# FOUNDATIONS OF ALGEBRA
2020-2021

Houston County's system-wide initiatives center around building fully functional, intensely focused professional learning communities in our schools.

This initiative includes a <u>focus on learning</u> which <u>clarifies</u> and <u>monitors essential learning</u>.

Not all content in a given grade or course is emphasized equally in the standards, nor should it be. Some clusters require greater emphasis than others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness. More time in these areas may also be necessary for students to meet the demands of the Georgia Milestones assessments.

<u>To say that some standards have greater emphasis is not to say that anything in the standards can safely be neglected in instruction!</u> Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade. This new guide not only gives calendar pacing at the unit level, but also pacing at the standard level and one of three levels of essential content, listed below.
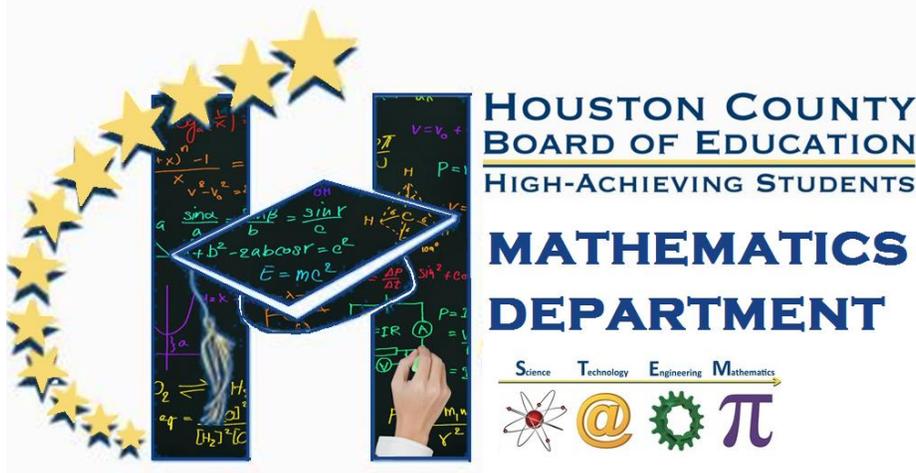
PACING GUIDE & TEACHER PLANNER

 Math teachers from every 6-12 school in Houston County were invited to meet to identify "Essential Standards." Teachers considered the content expectations for future units within their grade, for future grades, on state assessments, and in other content areas to determine which standards were "Priority "Supporting," or "Additional." Their designations are color-coded within the list of standards as below and the included calendar shows approximate within-unit time allocations by standard or cluster.

$^\mu$**Essential** $^\Sigma$**Supporting**   ***Additional**

On SharePoint, we amended course materials (including lesson plans, study guides, assessments, and POD's) to reflect the content of greatest emphasis for this math course because of their prioritization of standards.

This document shows where students and teachers should spend the large majority of their time in order to meet the expectations of the standards. It includes a standard-by-standard calendar for teachers to use to plan and allocate teaching/learning time appropriately.

What resources are available for me?

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What's on your SharePoint Course page?	• Unit Plans • "I Can" Statements with Examples • Unit Assessments • Daily PODs • Lessons and Tasks • Assessment Banks *(instructions for ExamView banks after the calendars)* • Milestones Resources including Mock Assessments • HRW Teacher/Student Instructions • And much more
Student Weeblys	http://hcbemath.weebly.com/

How do I sync the mathematics material to my file library on my desktop?

From Office 365, navigate to > SharePoint > Departments > Teaching & Learning > Math > Grade Band > Course Home.
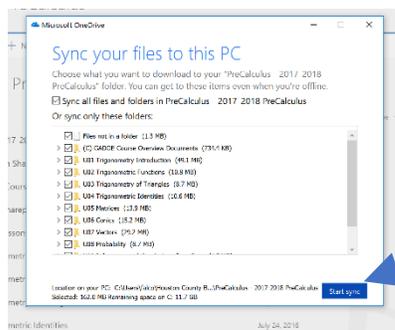
1. Navigate to your course home on SharePoint and click the icon below.
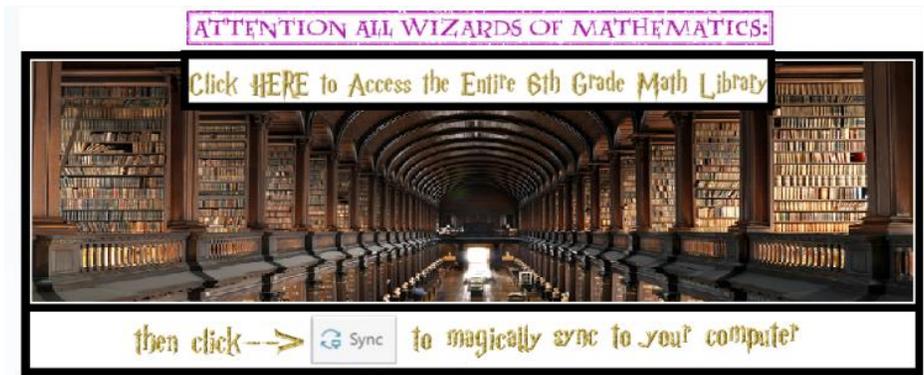
2. You are now in your course's document library. Click the Sync Button.
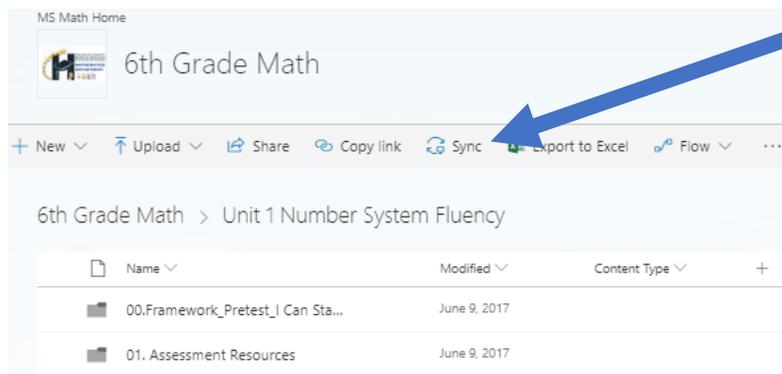
3. A window will open and all the folders in this library should be checked. Keep them checked and choose Start sync. ***Note, you may encounter two screens before this in which you choose ALLOW and then must SIGN IN with your HCBE email.

4. After a few seconds, you will get notified that the files are syncing to your Houston County BOE One Drive and the files will be located in your file library. These files work like Dropbox and are updated in real time as changes are made by Dr. Rape or Jennifer Farrow. BE SURE YOU SEE GREEN CHECK MARK. This means it is synced and your files are updated. If you open at a later date and do not see your checkmark, repeat this process.
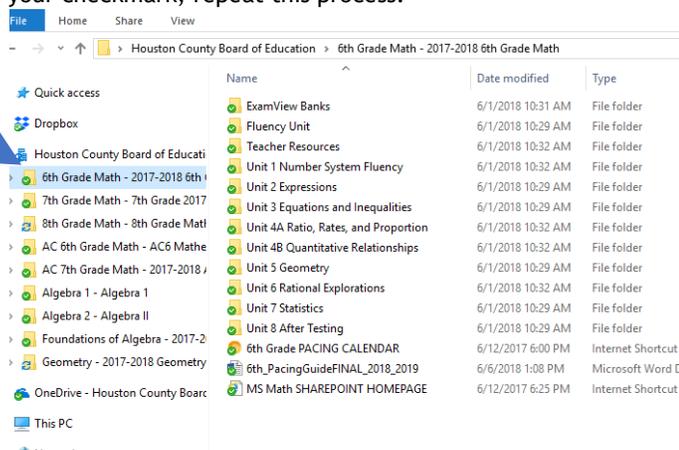
NOTE*** These files are locked for editing and saving to these folders. You may open, edit, and save to your personal files in another file location.

NOTE**** ExamView Tests will NOT open directly from the Houston County Board of Education File Folders. To open, right-click copy and right-click save to a folder on your desktop or My Documents. Then, open the file from this location. A PDF of each test is available for you to preview

Foundations of Algebra Unit 1 - Relationships Between Quantities

1st Semester

August 4 – December 18
September 7 (Labor Day Holiday); October 13-16 (Fall Holiday); November 11 (Veteran's Day); November 23-27 (Thanksgiving Holiday

Foundations of Algebra Georgia Standards of Excellence   2020-2021 Pacing Guide
ᴴEssential   ᵟSupporting   *Additional

Module 1 – Number Sense (≈6 weeks)

Module 1: This module focuses on building a conceptual understanding of basic mathematical ideas which will enhance the student's number sense, rather than a focus on algorithms. The unit begins with the use of whole numbers followed by fractions, decimals, and integers through the lens of problem solving. Students will use a variety of strategies and manipulative tools.

1.1 Integer Operations

1.1.A: All About Integers (7-1.2)

1.1.B: Adding Integers (7-1.3)

1.1.C Subtracting Integers (7-1.4)

1.1.D: Multiplying and Dividing Integers (7-1.5)

1.2 Integers and Real Numbers on the Number Line

1.2.E: Integer and Absolute Value (6-16.3)

1.2.F: Comparing and Ordering Integers (6-16.4)

1.3 Decimals and Fractions, Rational and Irrational

1.3.G Equivalent Fractions and Decimals (7-2.1)

1.3.H Adding and Subtracting Decimals (7-2.2)

1.3.I Multiplying Decimals (7-2.3)

1.3.J Dividing Decimals (7-2.4)

1.3.K Adding and Subtracting Fractions (7-3.1)

1.3.L Multiplying Fractions (7-3.2)

1.3.M Dividing Fractions (7-3.3)

1.3.N Estimating Square Roots (8-4.3)

FOUNDATIONS OF ALGEBRA – UNIT 1 CALENDAR

Monday		Tuesday		Wednesday		Thursday		Friday	
Aug	**3**	Aug	**4**	Aug	**5**	Aug	**6**	Aug	**7**
Pre-Planning									
Aug	**10**	Aug	**11**	Aug	**12**	Aug	**13**	Aug	**14**
MAP TEST		**MAP TEST**							
Not necessarily these exact dates. Ask your API for exact dates.		Not necessarily these exact dates. Ask your API for exact dates.							
Aug	**17**	Aug	**18**	Aug	**19**	Aug	**20**	Aug	**21**
Aug	**24**	Aug	**25**	Aug	**26**	Aug	**27**	Aug	**28**
Aug	**31**	Sept	**1**	Sept	**2**	Sept	**3**	Sept	**4**
Sept	**7**	Sept	**8**	Sept	**9**	Sept	**10**	Sept	**11**
Labor Day						.			
Sept	**14**	Sept	**15**	Sept	**16**	Sept	**17**	Sept	**18**

Foundations of Algebra Unit 2 – Properties of Numbers and Square Roots

1st Semester

August 4 – December 18

September 7 (Labor Day Holiday); October 13-16 (Fall Holiday); November 11 (Veteran's Day); November 23-27 (Thanksgiving Holiday)

Foundations of Algebra Georgia Standards of Excellence	2020-2021 Pacing Guide
µEssential	ΣSupporting	*Additional

Module 2 – Properties of Numbers and Square Roots (≈5 weeks)

Module 2: This module focuses on the creation of a connection between arithmetic skills and operations in algebra. Students will draw conclusions from computation with specific numbers in order to build generalizations about properties that can be used for numbers and variables. Students will interpret and apply the properties of exponents and use concrete models to investigate square roots and cube roots. The module lays the groundwork for modules 3, 4, and 5.

2.1 Exponents and Order of Operations

  2.1.A: Exponents (6-7.1)

  2.1.B: Order of Operations (6-7.2)

  2.1.C Properties of Real Numbers and Equality (6-7.3)

2.2 Understanding Numeric Representations in Models, Tables, and Expressions

  2.2.D: Words to Math In Context (68.1)

  2.2.E: Tables to Expressions (6-8.2)

  2.2.F: Equivalent Expressions (6-8.3)

  2.2.G: Words to Algebra (7-4.1.)

  2.2.H: Simplifying Expressions (7-4.2)

  2.2.I: Model and Interpret Algebra (CA-1.1)

2.3 Exponents and Pythagorean Theorem

  2.3.J Integer Exponents (8-3.1)

  2.3.K Properties of Integers (8-3.2)

  2.3.L The Pythagorean Theorem (8-6.1)

  2.3.M Applying the Pythagorean Theorem (8-6.2)

FOUNDATIONS OF ALGEBRA – UNIT 2 CALENDAR

Monday	Tuesday	Wednesday	Thursday	Friday
Sept **21**	Sept **22**	Sept **23**	Sept **24**	Sept **25**
Sept **28**	Sept **29**	Sept **30**	Oct **1**	Oct **2**
Oct **5**	Oct **6**	Oct **7**	Oct **8**	Oct **9** In service
Oct **12** FALL BREAK	Oct **13** FALL BREAK	Oct **14** FALL BREAK	Oct **15** FALL BREAK	Oct **16** FALL BREAK
Oct **19**	Oct **20**	Oct **21**	Oct **22**	Oct **23**
Oct **26**	Oct **27**	Oct **28**	Oct **29**	Oct **30**

Foundations of Algebra Unit 3 – Proportional Reasoning

1st Semester
August 4 – December 18
September 7 (Labor Day Holiday); October 13-16 (Fall Holiday); November 11 (Veteran's Day); November 23-27 (Thanksgiving Holiday)

Foundations of Algebra Georgia Standards of Excellence	2020-2021 Pacing Guide
ᴴEssential ᶻSupporting	*Additional

Module 3 – Proportional Reasoning (≈5 weeks)

Module 5: This module focuses on functions and the characteristics of functions such as domain, range, and rates of change. The y-intercept form of linear functions will be used to graph lines and to compare the rates of change of functions.

3.1 Problem Solving, Ratios and Rate

      3.1.A: Ratio and Rate (6-4.1)

      3.1.B: Rate and Ratio from Tables (6-4.2)

      3.1.C Using Equivalent Ratios to Solve Proportion Problems (6-5.2)

3.2 Working with Percentages and Converting between Percentage, Decimal, and Fraction Representations

      3.2.D: Percent (6-6.1)

      3.2.E: Percents ↔ Decimals ↔ Fractions (6-6.2)

      3.2.F: Calculating the Percent of a Number (6-6.3)

      3.2.G: Solve Percent Problems (6-6.4.)

3.3 Problem Solving with Proportions, Graphical Representations of Proportions

      3.3.H: Rates (7-7.1)

      3.3.I: Writing Proportions from Real-World Situations (7-7.2)

      3.3.J Solving Proportions (7-7.3)

      3.4.K Linear Functions Overview (8-8.2)

      3.4.L Graphing Linear Equations (8-5.1)

      3.4.M Slope from a Graphs, Tables, Two Points (8-5.2)

FOUNDATIONS OF ALGEBRA – UNIT 3 CALENDAR

Monday	Tuesday	Wednesday	Thursday	Friday
Nov **2**	Nov **3**	Nov **4**	Nov **5**	Nov **6**
Nov **9**	Nov **10**	Nov **11** **Veterans Day**	Nov **12**	Nov **13**
Nov **16**	Nov **17**	Nov **18**	Nov **19**	Nov **20**
Nov **23** **THANKSGIVING**	Nov **24** **THANKSGIVING**	Nov **25** **THANKSGIVING**	Nov **26** **THANKSGIVING**	Nov **27** **THANKSGIVING**
Nov **30** **MAP TEST** Not necessarily these exact dates. Ask your API for exact dates.	Dec **1** **MAP TEST** Just know 2 instructional days will be taken from this month.	Dec **2**	Dec **3**	Dec **4**
Dec **7**	Dec **8**	Dec **9**	Dec **10**	Dec **11**
Dec **14**	Dec **15**	Dec **16**	Dec **17**	Dec **18** Last day of school (½ day)

Foundations of Algebra Unit 4 – Modeling and Analyzing Quadratic Functions

Module 4 – Linear Equations and Inequalities (≈8 weeks)

Module 3: This module focuses on the use of modeling to explain equivalent ratios and to understand real-world rate, ratio, and percentage problems. Students will derive slope using similar triangles and interpret slope using unit rates.

4.1 Writing and Solving Equations

4.1.A: Two Step Equations (8-5.2)

4.1.B: Multi-Step Equations (CA-3.1)

4.1.C: Multi-Step Fraction and Decimal Equations (8-5.3)

4.1.D: Equations With Variables on Both Sides (CA-3.2)

4.1.E: More Complex Multi-Step Equations (8-5.4)

4.2 Writing and Solving Inequalities

4.2.F: Solve, Write, and Graph One-Variable Inequalities (CA-4.1)

4.2.G: Two-Step Inequalities (CA-5.1)

4.2.H: Inequalities with Variables on Both Sides (CA-5.2)

4.2.I: Solving Literal Equations for a Variable of Interest (CA-5.3)

4.3 Writing and Solving Systems of Linear Equations

4.3.J: Introduction to Systems of Linear Equations (8-12.1)

4.3.K: Solve Systems of Linear Equations by Graphing (8-12.2)

4.3.L: Solve Systems of Linear Equations Using Substitution (CA6.2)

4.3.M: Solve Systems of Linear Equations Using Elimination (CA-6.3)

FOUNDATIONS OF ALGEBRA – UNIT 4 CALENDAR

Monday	Tuesday	Wednesday	Thursday	Friday
Jan **4**	Jan **5**	Jan **6**	Jan **7**	Jan **8**
Inservice				
Jan **11**	Jan **12**	Jan **13**	Jan **14**	Jan **15**
Jan **18**	Jan **19**	Jan **20**	Jan **21**	Jan **22**
MLK Holiday				
Jan **25**	Jan **26**	Jan **27**	Jan **28**	Jan **29**
Feb **1**	Feb **2**	Feb **3**	Feb **4**	Feb **5**
Feb **8**	Feb **9**	Feb **10**	Feb **11**	Feb **12**
Feb **15**	Feb **16**	Feb **17**	Feb **18**	Feb **19**
President's Day	Holiday			
Feb **22**	Feb **23**	Feb **24**	Feb **25**	Feb **26**

Foundations of Algebra Unit 5 - Comparing and Contrasting Functions

Module 5 – Functions (≈8 weeks)

Module 4: This module focuses on building understanding of concepts of variables, equations, and inequalities. Systems of equations, solutions of equations, and inequalities will be interpreted in relationship to real-world applications. Multi-variable formulas will be solved for specific variables using algebraic operations.

5.1 Relations and Functions

5.1.A: Functions Tables Input Output (8-4.1)

5.1.B: Graphing Relationships (A1-3.1)

5.1.C: Understanding Relations and Functions (A1-3.2)

5.1.D: Modeling with Functions (A1-3.3)

5.2 Linear Functions

5.2.E: Graphing Functions (A1-3.4)

5.2.F: Understanding Linear Functions (A1-5.1)

5.2.G: Graphing Using x and y Intercepts (A1-5.2)

5.2.H: Interpreting Rate of Change, Slope (A1-5.3)

5.2.I: Graphing from Slope-Intercept Form (A1-6.1)

5.2.J: Properties of Linear Functions (A1-6.5)

5.3 Writing Linear Functions and Comparing Different Linear Models

5.3.K Write a Function Rule (8-4.2)

5.3.L: Compare Multiple Representations of a Function (8-4.3)

5.3.M: Modeling Linear Relationships (A1-7.1)

FOUNDATIONS OF ALGEBRA – UNIT 5 CALENDAR

Monday		Tuesday		Wednesday		Thursday		Friday	
Mar	**1**	Mar	**2**	Mar	**3**	Mar	**4**	Mar	**5**
Mar	**8**	Mar	**9**	Mar	**10**	Mar	**11**	Mar	**12**
Mar	**15**	Mar	**16**	Mar	**17**	Mar	**18**	Mar	**19**
Not necessarily these exact dates. Ask your API for exact dates.		Just know 2 instructional days will be taken from this month.							
Mar	**22**	Mar	**23**	Mar	**24**	Mar	**25**	Mar	**26**
Mar	**29**	Mar	**30**	Mar	**31**	Apr	**1**	Apr	**2**
SPRING BREAK		**SPRING BREAK**		**SPRING BREAK**		**SPRING BREAK**		**SPRING BREAK**	

Monday		Tuesday		Wednesday		Thursday		Friday	
Apr	**5**	Apr	**6**	Apr	**7**	Apr	**8**	Apr	**9**
Apr	**12**	Apr	**13**	Apr	**14**	Apr	**15**	Apr	**16**
Apr	**19**	Apr	**20**	Apr	**21**	Apr	**22**	Apr	**23**
Apr	**26**	Apr	**27**	Apr	**28**	Apr	**29**	Apr	**30**

FOUNDATIONS OF ALGEBRA – Prepare for Algebra 1, Revisit Topics

| Monday	Tuesday	Wednesday	Thursday	Friday
May **3**	May **4**	May **5**	May **6**	May **7**
May **10**	May **11**	May **12**	May **13**	May **14**
May **17**	May **18**	May **19**	May **20**	May **21**
May **24**	May **25**	May **26**	May **27**	May **28**
Final Exams				

How to Make ExamView Banks Easily Accessible
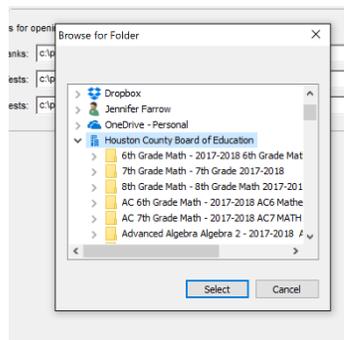
Open ExamView Test Generator

1. After closing the welcome menu, choose the EDIT tab. Select "Preferences"
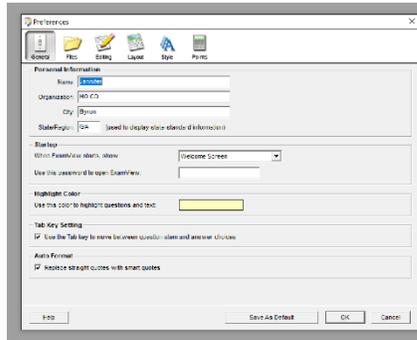
2. In this window, choose "Files" and then the file folder icons next to Question banks.
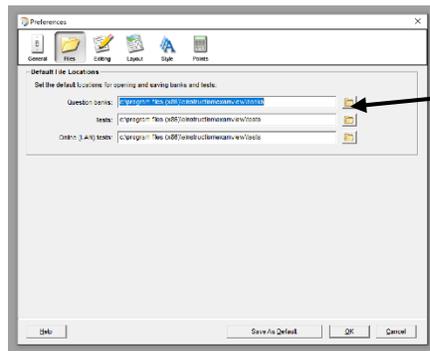
3. Navigate to the location of the course materials on your computer -Houston County Board of Education Synced Files. Highlight and select. Click OK.

4. Now when you go to create a test and select questions, ExamView will default to this location. ExamView Banks are located in the ExamView folder and in each Unit's Assessment folder.