Because learning changes everything.®

How Customization Brings More to the Core

Karl Sain - Cabarrus County Schools (NC)

Cabarrus County Schools

- Suburban school district outside of Charlotte, NC
- 33,000+ students K-12
- 8 Middle Schools
- 1 K-6 School of the Arts
- 8 Traditional High Schools
- 2 Early College High Schools
- 3 Non-traditional High Schools

- Students moved from remote learning to hybrid (twice)!

Implementation Overview

- Original implementation in 2014
- Recalibrated this year in August 2020 with PD centered on:

  Supports for Core Content:

  - Leveraging ALEKS to address loss of learning.
  - Assess student needs and “ready to learn” topics.
  - Customizing content for students that supports core curriculum.

  Supports for EC Teachers and Students:

  - ALEKS overview and reporting features.

  Supports for Core Instruction:

  - Best practices for differentiation and core instruction.
  - Use of ALEKS to support inquiry-based instruction.

“Good teaching starts from where the learner is, rather than where we would like her or him to be.”

- Dylan William

Assessing where the learner is

Knowing what to do next

Supporting Core Content: Loss of Learning Opportunities

Strengths	Weaknesses
Opportunities	**Threats**

Waterfall Chat

Strategy to elicit universal responses from all members of the class.

Choose STRENGTH, WEAKNESS, OPPORTUNITY, or THREAT.:

What was a _____ in your school or district related to math learning due to the pandemic?

Photo by Dave Hoefler on Unsplash

Supporting Core Content: Loss of Learning Opportunities

Strengths	Weaknesses
	• Some students have significant loss of learning opportunities. • These opportunities vary student-student, grade-grade, school-school.
Opportunities	**Threats**
	• Teachers will have limited time to address even grade-level instruction.

Supporting Core Content: Loss of Learning Opportunities

Strengths	Weaknesses
	• Some students have significant loss of learning opportunities. • These opportunities vary student-student, grade-grade, school-school.
Opportunities	**Threats**
• Students are more comfortable managing online content. • Students are more comfortable in online environments.	• Teachers will have limited time to address even grade-level instruction.

Supporting Core Content: Loss of Learning Opportunities

Strengths	Weaknesses
• ALEKS can provide data on student skills. • ALEKS can provide a customized pathway that supports core content.	• Some students have significant loss of learning opportunities. • These opportunities vary student-student, grade-grade, school-school.
Opportunities	**Threats**
• Students are more comfortable managing online content. • Students are more comfortable in online environments.	• Teachers will have limited time to address even grade-level instruction.

Supporting Core Content: How do we catch students up on loss of learning opportunities?

Option 1:

- Cover all prerequisite skills
- At the beginning of the year
- With the whole class

Option 2:

- Cover only necessary prerequisite skills
- As students need them
- Only for those students that need them.

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Intentional Use of ALEKS Pie by Unit/Standard

Use Objectives and Modules to limit student access to relevant content.

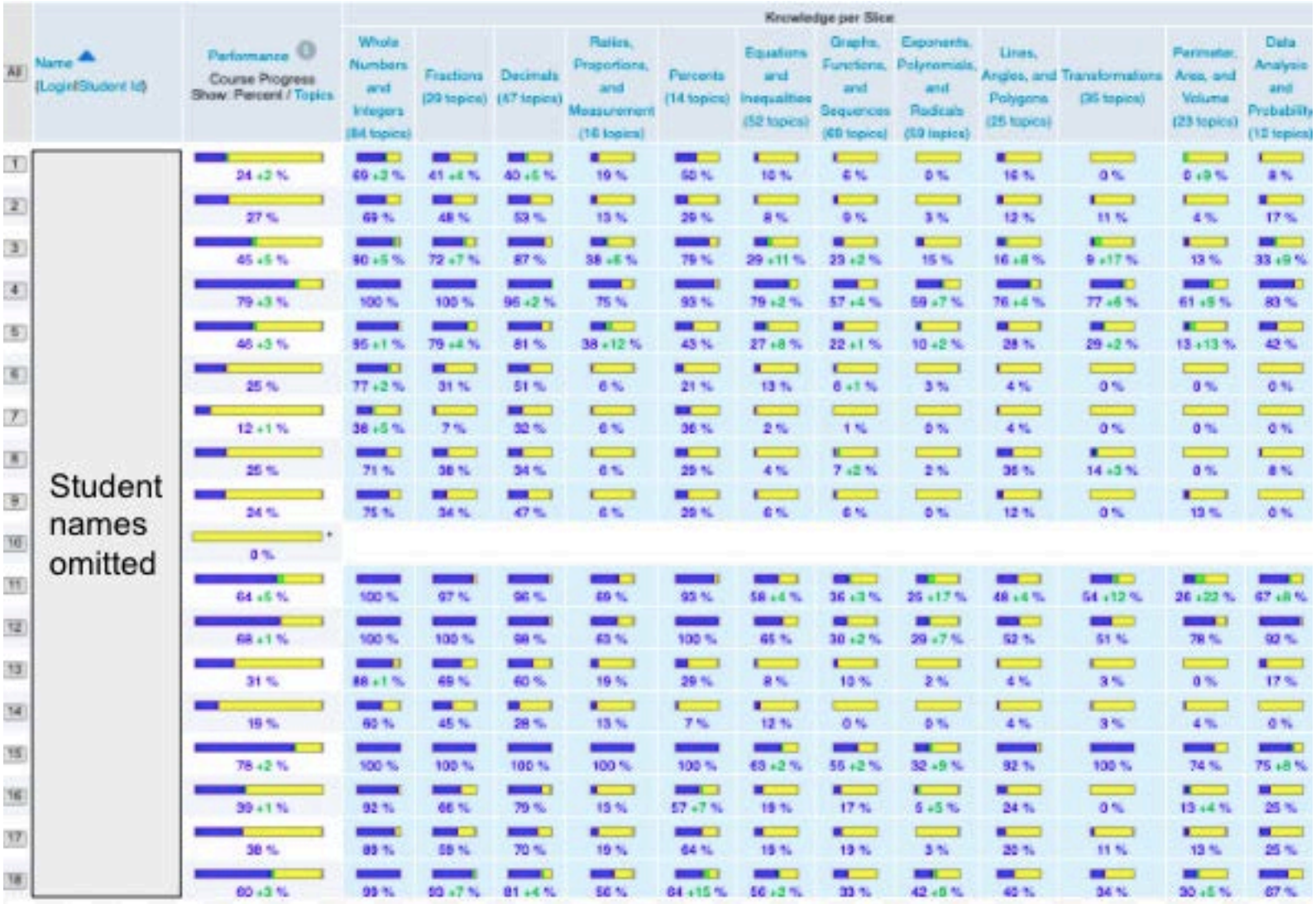
Cabarrus County Schools

8th Mathematics Year-Long Curriculum Map

Click here to read the preamble to 8th Grade Math.

North Carolina State Standards for Mathematics						
Unit 0	**Unit 1**	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Unit 6**
Week of Inspirational Math	**Similarity and Transformations**	**Equations, Inequalities, and Angles**	**Functions, Linear Equations, and Systems of Equations**	**Statistical Reasoning**	**Real Numbers, Pythagoras, and Volume**	**Exponents and Scientific Notation**
1 Week	**3 Weeks**	**6 Weeks**	**9 Weeks**	**3 Weeks**	**6 Weeks**	**3 Weeks**
Class/Group Procedures WOIM	NC.8.G.2 NC.8.G.3 NC.8.G.4	NC.8.EE.7 NC.8.G.5	NC.8.F.1 NC.8.F.2 NC.8.F.3 NC.8.F.4 NC.8.F.5 NC.8.EE.8	NC.8.SP.1 NC.8.SP.2 NC.8.SP.3 NC.8.SP.4	NC.8.NS.1 NC.8.NS.2 NC.8.EE.2 NC.8.G.6 NC.8.G.7 NC.8.G.8 NC.8.G.9	NC.8.EE.1 NC.8.EE.3 NC.8.EE.4
ALEKS Pie***	• Transformations • Whole Numbers and Integers	• Equations and Inequalities • Fractions • Lines, Angles, and Polygons	• Ratios, Proportions, and Measurement • Graphs, Functions, and Sequences	• Data Analysis and Probability • Percent	• Decimals • Exponents, Polynomials, and Radicals • Perimeter, Area, and Volume	• Exponents, Polynomials, and Radicals

Knowledge Per Slice



ALEKS Pie Report

▶ **Lines, Angles, and Polygons** — Progress 30%

▼ **Transformations** — Progress 27%

	Progress	Remaining	Ready to Learn	Attempted, Not Yet Learned
Congruence and Similarity (Progress 26%)				
• Identifying transformations	54%	46%	46%	4%
• Identifying and naming congruent parts of congruent triangles	12%	88%	27%	0%
• Finding angle measures of a triangle given two angles of a similar triangle	12%	88%	27%	0%
Translations (Progress 36%)				
• Translating a point and giving its coordinates: One step	50%	50%	38%	0%
• Translating a point and giving its coordinates: Two steps	38%	62%	12%	0%
• Properties of translated figures	23%	77%	23%	4%
• Determining if figures are related by a translation	65%	35%	8%	0%
• Translating a polygon	31%	69%	19%	0%

6 students out of 26 (23%) are **Ready to Learn** this topic. Message Students ✕

(30) Other topics that these students are **Ready To Learn** show »

Student names omitted

Intentional Use of ALEKS Pie by Unit/Standard

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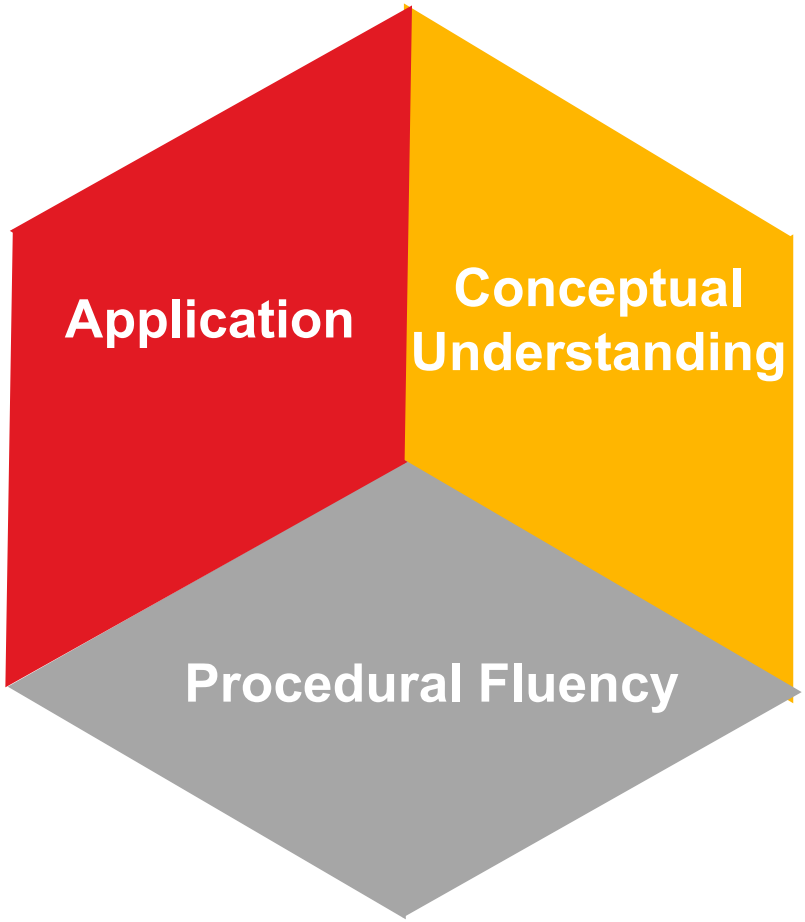
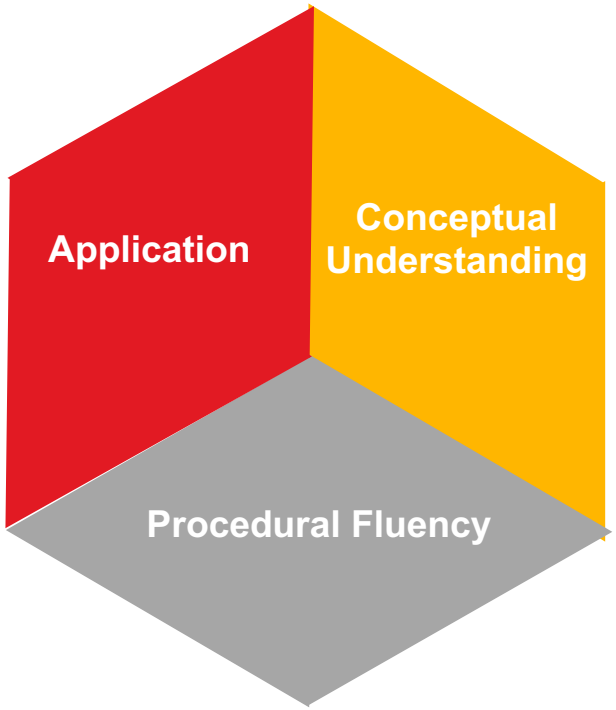
Supports for Exceptional Children

- ALEKS implementation with EC teachers in August 2020
- Overview of ALEKs:
  - Customization
  - Managing classes
- Relevant reports:
  - Knowledge per slice
  - ALEKS Pie
  - IEP Report

Supports for Core Instruction



Cabarrus County Schools Secondary Math Core Instruction

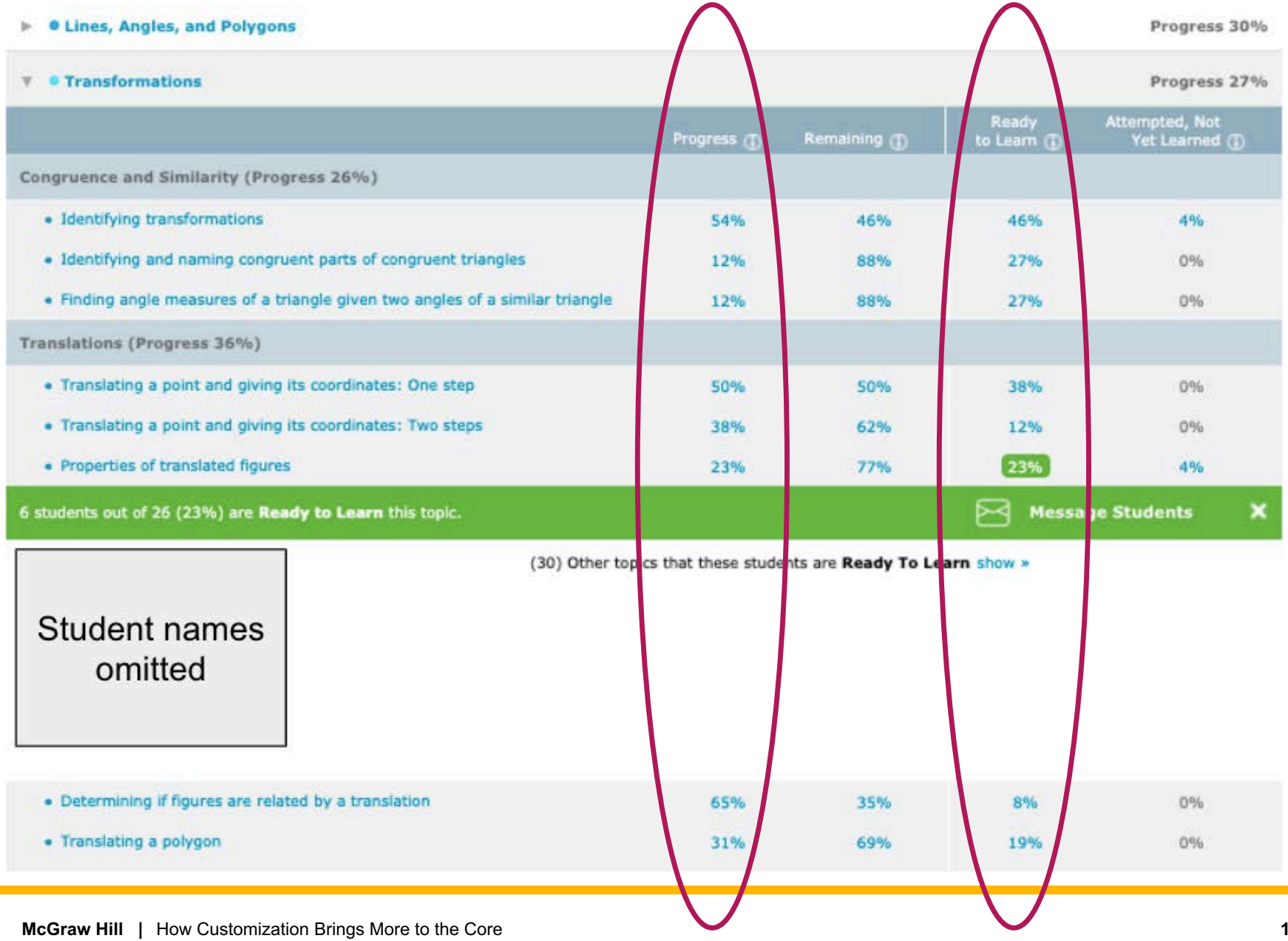


Launch: Provide background context

Explore: Students engage in a meaningful math task.

Discuss: Teacher facilitates a discussion around student solutions.

ALEKS Pie Report



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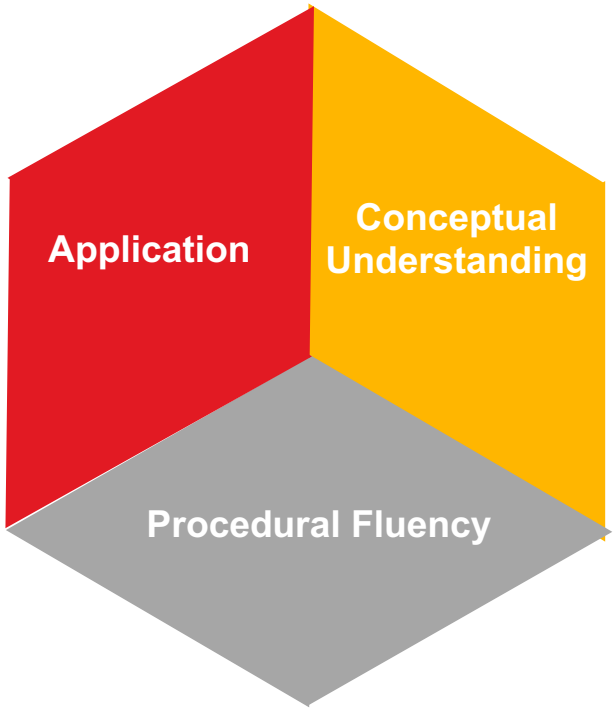

Launch: Provide background context

Launch may include context OR a mathematical figure or problem. Customized ALEKS work may support students in understanding the launch.

Explore: Students engage in a meaningful math task.

Customized ALEKS work may support students in accessing the task by frontloading skills necessary to solve the problem.

Reports may provide teachers a better understanding of scaffolds needed to support productive struggle.

Discuss: Teacher facilitates a discussion around student solutions.

Recap

Supports for Core Content:

- Loss of learning has exacerbated the differences in student mastery of concepts and increased the need for a differentiated approach.
- ALEKS supports this with an intentional focus of
  - Using the assessments to better understand what students can do and what they are ready for next.
  - Using customization to provide content that supports core content.

Supports for EC Teachers:

- Knowledge of customization and reporting features.

Supports for Core Instruction:

- A rigorous math curriculum involves a blend of procedural fluency, application, and conceptual understanding.
- ALEKS can support all three by
  - Increasing mastery of prerequisite skills
  - Assisting student access to rich math tasks
  - Providing the skills necessary to be successful with rich math tasks.
  - Providing information to teachers about scaffolds and supports to differentiate instruction.

Because learning changes everything.®

Thank You!

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