

Using ALEKS to Personalize Learning in an Inquiry Based Math Class

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West Allis West Milwaukee

West Allis West Milwaukee School District

- 7500 Students
 - 11 Elementary Schools
 - 3 Intermediate Schools
 - 2 Comprehensive High Schools
 - 1 PBL High School
 - 1 Charter School for School-Age Parents
- 60% FRL
- 16% SPED
- 6% EL
- 217 Students who are homeless

Our Why

- Strategic Plan
- Our Mission: Every day, the West Allis-West Milwaukee School District focuses on equity through deeper learning, fosters a sense of belonging, and educates the whole child so that every learner achieves success.
- Our Vision: The West Allis-West Milwaukee School District aspires to create experiences that build community and empower learners so they can live live life on their own terms.

Our Why- Equity Non negotiables

- The Deeper Learning Competencies (Master Academic Content, Problem Solving/Critical Thinking, Communication, Collaboration, Self-Directed Learning, Academic Mindset) will drive instructional planning to increase equitable opportunities for all students.
- Eliminating inequities begins with each of us; we see students as people with assets and aspirations and it is our job to help them realize their goals and dreams.

Where we were....

- 2016-2017- Projected to have 0 (yes ZERO) students in advanced math by 2019-2020.
- 2016-2017- Short Panic
 - Added hybrid Algebra/Geo
 - Added hybrid Geo/Alg 2
 - Added summer bridge course
- 2017-2018- Adopted ALEKS as core resources for Alg. 1, Geo, Alg. 2
 - Lessons learned!!!

Where we are now!

- I am not a rapper
- Student reflection
 - "I was listening to an artist named Kendrick Lamar so I drew dreads plus I have them.
 - I drew him in a stance of glory because I'm doing good in math.
 - I drew math equations and symbols and numbers around him.
 - I used a dark greenish cyan, orange, yellow, brownish-tan, red, blue and black."



I better get my math right.



Essential Questions

- How can we, as a team of local citizens, propose a winning design for a multipurpose arena for our favorite sport?
- How do graphs, averages, and outliers tell a story of a group of people? How can we see the world through another person's eyes, using quantitative data analysis?

Where does ALEKS fit?

- *“Technology will never replace great teachers, but technology in the hands of a great teacher can be transformational.”*
George Couros
- SO IMPORTANT!! The students and families need to understand the WHY!
- Set goals with each learner, each week
- Use the reports for students to self-report and to personalize.
- Confer, confer, confer

ALEKS Reports

Math 115 / Middle School Math Course 1 / LV 6 - Dashboard Class Code: XXXXX-XXXXX **CLASS TOOLS**

ALEKS Pie Report

55%
Progress
207 of 374 Topics

Select slice to see mastery.

[View Full Report >](#)

Attempted, Not Yet Learned

Reflecting a point across an axis and giving its coordinates	14% >
Division with no remainder and a two-digit divisor: Problem type 2	11% >
Converting a decimal to a proper fraction without simplifying: Advanced	11% >
Simplifying a fraction	11% >

[View All >](#)

Ready to Learn

Division with no remainder and a two-digit divisor: Problem type 2	36% >
Decimal subtraction: Advanced	32% >
Division with trailing zeros: Problem type 1	29% >
Divisibility rules for 2, 5, and 10	29% >

[View All >](#)

Lost in Recent Assessment

Converting a fraction with a denominator of 10 or 100 to a decimal	11% >
Using tables to compare ratios	11% >
Word problem with multiple decimal operations: Problem type 1	7% >
Plotting mixed numbers on a number line	7% >

Class Information

Math 115 28

Class Code: X6YJ9-XMEVE	Class Duration: 10/10/20 - 02/11/21
Course Product: Middle School Math Course 1 / LV 6	Class Grade: 6th Grade
Instructor: Joe Smith	

Time and Topic - Learning Mode

3M 1M 2W 1W

January 13 - January 19

ALEKS Reports

Current Progress

ALEKS Table of Contents	Objectives	Standards
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View Course Content by Objectives

[view all topics / hide all topics](#) ⓘ

[Ch.0-Preparing for Algebra](#)

Progress 93%

	Progress ⓘ	Remaining ⓘ	Ready to Learn ⓘ	Attempted, Not Yet Learned ⓘ
• Factors	100%	0%	0%	0%
• Greatest common factor of 2 numbers	100%	0%	0%	0%
• Least common multiple of 2 numbers	100%	0%	0%	0%
• Least common multiple of 3 numbers	97%	3%	0%	0%
• Equivalent fractions	100%	0%	0%	0%
• Simplifying a fraction	100%	0%	0%	0%
• Division involving zero	100%	0%	0%	0%
• Finding the LCD of two fractions	94%	6%	0%	0%
• Addition or subtraction of fractions with the same denominator	100%	0%	0%	0%
• Introduction to addition or subtraction of fractions with different denominators	100%	0%	0%	0%
• Addition or subtraction of fractions with different denominators	100%	0%	0%	0%
• Product of a unit fraction and a whole number	100%	0%	0%	0%
• Product of a fraction and a whole number: Problem type 1	100%	0%	0%	0%
• Introduction to fraction multiplication	100%	0%	0%	0%

ALEKS Reports

Instructor: Smith
Name: Math 133
Course Product: Algebra 1
Start Date: 08/31/2020
End Date: 02/11/2021
Textbook: Glencoe Algebra 1 (McGraw-Hill, 2014)

[Switch to Objectives without Due Dates](#)

Objective	Start Date	Due Date	Post Objective Knowledge Check	Order
<input checked="" type="checkbox"/> Chapter 0 Edit (250 goal topics)	08/31/2020 12:00 AM	09/11/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 1 Edit (88 goal topics)	09/12/2020 12:00 AM	09/23/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 2 Edit (163 goal topics)	09/24/2020 12:00 AM	10/05/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 3 Edit (47 goal topics)	10/06/2020 12:00 AM	10/19/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 4 Edit (48 goal topics)	10/20/2020 12:00 AM	10/26/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 5 Edit (67 goal topics)	10/27/2020 12:00 AM	11/06/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 6 Edit (38 goal topics)	11/07/2020 12:00 AM	11/19/2020 11:59 PM	<input type="checkbox"/>	▲▼
<input checked="" type="checkbox"/> Chapter 7 Edit (93 goal topics)	11/20/2020 12:00 AM	12/01/2020 11:59 PM	<input type="checkbox"/>	▲▼

ALEKS Reports

Content Class Code: X6WWW-3UC36 CLASS TOOLS

Select up to 60 questions to include in this assignment.

Randomly add questions from

View by Standards

- 7.EE.A.2: Understand that rewriting an expression can shed light on a problem
 - Finding the multiplier to give a final amount after a percentage increase or decrease
 - Clearing fractions in an equation
 - Writing algebraic expressions for the perimeter of a figure
 - Writing algebraic expressions for the area of a figure
 - Writing equivalent expressions for the volume of a rectangular prism
- 7.EE.B.3: Solve problems posed with rational numbers in any form
- 7.EE.B.4.A: Solve word problems leading to equations; solve equations fluently

Drag
Questions
Here

Personalizing the pathway- Doing with instead of for our learners

6:36 PM Wed Mar 3
www-awn.aleks.com

Ready to Learn 31 Topics Filters Donna

Arithmetic and Algebra Review
Multiplication of 3 by 4 integers

Arithmetic and Algebra Review
Solving a word problem on proportions using a unit rate

Arithmetic and Algebra Review
Translating a phrase into a one-step expression

31 Ready to Learn topics for this student from the rse

Topic cards show up in recommended order, but students can choose how t are completed.

Filters can change how many topics are viewed, and from what pie piece.

Students page through their pathway here.

EXPLANATION
When parentheses are next to a number or to other parentheses, it means to multiply.
Method 1:
We multiply from left to right as follows.
 $3(-2)(-1)(4)$

Start

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Personalizing the pathway- Doing with instead of for our learners

A student's Pathway can be seen in its entirety from the Pie Report. It will change and adapt as the student progresses.

The image displays two screenshots of the ALEKS Pie Detail page. The top screenshot, taken at 6:55 PM on Wednesday, March 3, shows a list of 18 math topics. The bottom screenshot, taken at 6:56 PM on the same day, shows the same page with the first two topics selected.

WAWM Geometry ALEKS Pie Detail

6:55 PM Wed Mar 3 | www-avn.aleks.com | 100%

- Introduction to the power of a power rule of exponents
- Introduction to adding fractions with variables and common denominators
- Simplifying a ratio of multivariate monomials: Basic
- Solving for a variable in terms of other variables using addition or subtraction with division
- Distributive property: Integer coefficients
- Using distribution and combining like terms to simplify: Univariate
- Introduction to solving a linear equation with a variable on each side
- Writing algebraic expressions for the perimeter of a figure
- Introduction to solving a rational equation
- Translating a phrase into a one-step expression
- Identifying solutions to a linear equation in one variable: Two-step equations
- Solving a linear equation with several occurrences of the variable: Variables on the same side
- Square root of a perfect square
- Greatest common factor of 2 numbers
- Solving a word problem on proportions using a unit rate
- Division of a decimal by a power of ten
- The reciprocal of a number
- Signed fraction addition or subtraction: Basic

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6:56 PM Wed Mar 3 | www-avn.aleks.com | 100%

WAWM Geometry ALEKS Pie Detail

- Signed fraction addition or subtraction: Basic
- Order of operations with integers

Our adjusted pathway.

6	<ul style="list-style-type: none">• Start with RTI (done by Thanksgiving or making an individual learning plan)• 6 and 7
7	<ul style="list-style-type: none">• Start with RTI (done by Thanksgiving or making an individual learning plan)• Course 8
8	<ul style="list-style-type: none">• Algebra Readiness Course (done by winter break or making an individual learning plan)• Algebra 1
9	<ul style="list-style-type: none">• Repeat Algebra 1 (should be very, very few students)• Geometry or Honors Geometry
10	<ul style="list-style-type: none">• Algebra 2 or Algebra 2 with Trig

Our outcomes

- Highest ACT scores in 5 years
- Growth scores on the rise on our school report card
- Student Achievement Scores on the rise on our school report card
- More sections of Geometry than Algebra for the first time
- Many more learners confident in their math skills




Because learning changes everything.®

Thank You!



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