

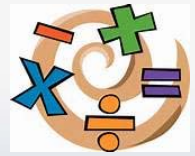
Mathematics

I was good at math before they decided to mix the alphabet in it



Mathematics

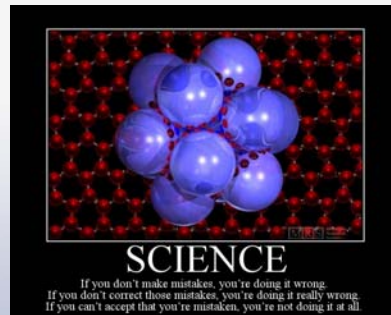
1. Increase number sense and early math literacy in grades K-3
2. Provide professional development to raise teachers' content knowledge, especially in elementary schools
3. Work to create a seamless transition in mathematics from elementary to middle school and middle school to high school
4. Create a systemic approach that will result in all Hoover students being proficient in Algebra 1 by the end of Grade 9



Science



Science



Science for the Next Generation



Current Biology Standard:

Identify reactants & products associated with photosynthesis & cellular respiration and the purposes of these two processes.

Next Generation Science Standard:

Construct & revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.



Reading and English Language Arts



Reading and English Language Arts

Commitment to use the best authentic literature and nonfiction with students, K-12, and to locally choose those texts



Reading and English Language Arts

Better use of small group instruction to explicitly teach needed reading skills. One size does not fit all in a reading classroom.



Reading and English Language Arts

Students gain reading skills at a faster rate in Grades K-5 than they do in Grades 6-12. Our goal is to encourage that reading growth to continue into high school.



Reading and English Language Arts

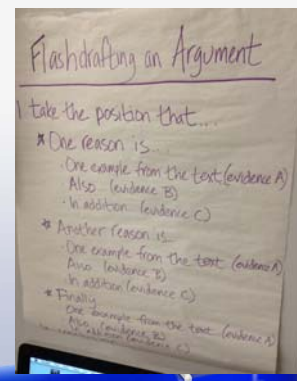
Hoover City Schools offer teachers multiple resources to teach reading and English Language Arts, particularly in Grades K-5.

A challenge exists in learning how to select the strongest elements of each program to strengthen student skills.



Reading and English Language Arts

Using the new writing standards as a basis for strengthening student reasoning in K-12.





Social Studies

Working on a new Alabama course of study cycle and revising local curriculum guides to include new literacy standards for social studies

Inquiry Arc

- Textbook / digital resource adoption scheduled for Spring 2014



Why?

- We want our students to be college and career ready when they leave Hoover City Schools.
- We want them to compete for a career that will be 21st century ready.

When?

- 2007 First wave
- 2012 Infrastructure Complete
- Summer 2012 ELI
- Summer 2014 refresh and complete

Where, How and What?

- Grades K-2
- Grades 3-5
- Grades 6-8
- Grades 9-12

Outcomes!

- <http://www.hhsibucs.blogspot.com/>
- <http://www.youtube.com/watch?v=oNKv21vKGYE&feature=youtu.be>
- <http://www.hoovercityschools.tv/>

Hoover vs Troy University

	Hoover	Troy University
Students	13800	31000
Internet Average Daily Traffic (Mbps)	570	534
Buildings	20	42
Wireless Access Points	637	562
Devices on Network	20,700	54,044

Continuous Improvement Plan 2013-14

Continuous Improvement Plan 2013-14

Goal # 1

Implement and monitor a formative student assessment system that is aligned with the Alabama College and Career Ready Standards.


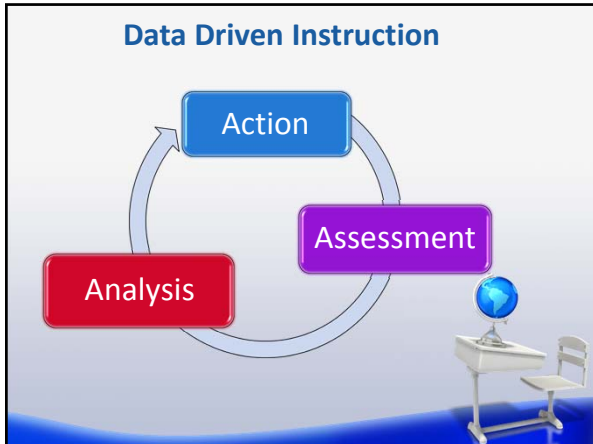
What Is Formative Assessment?

- Monitors learning
- Identifies progress
- Guides teaching
- Low stakes
- "The chef tastes the soup..."

Continuous Improvement Plan 2013-14


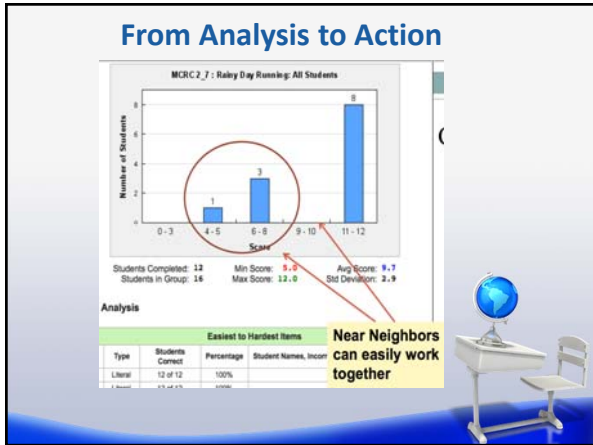
Goal # 2

Students will demonstrate significant growth in reading and mathematics achievement.


Analysis: 2nd Grade Winter Reading

Last Name	First Name	Word Reading Fluency	Passage Reading Fluency	Reading Comprehension MC	Fall to Winter Change	Fall to Winter Academic Risk Indicator
Munoz	Esperanza	57	93	12	12	0 Low
Zion	Jamie	35	95	11	11	1+ Low
Juster	Mila	72	139	11	11	2+ Low
Dahl	Charlie	65	117	10	10	2+ Low
Norton	Beatrice	71	102	9	9	2+ Low
Potter	Harry	63	121	9	9	1+ Low
Lee	Atticus	26	58	7	7	-2 Some
Cleary	Ramona	17	25	7	7	-3 High
White	Arthur	19	26	6	6	0 Some
Cousins	Maisy	27	48	4	4	2+ Some
Leaf	Ferdinand	21	25	2	2	1+ High





Analysis: 9th Grade Fall Reading

207. The learner will understand vocabulary presented in context in a ninth grade nonfictional passage. AL.9.RL.13/AL.9.L.39.a/AL.10.RL.13/AL.10.L.40.a	15	07	1	1
208. The learner will restate ideas presented in a ninth grade nonfictional passage.	15	07	1	1
209. The learner will understand the relationship between cause and effect in a ninth grade nonfictional passage. AL.9.RL.10/AL.10.RL.10/ACT.20-23.REL.3/ACT.24-27.REL	15	07	1	1
210. The learner will evaluate a character's motives in a ninth grade nonfictional passage.	15	07	1	1
211. The learner will extend information beyond a ninth grade nonfictional passage.	15	07	1	1
212. The learner will determine how author viewpoint affects a ninth grade nonfictional passage. AL.9.RL.15/AL.10.RL.15/ACT.20-23.MED.2/ACT.24-27.MID	15	07	1	1





Changes at the State Level



Alabama Diploma Requirements

NCLB → Alabama PLAN 2020

Alabama Accountability 2020



Alabama Diploma Requirements

Flexibility: Art, Career Tech, and/or Foreign Language (3)

Essential Skills

AAS Life Skills

Algebra 2 (Class of 2017)

Career Prep (Class of 2017)

Endorsements (Class of 2017)




Saying Goodbye to NCLB

- AYP- Pass/Fail
- Same goals for all schools and students
- Disproportional consequences





ALABAMA STATE BOARD OF EDUCATION PLAN 2020




Alabama Accountability 2020



Four Key Components:

1. Alabama's Learners
2. Alabama's Support Systems
3. Alabama's Professionals
4. Alabama's Schools and Systems



Alabama Accountability 2020



1. Alabama's Learners:
 - Achievement
 - ARMT → ACT Aspire
 - AHSGE → Quality Core EOC Tests
 - Learning Gains
 - Gap closure (achievement and grads)
 - College and Career Readiness

Alabama Accountability 2020

2. Alabama's Support Systems:




- Program Reviews
- Graduation Rate
- Attendance
- Participation Rate

Alabama Accountability 2020

3. Alabama's Professionals:



- EDUCATE Alabama
- LEAD Alabama

Alabama Accountability 2020

4. Alabama's Schools and Systems:



- Local indicators from Continuous Improvement Plans

Alabama Accountability 2020

School Performance Index (SPI) replaces AYP:



- 2013-14 Baseline year
 - Reduce gaps by 50% by 2020
- 2014-15 Partial SPI scores
 - 90 points possible
- 2015-16 Full SPI scores
 - 200 points possible

Checking in...





Common Core / Alabama College and Career Ready Standards (CCRS)

Political Poison or Super Hero?

Examples



Political Concerns

- Infringements on state & local sovereignty
- Federal monitoring of student data
- Less emphasis on classical literature
- Controversial reading exemplars
- Fuzzy math

Great News: We don't want these things either! 😊



Reality Check

Standards are not a curriculum:

- Standards define what students should know or be able to do (*the destination*)
- Local curriculum defines the plan to get there (*the road map*)
- Local teachers and principals implement the plan (*they drive the car*)



These standards are more rigorous, and students and teachers are going to be challenged in catching up to these higher expectations.

- Teacher expectations are crucial to student success, and all teachers need to know that we trust them to take care of our children.



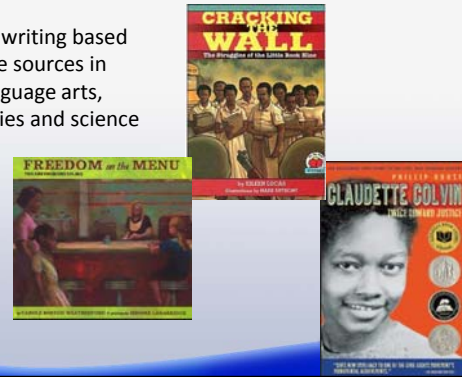
Alabama College & Career Ready Standards for English Language Arts

SHIFTS



AL CCRS: New Literacy Challenges

#1 More writing based on multiple sources in English language arts, social studies and science classes.



AL CCRS: New Literacy Challenges

Lives on Mango, Rides the Whale

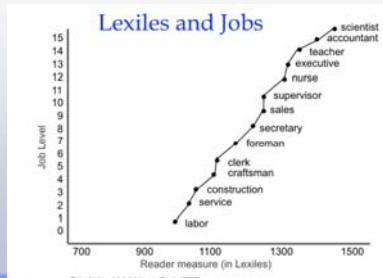
More than 8,000 miles of land and sea separate two seemingly contrasting young women. One young girl lives in the urban streets of Chicago, depicted in *The House on Mango Street* by Sandra Cisneros (1984), while the other thrives in the countryside of New Zealand, as shown in *Whale Rider*, directed by Niki Caro (2003)—one an immigrant from a foreign country and the other a native Maori descendent. Both girls struggle for change, fighting their own quiet wars. Despite the vast differences in lifestyle and culture, both Esperanza Cordero of Chicago and Paiakea Apirana of New Zealand are destined to be leaders of their generation in spite of the multitude of traditions and expectations that define them as individuals and their role as women in society. These two natural-born leaders are bridging the gap between the ancient customs and modern-day life.

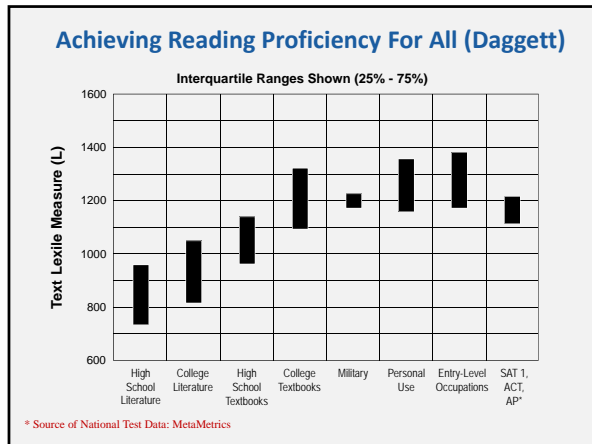
#2 Demonstrating reading comprehension by citing evidence from their reading assignments.



AL CCRS: New Literacy Challenges

#3 Reading increasingly complex texts in social studies, science, and English.





#4 Writing Arguments to Evaluate Perspectives

“The trouble with quotes on the Internet is that it is difficult to determine whether or not they are genuine.” --Abraham Lincoln

#4 Writing Arguments to Evaluate Perspectives

Grade 1

After reading this book with your teacher, decide: Is Junie B. Jones a bossy person?

Grade 1 Standard: with your teacher's help, read a story and offer an opinion with a reason about the story.

#4 Writing Arguments to Evaluate Perspectives

Grade 3

Now that you've read 2 articles about the benefits of milk, do you think chocolate milk should be allowed in your school's lunch room?

Grade 3 Standard: Write an opinion about a topic and offer reasons to support your opinion plus a concluding statement.

#4 Writing Arguments to Evaluate Perspectives

Grade 6

After reading about the Chicago fire through a book, newspaper stories, articles, and reviewing several maps, argue if Chicago building fire codes were sufficient in 1871 to protect people from danger.

Grade 6 Standard: Write arguments to support claims with clearly organized reasons and relevant evidence.

#4 Writing Arguments to Evaluate Perspectives

Grade 8

Should the character Johnny, in the book, *The Outsiders*, be convicted of murder for his actions? Use evidence from the novel to support your claim.

Grade 8 Standard: Write clearly reasoned, organized arguments with claims while acknowledging opposing claims.

#4 Writing Arguments to Evaluate Perspectives

Grade 11

You have just finished an overview of the beginnings of the Korean War, and read the telegrams and messages sent between President Harry Truman and General Douglas MacArthur. Truman is at a decision point. Argue whether he should bring MacArthur home or allow him to lead the Korean War effort for the US.



Hoover writes its own curriculum guides

July 2013 HCS Grade 5 English Language Arts Curriculum Guide

Curriculum Guides are living documents developed by Hoover City Schools' educators to provide effective frameworks for teaching the Alabama College and Career Ready Standards in each grade. They may be revised from year to year to better promote student learning.

[Year at a Glance](#) [Correlation of Curriculum to Alabama CCRS](#) [Resources](#) [List of Texts](#)

Key Principles in Effective Reading Instruction

- Readers interact with books through speaking, listening, writing, and making meanings of texts.
- Readers use self-monitoring strategies when they interact with text.
- Readers interact with a variety of text across genres by reading a large quantity of texts.
- Readers strengthen their competence and fluency through daily reading of continuous text.
- Readers understand how texts and genres are organized.
- Readers recognize language and word patterns in text.

Alabama College & Career Ready Standards for Mathematics

SHIFTS



Shift #1: FOCUS



Key Areas of Focus in Mathematics

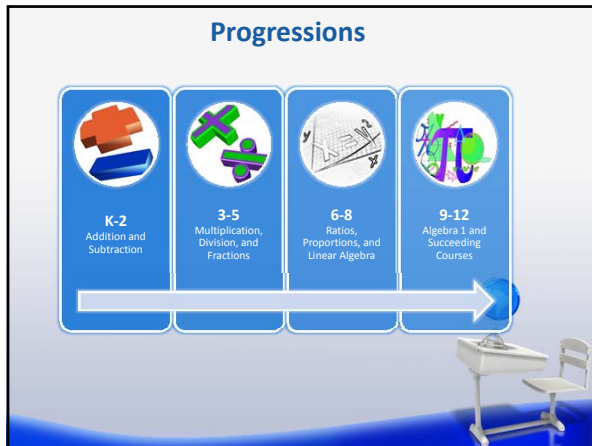
Grade	Focus Areas in Support of Rich Instruction and Expectations of Fluency and Conceptual Understanding
K-2	Addition and subtraction - concepts, skills, and problem solving and place value
3-5	Multiplication and division of whole numbers and fractions - concepts, skills, and problem solving
6	Ratios and proportional reasoning: early expressions and equations
7	Ratios and proportional reasoning: arithmetic of rational numbers
8	Linear algebra and linear functions

achievethecore.org



Shift #2: COHERENCE





Fractions Progression

1st Grade

Partition circles and rectangles into two and four equal shares, describe the shapes using the words halves, fourths and quarters and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Fractions Progression

2nd Grade

Partition circles and rectangles into two, three or four equal shares; describe the shares using the words halves, thirds, half of, a third of, etc. and describe the whole as two halves, three thirds, four fourths. Recognize that equal shares of identical wholes need not have the same shape.

Fractions Progression

3rd Grade

Understand a fraction $1/b$ as the quantity formed by 1 part when the quantity formed by 1 part when a whole is partitioned in b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$

$1/2 = 2/4$

- Understand a fraction as a number on the number line; represent fractions on a number line diagram
- Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size

Denominators 2, 3, 4, 6, 8

Fractions Progression

4th Grade

Compare two fractions with different numerators and different denominators, e.g. by creating common denominators or numerators, or by comparing to a benchmark fraction such as $1/2$. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols $>$, $=$, $<$, and justify the conclusions, e.g. by using a visual fraction model.

Denominators 2, 3, 4, 5, 6, 8, 10, 12, 100

Compare $3/4$ and $2/3$ using a picture model and a number line.

Determine if $3/4$ is $>$, $=$, or $<$ $2/3$ and support your answer with a picture model

Find the common denominator between $3/4$ and $2/3$. Write equivalent fractions using the common denominator.

Fractions Progression

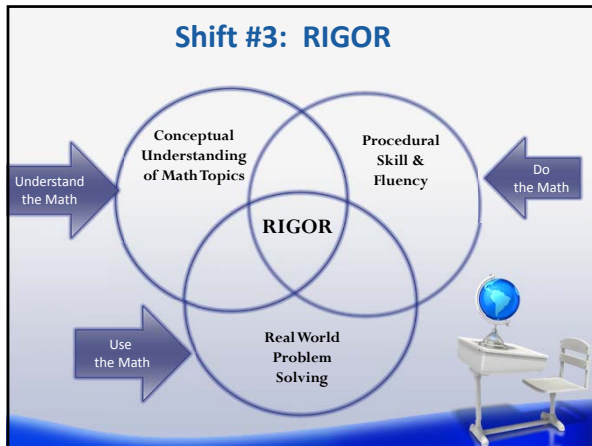
5th Grade

Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve WORD PROBLEMS involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g. by using visual fraction models or equations to represent the problem.

Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

There are four robot teams at Hoover Elementary School. The school has three robots. The club meets for one hour per day. What fraction of an hour does each team have access to a robot if all four teams equally share the robots?

$3/5 \times 5/6 = ?$



Teaching for Conceptual Understanding

Shallow testing of place value concepts means that shallow teaching of them is rewarded.

Name: _____

Hundreds, Tens and Ones

a. 234 = _____ hundreds, _____ tens, _____ ones

b. 809 = _____ hundreds, _____ tens, _____ ones

c. 571 = _____ hundreds, _____ tens, _____ ones

d. 160 = _____ hundreds, _____ tens, _____ ones

e. 67 = _____ hundreds, _____ tens, _____ ones

f. _____ = 3 hundreds, 4 tens, 8 ones

g. _____ = 4 hundreds, 0 tens, 2 ones

h. _____ = 0 hundreds, 0 tens, 5 ones

i. _____ = 0 hundreds, 7 tens, 0 ones

j. _____ = 9 hundreds, 9 tens, 9 ones

6) 106 = 1 hundred + _____ tens + _____ ones

7) 106 = _____ tens + _____ ones

8) 106 = _____ ones

9) 90 + 300 + 4 = _____

Are these comparisons true or false?

10) 2 hundreds + 3 ones > 5 tens + 9 ones

11) 0 tens + 2 hundreds + 4 ones < 234

Required Mathematics Fluencies in K-6

Grade	Required Fluency
K	Add/subtract within 5
1	Add/subtract within 10
2	Add/subtract within 20 <i>(know single-digit sums from memory)</i>
	Add/subtract within 100
3	Multiply/divide within 100 <i>(know single-digit products from memory)</i>
	Add/subtract within 1000
4	Standard algorithm for addition & subtraction Add/subtract within 1,000,000
5	Standard algorithm for multiplication Multi-digit multiplication
6	Standard algorithm for division Multi-digit division Multi-digit decimal operations

Real World Problem Solving for Grades 3-5

After Lauren gets out of bed in the morning she has to complete several activities to get ready for school. The list below shows the number of minutes she needs to complete each activity.

- * 30 minutes--brush teeth, shower & get dressed
- * 10 minutes--eat breakfast
- * 30 minutes--ride to school

Lauren must be at school by 8:00 AM. What is the LATEST time Lauren can get up, complete all of her activities, and get to school on time. Explain your reasoning.

Real World Problem Solving for Grades 6 - 8

The principal of a school must buy 19 desks for a new classroom. Each desk costs \$61. A student calculates the total cost of the desks using the thought process below:

20 desks at \$60 each would cost \$1,200.
So 19 desks at \$60 each would cost \$1,200 - \$60.
Because the price of 1 desk is \$61 and NOT \$60, I must add \$1.
So the total cost is \$1,200 - \$60 + \$1.

- Identify any mistakes in the student's thought process.
- Write an expression that represents the total cost of the 19 desks, and explain why it is correct.

Hoover writes its own curriculum guides

Math 7th Grade Mathematics: 2012-13 to 2017-18 Hoover City Schools

Unit 1: ALGEBRAIC REASONING	Standards	CCSS #	CCSS #	Indicators of Proficiency		
				Basic	Proficient	Advanced
	Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.	7	7-EE1	Recognize properties of operations, including distributive property.	Apply properties of operations (commutative, associative, and distributive) to collect like terms and simplify variable expressions.	Construct examples of properties of operations, including distributive property.
	Understand that rewriting an expression in different forms in a problem context can shed light on the problem, and how the quantities in it are related. For example: $a + 0.05a = 1.05a$ means that "increase by 5%" is the same as "multiply by 1.05."	8	7-EE2	Match equivalent expressions.	Write an equivalent expression.	Describe a situation that could be represented by a given algebraic expression.
	Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form, convert between forms as appropriate, and assess the reasonableness of answers using mental computation and estimation strategies.	9	7-EE3	Given a real world problem involving whole numbers, identify an expression to represent the problem.	Given a real world problem involving whole numbers, write an expression to represent the problem and simplify to an equivalent expression.	Given a real world problem involving whole numbers, write an expression to represent the problem and explain how to use properties of operations to simplify to an equivalent expression.
	Use variables to represent quantities in a real world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.	10	7-EE4	Match a verbal phrase to its equivalent algebraic expression.	Translate verbal phrases into algebraic expressions and vice versa.	

Instructional Recommendations / Resources:
 Review order of operations and algebraic terminology such as terms, constants, coefficient, like terms, factors, etc.
[Back to top](#)




Refresh Cycle

	2014	2015	2016	2017	2018
Elementary Schools		SPHS	Infrastructure	RFBMS	HHS
		CRS		CO	BMS
		BGIS			SMS

- ### Vision of Technology
- Private School District Cloud in Google Apps for Education (GAPE)
 - Virtualize all servers to cut the number of physical boxes we need to maintain and purchase.
 - Use Chrome devices to cut numbers of full desktops/laptops
 - Hapara/moodle/edmodo
-

Elementary Classrooms

- short throw interactive projector (uses existing whiteboard)
- Tablet/Laptop for teacher
- Chromebooks for students
- Chromebox for secondary desktops, labs and libraries



Checking in...



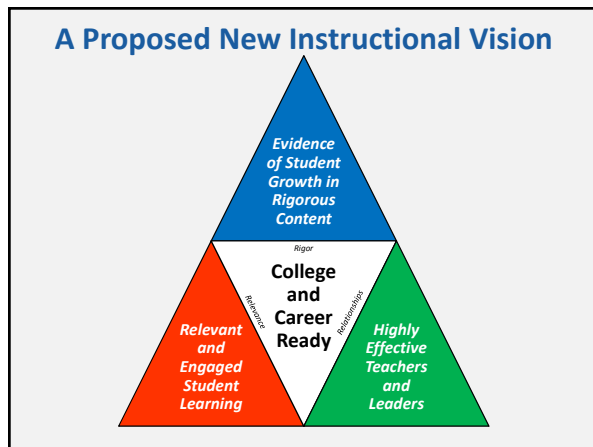
A Proposed New Instructional Vision



Evidence of Student Growth in Rigorous Content

Relevant and Engaged Student Learning



Highly Effective Teachers and Leaders

Evidence of Student Growth in Rigorous Content

Mathematics:



- Conceptual understanding
- Procedural fluency
- Real-world problems

Evidence of Student Growth in Rigorous Content

Reading:

- Self-directed learners
- Read effectively and purposefully on or above grade level
- Analyze evidence
- Evaluate perspectives

Evidence of Student Growth in Rigorous Content

Standards-Based Grading:

- Improve communication between teachers, learners, and parents
- Formative assessment
- Guide learning experiences

Evidence of Student Growth in Rigorous Content

Learning Environment:

- Technology-rich and transformative
- Choice-based
- Safe
- Respectful of individual differences

Relevant and Engaged Student Learning

<http://www.youtube.com/watch?v=9wxGWqriApl&feature=youtu.be>

<https://www.youtube.com/watch?v=3ZEJIRVs4W8>

Evidence of Student Growth in Rigorous Content

Innovative Habits:

- Early years- Instructive and exploratory **play**
- Middle years- Foundational career building **passions**
- High years- **Purpose** driven transition to adulthood

Evidence of Student Growth in Rigorous Content

Career Exploration:

- Integration of talents, passion, and purpose
- Meaningful career preparation
- Emphasis on STEM and skilled trades

Evidence of Student Growth in Rigorous Content

Learning and Leading Academy:

- Three-year induction program
- Mentoring, professional learning, formative feedback
- Alabama Quality Teaching Standards
- Alabama Standards for Instructional Leadership
- Local expectations for best practice

Evidence of Student Growth in Rigorous Content

Professional Pathways:

- Exploring new teacher leader roles to support and sustain a quality teaching model



*Thank you for your time and
your service to the children of
Hoover City Schools*