SUSD Math



Instructional Materials Updates and Recommendations for Adoption

Program/Process Improvements

SUSD Governing Board Meeting April 10, 2012

Updates and Improvements

HS/Secondary Math

- Course Trajectory
- Instructional Materials Updates and Recommendations for Adoption

Middle Level Math

- Course Trajectory
- Exchange of Instructional Materials

Elementary Level Math

- Exchange of Instructional Materials

Secondary Math Course Trajectory HSPG Committee 2011-12

SUSD High School Math Courses

(Trajectory of courses revised April, 2012)

Year 1	Year 2	Year 3	Years 4	Year b	
			Please see the HSPG for course pre-requisites and		
			recommended	sequences.	
			"Note: All courses at this level need Algebra II as a pre- requisite, except those "starred."	** Note: All courses at this level need Trig/Pre-Calc as a pre-requisite, except AP Stats.	** Calculus III requires AP Calc BC as a pre-requisite.
	Geometry	Algebra II	Algebra III with Trig		Calculus III
Algebra 1	(Geometry Support	(Algebra II Support	Algebra III Dual Enrollment	Brief Calculus	Calculate III
(Algebra Support	course is available in conjunction with	course is available in conjunction with	Trig onometry/Pre-Calculus	AP Calculus AB	
course is available in conjunction with	Geometry, as an elective)	Algebra II, as an elective)	Trigonometry/Pre-Calculus Honors	AP Calculus BC	
Algebra I, as an				AP Statistics	
elective)	Geometry-Trig Honors	Algebra II Honors	Trigonometry/Pre-Calculus Dual Enrollment	IB Math HL - 2	
	Country Ting Florida	rigadiiridide	AP Computer Science		
			Business Math (Financial Math)		
			IB Math SL		
		* AIMS Math	IB Math HL - I		
		Standards (See note below.)	IB Math Studies		
		(OCC TIME DEGIN.)	*AIMS Math Standards (See note below.)		

Note

- Courses offered as Dual Enrollment are affiliated with Scottsdale Community College.
- AIMS Math Standards is an intervention course for juniors and seniors who haven't passed AIMS. The course counts as a math course for graduation requirements but is NOT recognized as a required math course for universities.
- Students are more successful in Honors level classes if they have completed the Honors class pre-requisite. Students that did not take Geometry-Trig
 Honors but are interested in taking other Honors level courses in math should consult with their teachers and guidance counselors to learn if they would
 benefit from taking an extra class or receiving additional support prior to beginning an Honors level course.

SUSD High School Math Courses

(Trajectory of courses revised April, 2012)

Year 1	Year 2	Year 3	Years 4 Please see the HSPG for co	Year b	
			recommended		
			"Note: All courses at this level need Algebra II as a pre- requisite, except those "starred." Algebra III with Trig	"Note: All courses at this level need Trig/Pre-Calc as a pre-requisite, except AP Stats.	" Calculus III requires AP Calc BC as a pre-requisite.
Algebra 1	Geometry (Geometry Support	Algebra II (Algebra II Support	Algebra III Dual Enrollment	Brief Calculus	Calculus III
(Algebra Support	course is available in conjunction with	course is available in conjunction with	Trigonometry/Pre-Calculus	AP Calculus AB	
course is available in conjunction with	Geometry, as an elective)	Algebra II, as an elective)	Trigonometry/Pre-Calculus Honors	AP Calculus BC	
Algebra I, as an elective)			Trigonometry/Pre-Calculus Dual Enrollment	AP Statistics	
	Geometry-Trig Honors	Algebra II Honors	AP Computer Science	IDIMABITIE-2	
			Business Math (Financial Math)		
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		* AIMS Math	IB Math HL - I		
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Secondary Math Textbook Adoption Committee -- History

Spring 2011 – Recommendations:

Trigonometry/Precalculus

AP Calculus

AP Statistics

Calculus 3/Differential Equations

Brief Calculus

Paused – Spring 2011:

Common Core Dependent Courses:

Algebra I, Geometry

Algebra II

Future 4th Year Math Course(s)

Secondary Math Textbook Adoption Committee 2011-12





Members of the HS Math Adoption Committee – Winter, 2012

Secondary Math Textbook Adoption Committee 2011-12

Recommendations

SUSD High School Math Textbooks

Course	Book Title	Publisher	Author	Edition	ISBN	Adoption Status
Algebra 1	Algebra 1	Holt McDougal	Burger	2012	978-0-547-64703-6	Recommended
						\$177,902.10
Geometry	Geometry	Holt McDougal	Burger	2012	978-0-547-64709-8	Recommended
						\$141,439.32
Algebra 2	Algebra 2	McDougal Littell	Larson, Boswell,	2004	0-618-25020-4	Pause
_			Kanold, Stiff			(Emphasis on Pathways
						Partnership with ASU)
Trig/	BreCalculus Enhanced with	Pearson	Sullivan Sullivan	5th 2009	978-0-13-135694-8	Complete In schools
BreCalculus	Graphing Utilities					
Algebra 3/Trig	Algebra & Trigonometry	Pearson	Blitzer	4th 2010	0-13-136218-6	Complete In schools
-						
Geometry/Trig H	Geometry for Enjoyment &	McDougal Littell	Bhoad, Milauskas,	2000	0-86609-965-4	Pause
	Challenge		Whipple			
Algebra 2 H	Algebra and Trigonometry	Holt McDougal	Larson, Hostetler	7th 2007	978-0-538-76814-6	Pause
-		_				(Emphasis on Pathways
						Partnership with ASU)
Trig/EseCalculus	Brecalculus, Graphical,	Pearson	Demana, Waits, Foley,	8th 2011	0-13-136906-7	Complete In schools
Honors	Numerical Algebraic		Kennedy			
AP Calculus	Calculus: Early Transcendental	Holt McDougal	Larson, Edwards	5th 2011	978-0-538-49717-6	Complete In schools
	Functions	_				
AP Statistics	The Practice of Statistics	Bedford, Freeman &	Starnes, Yates, Moore	4th 2011	1-4292-4559-X	Complete In schools
		Worth Worth				
AIMS Standards	AIMS Computer Tutor	Laugus, Soft				Complete In schools
Basics,						
Financial Math	Financial Algebra	Genver, Sgroi	Cangage Learning	2011	978-0-538-44967-0	Recommended
						\$23,400.00
Calculus 3	Vector Calculus	Freeman	Marsden, Tromba	5 th	978-0-716-74992-9	Complete in schools
Differential	Differential Equations and	Pearson	Edwards, Penney	2010	078-0-136-05425-2	Complete In schools
Equations	Linear Algebra, 3/E		·	1		
Finite Math						Pause
AP Computer	Java Concepts for AP	Wiley	Horstman.	5th	978-0-470-57827-8	Recommended
Science	Computer Science					\$4,677.05
Brief Calculus	Calculus with Applications,	Pearson	Lial, Greenwell,	9th 2008	978-0-321-42274-3	Complete in schools
	Brief		Ritchev			

- 2011-12 recommendations for high school Instructional materials for selected course titles total \$347,418.47.
- Course total numbers may change slightly with enrollment for the 2012-2013 school year.
- Shipping and handling changes have not been included with totals.
- Supplemental materials for Algebra I, Geometry, and Algebra II Support courses currently recommended by Curriculum Specialists, Department Chairs and/or Leadership Team Members include: ALEKS, Adaptive Curriculum and Knewton Math Readiness
- Funding allocated from the Curriculum Capital Override Budget of \$1,444,286.00 will support Math Adoption.

SUSD High School Math Textbooks

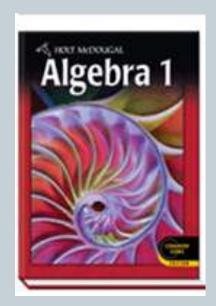
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High School Math Materials

Benefits to Students and Teachers

- Algebra I and Geometry students and teachers will have access to updated curriculum instructional materials and *online* resources for the first time.
- Materials are aligned to Common Core Standards with real world applications.
- Financial Math will provide a challenging, relevant, 4th year math course for our high school students.



Other Recommendations — High School

Menu of opportunities for students to receive support to ensure success in Algebra I, Geometry, and Algebra II

A full class period of math support offered as an elective credit (ex. Alg I Support course)

On-line support course as an elective credit --concurrently with the class

On-line support class in the summer before the class – as elective credit

Middle Level Math — Course Trajectory

SUSD Middle Level Math Course and Text Information -- 2011-12 and 2012-2017

Middle Level Math Course 2011-12	Standards 2011-12	Text title 2011-12	Text Color 2011-12	Changes: For 2012-2017	Standards 2012-17
6th Grade	6th grade standards	Math Connects - Course 1	Red	6 th Grade Math (6 th Grade – Course 1 CCS Text)	6th grade standards
6th Grade Advanced	7th grade standards	Math Connects - Course 2	Blue	6th Grade Advanced Same as 7th Grade Math (7th Grade – Course 2 CCS Text)	7th grade standards
7 th Grade	7th grade standards	Pre-Algebra	Purple	7 th Grade Math (7 th Grade – Course 2 CCS Text)	7th grade standards
7th Grade Advanced	8th grade standards	Pre-Algebra	Purple	7th Grade Advanced Same as 8th Grade Math (8th Grade – Course 3 CCS Text)	8th grade standards
8th Grade	8th grade standards	Course 3	Green	8 th Grade Math – (8 th Grade – Course 3 CCS Text)	8th grade standards
8 th Grade Advanced	Algebra I standards	Algebra I	Aqua/blue book (Used 10- 11)	Algebra Course (eligible for HS credit) (New HS Alg Text 2011-12 adoption)	Algebra I standards
In rare circumstances — some students that have been accelerated may				Geometry (HS Text) Geo/Trig H	Geometry standards Geo/Trig standards
take Geometry or Geo/Trig Honors in middle school.				(HS Text)	

New Texts with Common Core Standards within them will be available at the start of the 2012-2013 school <u>year</u>.

All middle level students will have their own text.

All supporting materials for teachers are web-based (not software).

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7 th Grade	7th grade standards	Pre-Algebra	Purple	7 th Grade Math (7 th Grade – Course 2 CCS Text)	7th grade standards
7th Grade Advanced	8th grade standards	Pre-Algebra	Purple	7 th Grade Advanced Same as 8 th Grade Math (8 th Grade – Course 3 CCS Text)	8th grade standards
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have been accelerated may take Geometry or Geo/Trig Honors in middle school.				Geo/Trig H (HS Text)	Geo/Trig standards

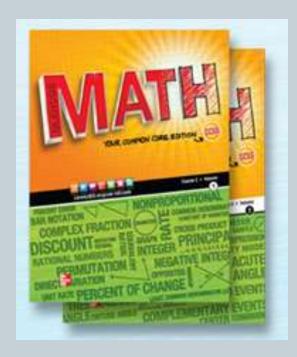
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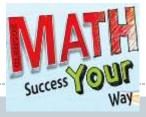
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Middle Level Level Math

In December 2011, a committee of SUSD grades 6-8 teachers unanimously recommended the exchange of the current 2009 copyright of the Glencoe books for their common core editions, the company's instructional materials program developed to teach the CCS and the mathematical practices within them -- at the middle level (grades 6-8).



Middle Level Math



Benefits to Students

- Consumable textbook for each and every student
- Integrated within each lesson are opportunities for students to learn the content standards and a focus on the practice standards
- Rich digital resources and apps, including student edition
- Academic vocabulary, foldables, and problem solving lessons
- Hands-on learning connected with real world learning experiences
- Yearly editions will include all updates/revisions/corrections to the texts, each year

Benefits to Teachers

- Written specifically to the CCS
- Includes focus on the practice standards
- Hard copy TEs, and all supplementals are available online for personalization and differentiation
- Assessments for computation, problem solving skills and vocabulary -- formative, summative and diagnostic
- Annual updates to online resources will include assessments and prep materials that will become more robust and aligned with the CCS

Elementary Level Math



In March 2012, a committee of K-5 teachers representing 16 SUSD schools unanimously recommended the exchange of the current 2009 copyright of Math Connects for the Math Connects common core edition (called MyMath), the company's instructional materials program developed to teach the CCS and the mathematical practices within them.

Elementary Level Math

Benefits to Students

- Consumable textbook for each and every student
- Integrated within each lesson are opportunities for students to learn not only the content standards, but a focus on the practice standards
- Rich digital resources and apps, including student edition
- Academic vocabulary, foldables, and problem solving lessons
- Hands-on learning connected with real world learning experiences

Benefits to Teachers

- Written specifically to the common core standards, not merely correlated to them
- Includes focus on providing opportunities for the practice standards
- Hard copy TEs, and all supplementals available online for personalization and differentiation
- Assessments for computation, problem solving skills and vocabulary -- formative, summative and diagnostic

Elementary Level Math



Essential Question

Included in Each Chapter:

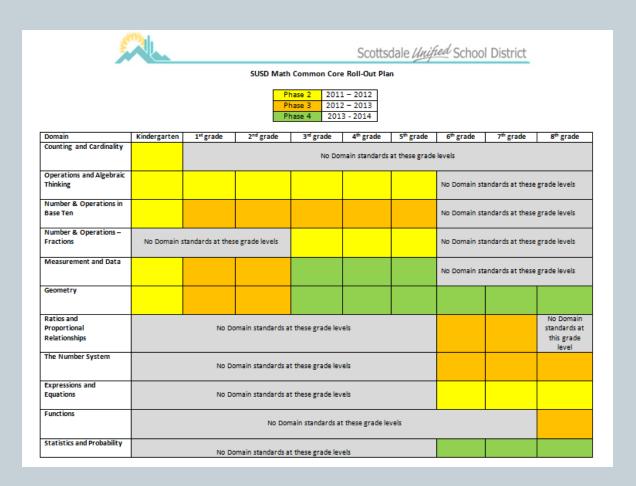


Student Vocab Cards



Common
Core
Content
and
Practice
Standards

SUSD Common Core Timeline – Math



Supporting SUSD Teachers SUSD Professional Development





SUSD Summer PD Institute

SUSD SUMMER INSTITUTE

Professional Development for Teachers

Facilitated by Teachers

Institute Theme:
Instruction that Matters Most

June 4—7, 2012 Mohave District Annex

About the Institute:

All sessions are invitational and optional.

Teachers are welcome to attend any sessions they believe to be relevant.

Professional Development or Career Ladder A hours will be awarded.

Check in MLP for more details about the sessions within the Institute.

Contact members of the SUSD Curriculum Team if you have additional questions.

Lunch is on your own during the Institute.

Please sign up in MLP for any sessions you plan to attend by May 1st. Monday, June 4th, 2012

Morning Sessions:

Myrlin Hepworth

Teaching Artist, Poetry Writer and Performer

Kevnote

8:30-9:30 a.m.

"The Importance and Value Surrounding the Craft and Career of Teaching"

Workshop 10:00—11:00 a.m.
"Cultivating Imagination with Creative Writing and Performance"

Afternoon Sessions: 12:00-3:00 p.m.

- . ELA- K-5th CCSS Reading
- . ELA- MS Writing (Session Lof 2)
- Mathematics K-2nd MyMath
- Mathematics 3rd 5th Fractions
- · Mathematics Algebra Unwrapping the Standards
- . Science- Notebooking "Writing to Learn"



Engage, Educate and Empower Every Student, Every Day

Tuesday, June 5th, 2012

Morning Sessions: 8:00-11:00 a.m.

- ELA/Social Studies- MS/HS Creating Units Based on CCSS (Session Lof 3)
- Mathematics K-Znd MyMath (Duplicate of Monday afternoon)
- Mathematics- MS/HS TI Inspire
- Mathematics MS/HS GeoGebra Draw and Diagram
- Science-TIP K-4th Discovery Education
- · Science- TIP 5th-8th Discovery Education

Afternoon Sessions: 12:00-3:00 p.m.

- ELA- K-5th CCSS Language (Vocabulary/Grammar)
- ELA- MS Writing (Session 2 of 2)
- Mathematics 3rd-4th MyMath
- Mathematics- Algebra Unwrapping the Standards (Duplicate of Monday afternoon)
- Science—TIP K-4th Discovery Education (Duplicate of this morning)
- Science-TIP 5th-8th Discovery Education (Duplicate of this morning)
- Social Studies- AP Collaboration
- World Language Motivate your Students to Become Global Learners Using Mobile Technology

All Day Session: 8:00 a.m.—11:00 a.m. 12:00 p.m.— 3:00 p.m.

· Fine Arts- Kennedy Center in the Classroom

Supporting SUSD Teachers Partnership Highlights

Middle Level:

SCC -- Arizona Mathematics Partnership

Promoting Excellence in Arizona Middle School Mathematics: Increasing Student Achievement through Systemic Instructional Change

High School:



ASU -- Project Pathways

Ongoing PD and Support to discuss what is involved in knowing, learning and teaching concepts.

Explicit attention to:
Speaking with meaning
Mathematical Integrity
Sense Making
Respecting the learning
process of colleagues

Budget Information

Spreadsheet(s) Reflect:

- 1. Texts we have already purchased at the secondary level
- 2. What we hope you'll approve to spend this spring, based on recommendations you heard tonight
- 3. What we project in savings based on the exchange of materials at grades K-8

Wrapping Up...

Special thanks to our HS math adoption committee members, lead teachers in grades K-8 and our SUSD Curriculum Specialists for their commitment to this work!



Questions?