



CCPS

Collier County
Public Schools

ALEKS

Secrets of Personalized Learning

March 4, 2021

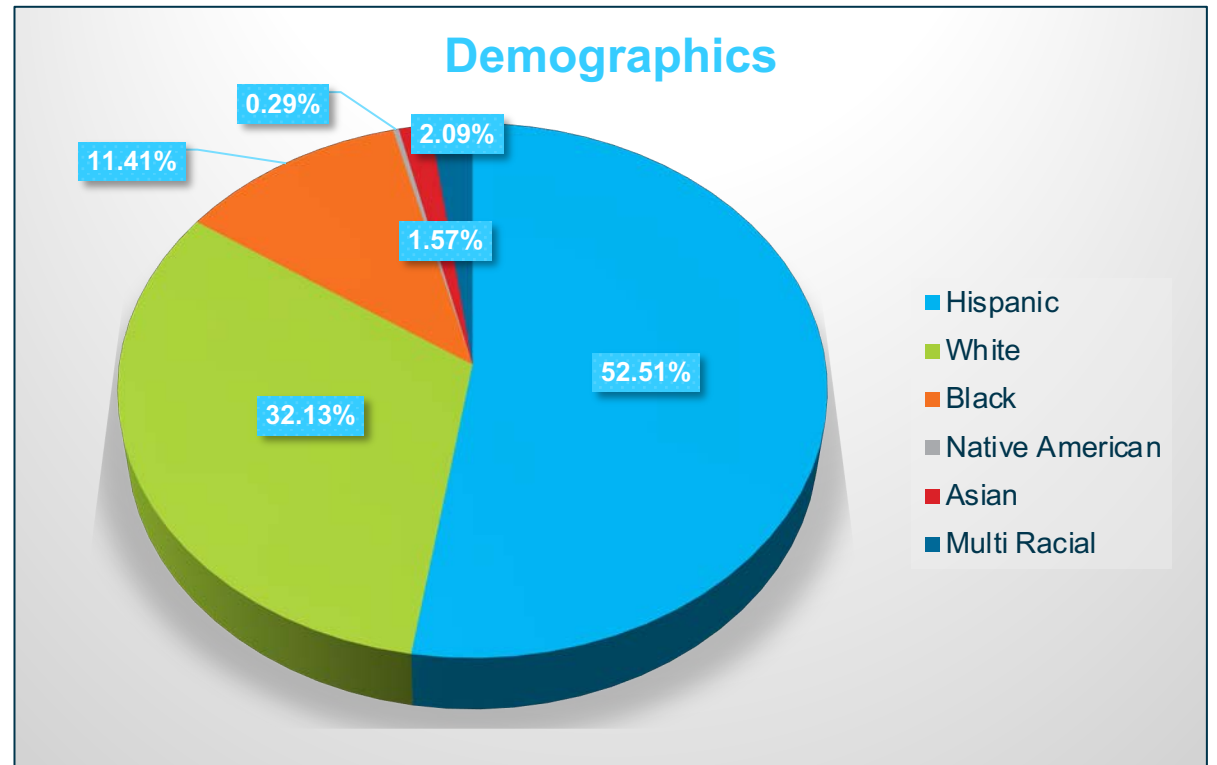


ALEKS: CCPS Overview

Fast Facts:

- 115th largest school district in US
- 61 total schools (30-E, 10-M, 8-H, 12-O)
- 6,860 employees; 3,120 teachers
- 1:1 technology K-12
- Homeless student population: 882 students

Category	Count	%
Total	47101	100%
Male	24270	52%
Female	22831	48%
Economically Needy	30408	65%
LEP (LY only)	6962	15%
ESE	6747	14%
ESE Gifted	2758	6%
Migrant	2717	6%
Home Language English	21205	45%
Home Language Spanish	20145	43%
Home Language Haitian Creole	3074	7%
Home Language Other	2677	6%



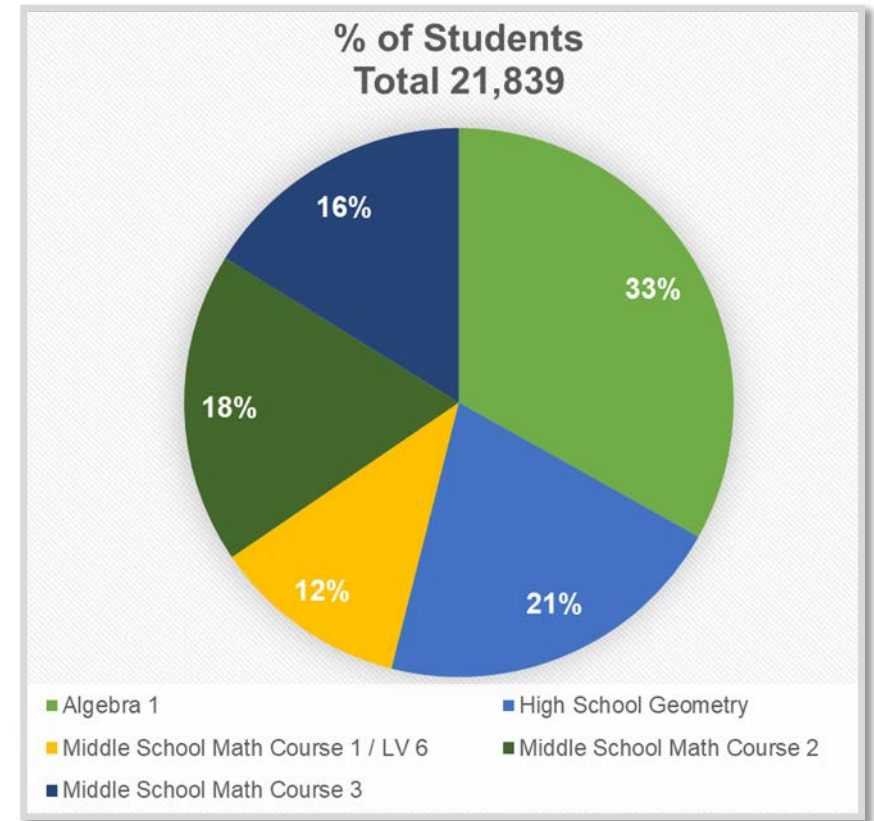
ALEKS: CCPS History

Overview of Usage throughout the years:

- **Initial use targeted only intensive courses at the HS level**
 - Intensive Algebra and Algebra 1B Skinny (repeat)
 - Used to help students meet graduation requirements
 - Used to fill foundational gaps for intensive students
- **Added intensive courses MS level**
 - Fill foundational gaps for L1 and L2 students in double block (R/I)
 - Math fact fluency
- **Added regular courses MS level**
 - Fill foundational gaps for L3 students to maintain achievement (6R, 7R, 8R)
- **Added all Algebra 1A/B courses MS and HS**
 - Increase achievement in HS 1A/B; maintain achievement in MS 1A/B for acceleration
- **Added all remaining tested area courses**
 - Algebra 1R, 1H, 6A/C, 7A/C, 8A/C, Geo R, Geo H

ALEKS: CCPS Course Product Alignment

Course	School Grade(s)	Course Product
6 Regular/Intensive	6	MS Math Course 1/LV 6
6 Advanced/Cambridge	6	MS Math Course 2
7 Regular/Intensive	7	MS Math Course 2
7 Advanced/Cambridge	7	MS Math Course 3
8 Pre-Algebra/Intensive	8	MS Math Course 3
Algebra 1H	8	Algebra 1
Algebra 1R	8/9	Algebra 1
Algebra 1A/B	8/9	Algebra 1
Geometry Regular	9/10	HS Geometry
Geometry Honors	9	HS Geometry
Informal Geometry	9/10	HS Geometry



Note: students will be moved up to the “next pie” if the complete 100% of their current pie and test out of the course on the final comprehensive knowledge check (keeping accelerated students moving ahead)

ALEKS: Customizing Content

2014 MAFS and Foundational Knowledge

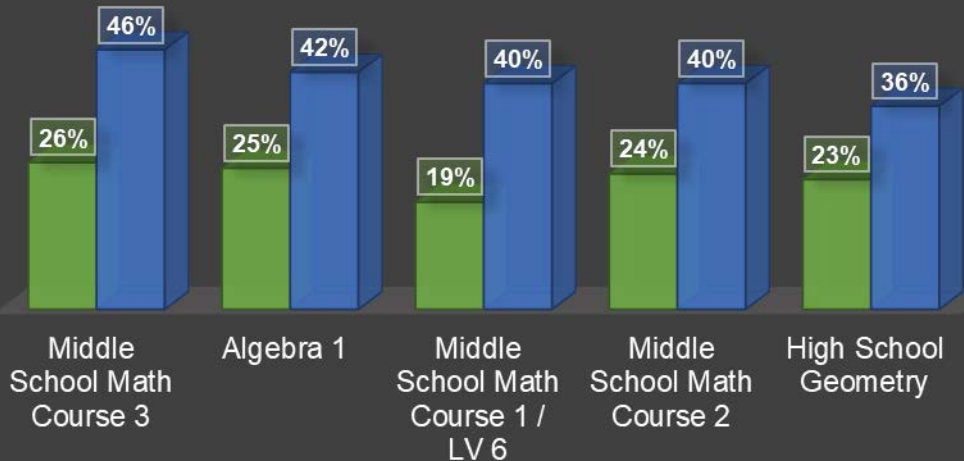
- **Hand select content for each course for the purpose of:**
 - Full alignment to Florida MAFS standards 2014
 - Include lost learning from Q4 SY20
 - Include all foundational knowledge to current year's standards
 - Include critical content from previous years for spiral review
 - Customization allows for keep accelerated students moving ahead and closing learning loss gaps for others
 - **Example**: Geometry – customized pie to have 552 (out of 930)
- **Assignments vs. Pie**
 - Teachers can still select content from all topics in default course
 - Pie content is only aligned to the customized content

ALEKS: Using Reports to Inform Instruction

Course	# Students	Avg. Hours	Initial	Current	Gains
Middle School Math Course 1	2515	34.6	19%	40%	21%
Middle School Math Course 3	3534	29.6	26%	46%	20%
Algebra 1	7236	21.6	25%	42%	17%
Middle School Math Course 2	4006	25.1	24%	40%	16%
High School Geometry	4548	22.8	23%	36%	13%
Total	21839	26.7	23%	41%	18%

GAINS SY21 (9/1/20 - 3/3/20)

■ Initial Progress ■ Current Progress



Key Points:

- Middle school **Advanced** and **Cambridge** students use the next grade level pie to ensure alignment with Florida course standards (**keep accelerated students moving ahead**)
- **Greatest use SY21** is in grade 6:
 - **Learning loss gaps** in critical content SY20 Q4
 - Greater QuickTables use fact fluency
- **Greatest gains** to date SY21 is in grade 8 PA:
 - **Learning loss gaps** in critical content SY20 Q4
 - Greater QuickTables use fact fluency
 - Intense focus on ALEKS use due to extremely low pass rate on SY19 FSA and learning loss
- **Low gains** and use in Geometry due to:
 - First year using program – learning curve
 - Mostly single period courses
 - Requirements for use outside of class

ALEKS: Using Reports to Inform Instruction

School A ALEKS Data SY21 Geometry																
		Initial Pie (%)			End Pie (%)			Gain			Learned/Hour			Time Spent		
Test	#	Sch	Dist	Diff	Sch	Dist	Diff	Sch	Dist	Diff	Sch	Dist	Diff	Sch	Dist	Diff
Q2	701	26	23	3	37	33	4	11	10	1	3	3	0	9.4h	10h	0.6h
Q1	753	26	22	4	31	28	3	5	6	-1	2	3	-1	6.5h	8h	1.5h

School A QBA Data SY21 Geometry									
	All % Correct			Multiple-choice %			TEI %		
Test	Sch	D/S	Diff	Sch	D/S	Diff	Sch	D/S	Diff
Q2	50	45	+5	54	50	+4	44	36	+8
Q1	47	43	+4	50	48	+2	43	38	+5
Pre	41	40	+1	41	40	+1	44	39	+5
FY19	41	34	+7						

Key Points:

- The **top chart** on the left represents a specific school's ALEKS use for Q1 and Q2 in regards to gains, topics per hour and time
 - The chart compares the schools data to the overall district data
- The **bottom chart** represents the same schools data on our quarterly benchmark assessments, pre-assessment and FY19 scores
 - Schools can view ALEKS usage relative to overall progress on summative benchmark assessments

Note: Data is exported from ALEKS and imported into our Data Warehouse system

**Data can be filtered by ESE, LY, LF, L25 and more in order to help schools and teachers better understand trends in target populations*

ALEKS: Using Reports to Inform Instruction

- Teachers create customized assignments based on topic suggestions listed in our curriculum guide
- Teachers determine the type of assignment (HW/Q/T) and determine settings
- Teachers run item analysis upon completion and subsequently adjust instruction, design a reteach lesson, pull small groups, spiral back content, etc. based on student needs

Homework Exponents and Order of Operations

View: [Student Scores](#) | [Per Question Results](#) | [Detailed Student Results](#)

All Q#1 Q#2 Q#3 Q#4 Q#5 Q#6 Q#7 Q#8 Q#9 Q#10

Question	Answered Correctly	Answered Incorrectly ▲	Not Answered
9. Order of operations with whole numbers and exponents: Advanced	52%	43%	4%
10. Order of operations with whole numbers and exponents: Advanced	57%	35%	9%
8. Order of operations with whole numbers and grouping symbols	78%	22%	0%
7. Order of operations with whole numbers and exponents: Basic	83%	17%	0%
2. Introduction to exponents	91%	9%	0%
3. Power of 10: Positive exponent	96%	4%	0%
6. Order of operations with whole numbers	96%	4%	0%
1. Writing expressions using exponents	100%	0%	0%
4. Introduction to parentheses	100%	0%	0%
5. Introduction to order of operations	100%	0%	0%
Average (23 Homework Reports)	85%	13%	1%

ALEKS: Using Reports to Inform Instruction

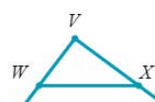
- Teachers can see:
 - Detailed time info
 - Incorrect answer submitted
 - Attempts on topic
 - Any unusual learning

Incorrect
Your answer is incorrect.

Answer submitted: $WT = 30$
Correct answer:
 $WT = 21$

QUESTION

In $\triangle TUV$, $\overline{TU} \parallel \overline{WX}$. Given that



Date	Duration	Topic	Status
5:30 PM	2m 48s	Writing an equation to find angle measures of a triangle given angles with variables	Learned
5:33 PM	4m 28s	Establishing facts about the interior angles of a triangle	Learned
5:38 PM	8m 19s	Proofs involving congruent triangles with parallel or perpendicular segments	
02/17/2021	7:10 PM 1m 29s	an angle measure for a triangle sharing a side with another triangle	Incorrect
		angles and parallel lines	Learned
7:13 PM	0m 58s	Determining when to apply the HL congruence property	Learned
7:15 PM	0m 2s	Special right triangles: Decimal answers	
7:16 PM	2m 54s	Finding the measures of an interior angle and an exterior angle of a regular polygon	Learned

ALEKS: Customize over Assign

ALEKS Guidelines SY21

ALEKS Assignment	Description	When to Use	
Comprehensive Knowledge Checks	<ul style="list-style-type: none"> Every student will automatically take a required initial knowledge check when they first log into the program Unique to all learners and the questions change based on previous answers through artificial intelligence Covers content for the entire course/year, not just recent learning Between 25 – 30 questions (usually takes between 60-90 min) Each topic answered correctly is added to the pie It is very important to administer these before the pie progress due dates, as it will assist students with their overall pie progress Comprehensive knowledge checks are expected for all students, virtual and in person 	Double Blocks	Once per month (<i>in-class administration preferred</i>)
		Regular Single Period	Once per month or quarter (<i>in class or at home due to time constraint</i>)
		Honors/Cambridge/Advanced Single Period	Once per quarter (<i>in class or at home due to time constraint</i>)
Progress Knowledge Checks	<ul style="list-style-type: none"> Unique to all learners and the questions change based on previous answers through artificial intelligence Covers <u>only</u> recent topic learning content in ALEKS Between 10 – 15 questions (usually takes between 20-45 min) Each topic answered correctly gets added to the pie 	<ul style="list-style-type: none"> Not mandatory and can be used at any time to help students add topics to their pie or measure recent learning 	
Pie Progress Goals	<ul style="list-style-type: none"> Pie progress goals are specific to content learned in ALEKS and are used to motivate students ensuring consistent growth in the program Determine where your students need to be by the end of the year and work backward to determine monthly pie progress goals Example: if your goal is to have the students complete 80% of the ALEKS pie by June, your pie progress goal for June would be 80% and you would set a lower goal for each prior month Pie progress goals are expected for all students, virtual and in person 	<ul style="list-style-type: none"> Pie progress goals should be <u>set monthly</u> (<i>grades are automatically generated as students work in their pie</i>) You can always adjust your pie progress goals as needed 	
Topic Goals	<ul style="list-style-type: none"> Topic goals are a way to assign a certain QTY of topics to be completed over a given time period 	<ul style="list-style-type: none"> Not mandatory, as monthly pie progress goals are sufficient 	
Quicktables	<ul style="list-style-type: none"> A research-based, math fact mastery program for multiplication, division, addition, and subtraction If you are going to use Quicktables, you will need to set them up for each of your classes and adjust settings appropriately 	<ul style="list-style-type: none"> Recommended for use in intensive classes, or for any student who needs help with math fact mastery 	
HW/Quiz/Test	<ul style="list-style-type: none"> A way to assign specific content or topics to students HW assignments allow students to retry each question at a time Settings allow for multiple attempts, partial credit, etc. 	<ul style="list-style-type: none"> Not mandatory, but a great tool for students to practice content or to assess students on specific content 	

ALEKS Guidelines SY21

- The document sets district guidelines and recommendations to ensure equity and usage district wide
- This document covers:
 - Descriptions and suggested use and implementation of specific assignment types
 - Suggested naming conventions and categories for assignments in gradebook
 - Suggested administration dates for comprehensive knowledge check based on course taught
 - Suggested assignment due dates and goal Percents for pie progress goals based on course taught
 - Ideas and incentives



ALEKS: Customize over Assign

Comprehensive KCs will:

- Ensure students are tested on all content
- Allow an opportunity for mastery of topics through the KC instead of completing topics in pie

Comprehensive Knowledge Checks

ALEKS Assignment		Description								
SY21 at a Glance		Q1		Q2			Q3		Q4	
		September	October	November	December	January	February	March	April	May/June
Comprehensive Knowledge Checks	<i>Double Blocks</i>		1 st Comprehensive KC	2 nd Comprehensive KC	3 rd Comprehensive KC	Optional	4 th Comprehensive KC	5 th Comprehensive KC	6 th Comprehensive KC	Final Comprehensive KC
	<i>Regular 1 Period</i>	Initial KC by 9/11/20	Before Oct. 29 th	At least 1 before Jan. 15 th or 1 per month			At least 1 Before March 26 th or 1 per month		At least 1 before End of Year or 1 per month	
	<i>Honors/Advanced</i>		Before Oct. 29 th	One before Jan. 15 th			One Before March 26 th		One Before End of Year	

- Expose students to content that may have been taught in class, but not yet completed in ALEKS- and allow for mastery

Pie Progress Goals

ALEKS Assignment		Description								
SY21 at a Glance		Q1		Q2			Q3		Q4	
		September	October	November	December	January	February	March	April	May/June
SAMPLE PIE Progress Goals For each month	<i>SAMPLE Advanced Honors</i>	30%	40%	50%	60%	65%	75%	80%	85%	90%
	<i>SAMPLE Regular</i>	20%	30%	40%	45%	50%	55%	65%	70%	75%
	<i>SAMPLE 1A/1B</i>	1A 70% or higher by Jan. 15 th					Restart to 1B after Jan. 15 th			
		30%	40%	50%	60%	70%	80%	35%	50%	60%

NOTE: The pie progress goals are ONLY samples. The teacher will determine all other monthly goals.

ALEKS: Implementation Timeline and Recommendations

Sample for Grade 5 ALEKS Implementation:

- **ALEKS Pie Topics:** Students should spend 45 – 60 min (**minimum**) during the school week
- **QuickTables:** 20 – 30 minutes (**minimum**)
- **The goal is for students to complete a minimum of 5 topics per week**
 - Depending on the difficulty of content and student foundation, **topics** can range from **3 to 5 questions** and each topic containing those questions can take anywhere from **90 seconds to 10 minutes** to complete

Recommendations for Weekly ALEKS Usage During the School Day

60 Minute Math Block

- 15 - 20 minutes each day in place of the HMH Warm-Up
- Small group rotations during Own Your Own

60+ Minute Math Block

- Use additional time beyond the 60 minute core math block daily

MTSS Block

- 30 minutes twice a week during MTSS/Intervention blocks (incorporate Quick Tables during the math block 2 times per week)

Note: Additional time for ALEKS can be incorporated into morning work time, IR time, transition between departmentalized classes, morning math clubs, homework, etc.

ALEKS: Overall Best Practices

Training and PD:

- Created customized training videos on each area of ALEKS
- Created Canvas ALEKS training course (custom videos, PPTs, etc.)
- Assigned mentors to new teachers for proper training
- Provide customized school level training based on needs assessment

Closing the Gap:

- Purposeful selection of content for each ALEKS course
- Consistent structure and plan for accelerating students in the program
- Setting monthly pie progress goals
- Administering monthly comprehensive KC

Motivation and Engagement:

- Teacher motivation comes from selling the benefits of the program (closing achievement gaps, customizing assignments, amazing reporting features, reducing grading time, etc.)
- Student motivation and engagement through incentives, extrinsic rewards, competitions and development of intrinsic motivation through goal setting, encouragement and development of growth mindset



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