While you wait …

- ➔ Think about how you teach vocabulary in secondary math presently
- ➔ Be prepared to share with your neighbor when we begin

Talk it Out

Improving Achievement for Students with Disabilities by Teaching Vocabulary

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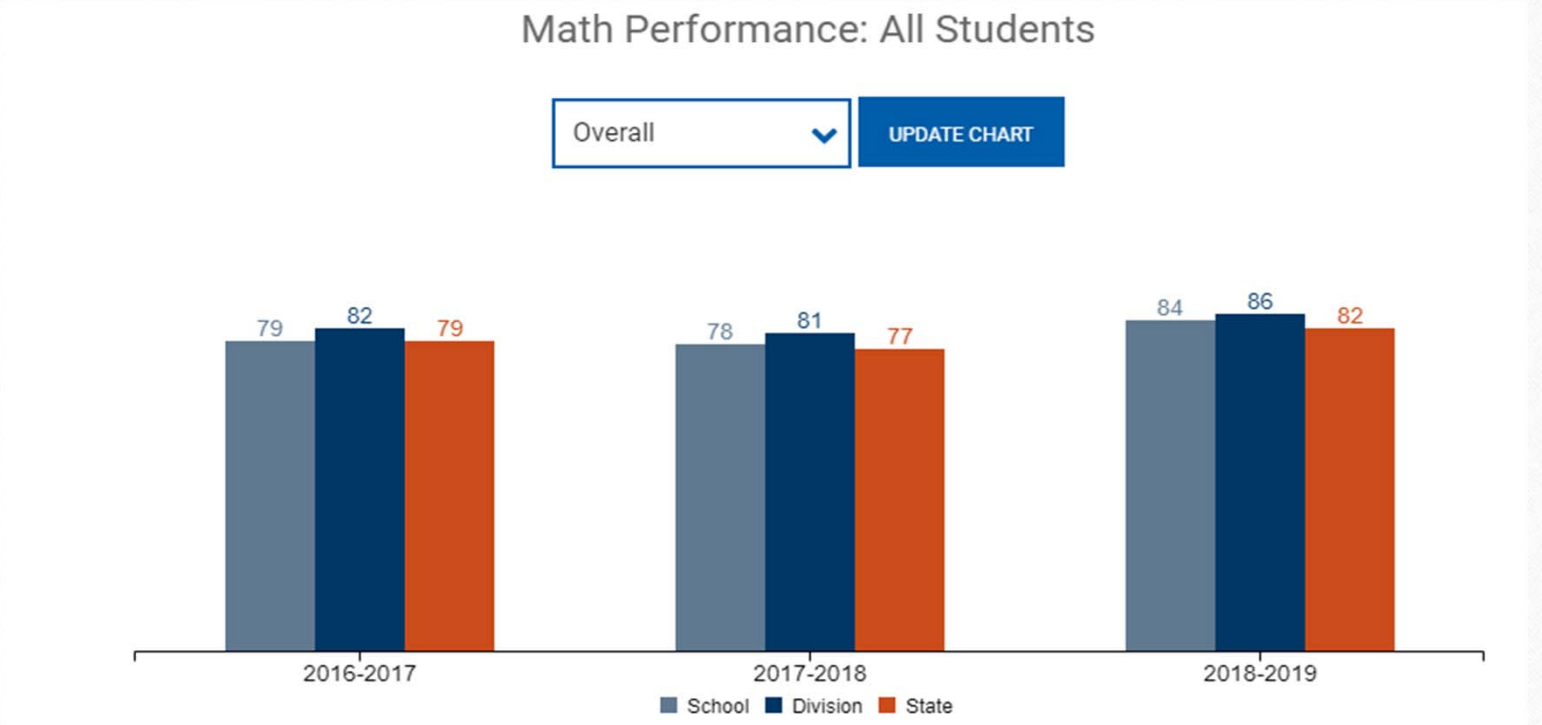
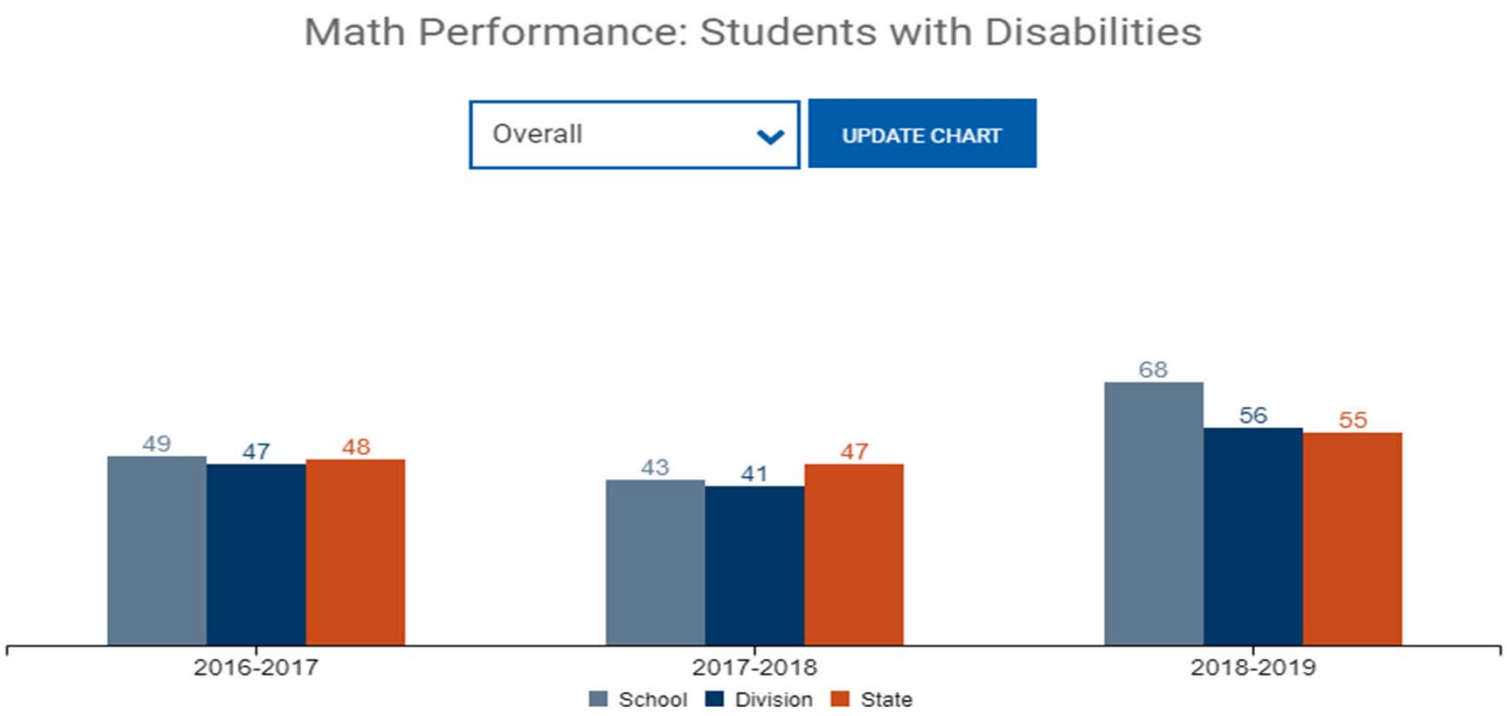
Why teach vocabulary and discourse in secondary math?

- Increases student engagement
- Improves conceptual understanding
- Provides foundational knowledge for next level learning
  - Virginia Standards of Learning
  - Profile of a Virginia Graduate
  - NCTM Principles and Teaching Practices

Gloucester High School



Gloucester High School



Algebra I SOL Practice Item

What is the quotient of $(15x^2 - 8x - 12)$ and $(3x + 2)$? Assume the denominator does not equal zero.

- A. $45x^3 + 6x^2 - 52x - 24$
- B. $15x^2 - 5x - 10$
- C. $5x + 6$
- D. $5x - 6$

Four step process

1. Identify key vocabulary
2. Explicitly teach vocabulary
3. Practice using vocabulary
4. Assess for understanding

Identify Key Vocabulary

Keep it limited - quality over quantity

Where??

- VDOE MIPs
- VDOE Word Wall cards
- Textbook lists
- Local curriculum guides

Identify Key Vocabulary

May need to pre-assess knowledge and teach vocab from earlier grades

Vocabulary

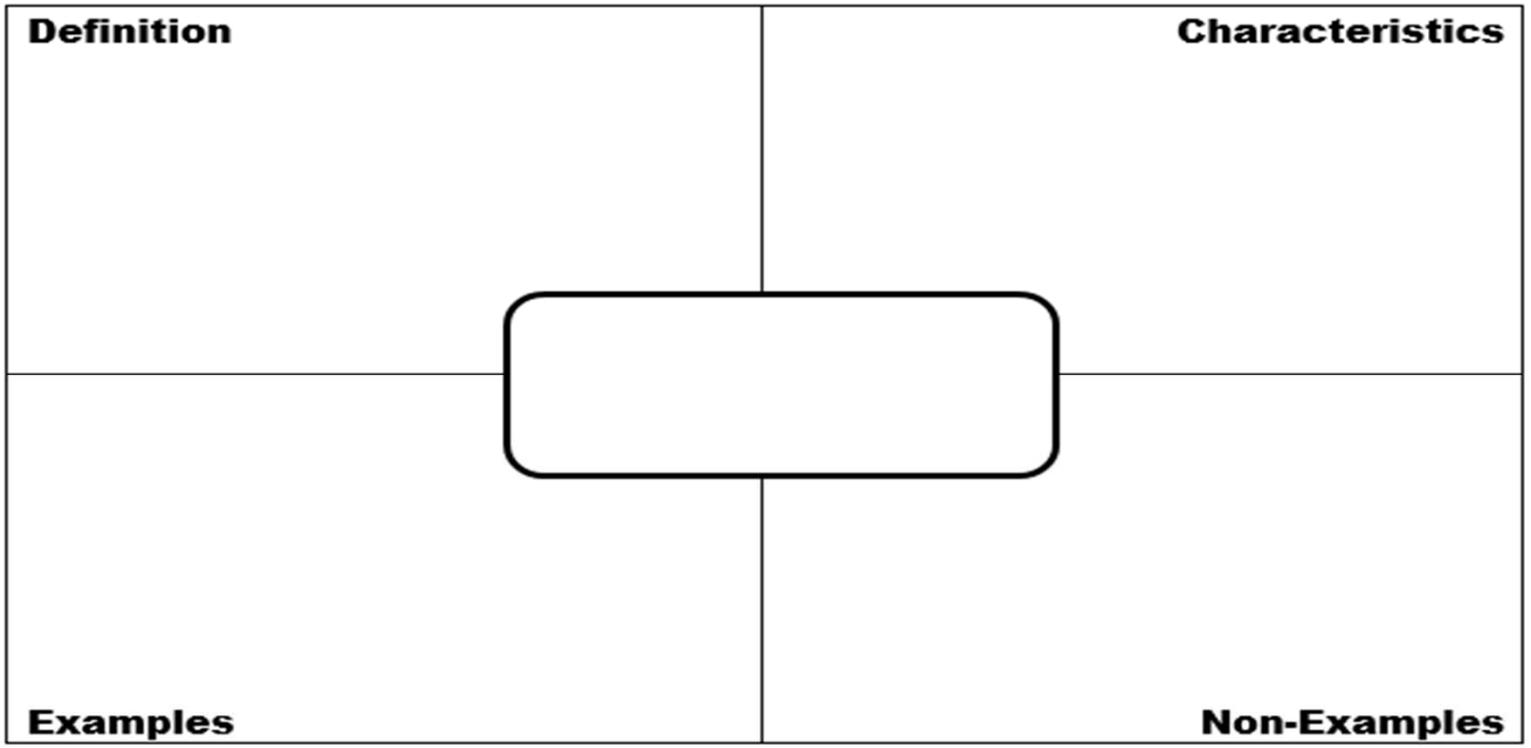
equation, expression, variable (earlier grades)

algebraic expression, algebraic equation, numerical expression, variable expression, verbal expression, verbal sentence (7.12)

Explicitly teach vocabulary

- Small group or whole group?
- Tools for organizing
- Consistent routines and practices help

Frayer Model



Term	Definition	Example(s)
Sum	the result of adding two *or more* numbers	2 + 4 = 6 2 + 8 + 3 = 13
Difference	the result of subtracting one number from another	8 - 3 = 5
Product	the result of multiplying numbers	6 is the **product** of 2 and 3 3 x 2 = 6 2 x 3 = 6
Quotient	the answer after we divide one number by another	12 ÷ 3 = 4 ↖ txrwlhqw#00 7#lv#wkh#txrwlhqw +dqvz hu,#biwu#z h#glylgh#15#e|#5
Operation	a mathematical process – ***add, subtract, multiply, divide*** - used to separate expressions	12 + 4 = 16 ↖ rshudwlrq#lv#bgglwlrq 3 · 6 = 18 ↖ rshudwlrq#lv#p xowlsolfdwlrq

Practice

Incorporate and use vocabulary in all lessons and activities

- Be sure students have a chance to use the language
- Monitor student use of vocabulary
- Use positive, corrective feedback

Practice

Vocab-specific practice: Sorts, flashcards, games, etc.

- Independent, partner, small groups, whole class
- Monitor and provide guidance as needed
- Independent practice only when a high level of success demonstrated

Practice

(Smith & Stein, 2018)

1. Anticipate likely student responses,
2. Monitor student thinking while they work on the task,
3. Select particular students to present their work to the whole class,
4. Sequence student responses that will be displayed, and
5. Connect responses

Assess

Assessing vocab specifically makes sure that it is taught and learned, not assumed or left to chance.

- Vocab-specific quizzes
- Vocab questions on quizzes/tests
- Classwork and informal assessments

Planning

Think about the equations standards for your content/grade level. Using the resources provided, how could you:

- Identify key vocabulary
- Create definitions
- Provide examples
- Develop a vocabulary sort
- Assess

References

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