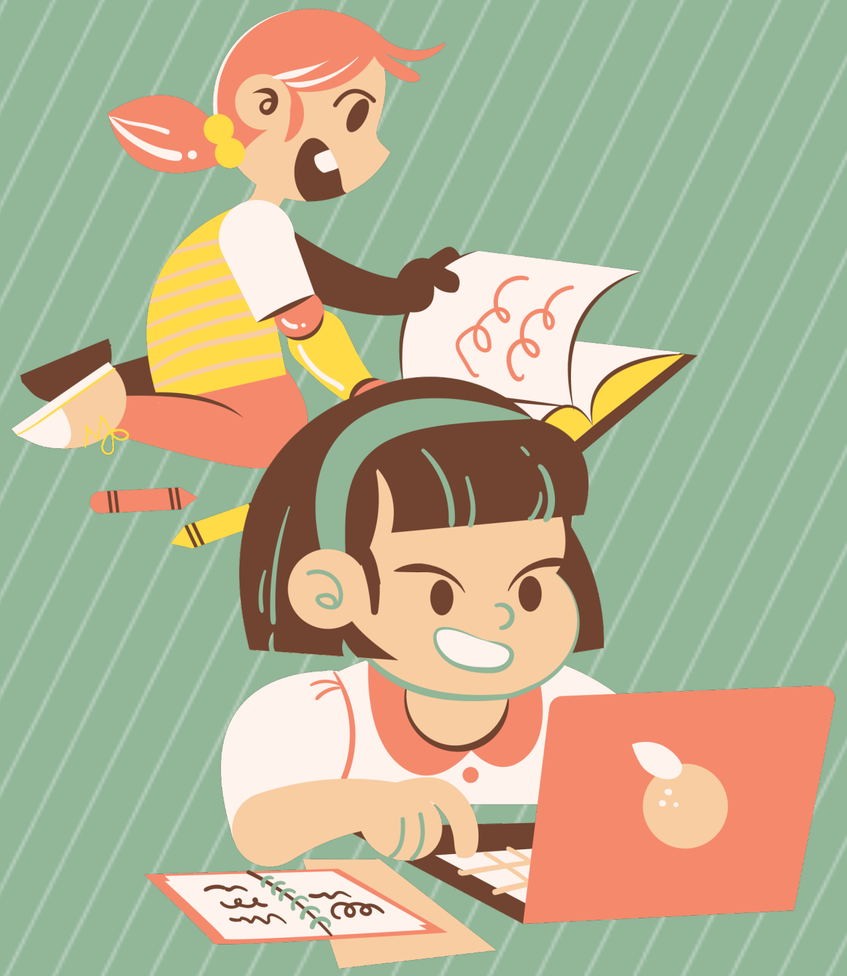
Math language is complex but not impossible for students to learn

POINT 2

Focus on language helps build knowledge for future courses.

POINT 3

Students need to use language to effectively learn it.



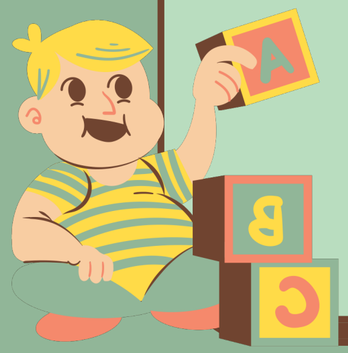
# Homework

Please write a reflection (1-2) pages on what you have learned, anything that may have been a surprise, and your thoughts on what this may mean for your teaching. This is an excellent place to pose questions you haven't expressed or things you wonder about or need clarification on, and questions will help me make the course better.

# Additional Resources

Scarcella, R. (2003). Academic English: A Conceptual Framework.https://escholarship.org/uc/item/6pd08

Zwiers, J. (2013). Building academic language: Essential practicesfor content classrooms, grades 5-12. John Wiley & Sons



# Thank You

IF YOU HAVE ANY QUESTIONS PLEASE FEEL FREE TO CONTACT ME AT:

DECHENNE.CONSULTING@GMAIL.COM