INTRODUCTION

	This Pennsylvania Learns iTunes U course is designed to be a collection of resources to support teaching and learning in first grade classroom. The content of this course is organized around the Grade 1 Mathematics Pennsylvania Core Instructional Framework. We believe that Pennsylvania teachers know what is needed to support their instructional design and delivery as well as what engages students in their own learning. For those reasons, the materials and resources provided in this course were curated by teachers. This course is not a curriculum; rather, it is a collection of assets aligned to Pennsylvania Core Standards to support teaching and learning. The K – 2 courses are designed to support teaching and learning…the teaching of the teacher and the learning of the student. The TEACHNG Call to Action statements support the teacher's instruction. The I CAN Call to Action statements are for students and correspond to the instructional skills taught by the teacher.

SETTING THE STAGE

Message	Assignment/Call to Action	Resource/URL
Welcome to the first grade Mathematics Pennsylvania Learns iTunes U course. We are setting the stage for this course by providing you with background information about Pennsylvania Mathematics Core Standards and the instructional shifts that work hand-in hand with the Standards.		
Pennsylvania Core Standards: The State Board approved the final Chapter 4 regulations on September 12, 2013. The Independent Regulatory Review Commission (IRRC) approved the final regulation on November 21, 2013. With publication of Chapter 4 in the Pennsylvania Bulletin, the new regulations took effect on March 1, 2014. As part of the new regulations, Pennsylvania's Core Standards offer a set of rigorous, high-quality academic expectations in mathematics that all students should master by the end of each grade level. The PA Core Standards are robust and relevant to the real world and reflect the knowledge and skills our young people need to succeed in life after high school, in both post-secondary education and a globally competitive workforce. REVIEW the "Teacher Resources" and "Student Resources" section of the PA Core Implementation section of the SAS portal.	**REVIEW** the "Teacher Resources" and "Student Resources" section of the PA Core Implementation section of the SAS Portal.	http://www.pdesas.org/Standard/PACore

Standards for Mathematical Practice and Content

Module Title	Message	Assignment / Call to Action
About the Standards for Mathematical Practice and Content	The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. These practices rest on important “processes and proficiencies” with longstanding importance in mathematics education. The first of these are the NCTM process standards of problem solving, reasoning and proof, communication, representation, and connections. The second are the strands of mathematical proficiency specified in the National Research Council’s report *Adding It Up*: This report explores how students in pre-K through 8th grade learn mathematics and highlights the importance of the inclusion of the following in teaching and learning: adaptive reasoning, strategic competence, conceptual understanding (comprehension of mathematical concepts, operations and relations), procedural fluency (skill in carrying out procedures flexibly, accurately, efficiently and appropriately), and productive disposition (habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one’s own efficacy)	
Standards for Mathematical Practice	The eight Standards of Mathematical Practice: 1 Make sense of problems and persevere in solving them. 2 Reason abstractly and quantitatively. 3 Construct viable arguments and critique the reasoning of others. 4 Model with mathematics. 5 Use appropriate tools strategically. 6 Attend to precision. 7 Look for and make use of structure. 8 Look for and express regularity in repeated reasoning. The Standards for Mathematical Practice describe ways in which developing student practitioners of the discipline of mathematics increasingly ought to engage with the subject matter as they grow in mathematical maturity and expertise throughout the elementary, middle and high school years.	

Module Title	Message	Assignment / Call to Action
		LEARN how the standards improve teaching, make learning more engaging, create shared expectations, and cultivate lifelong learning for students.
The Standards for Mathematical Content	The Standards for Mathematical Content are a balanced combination of procedure and understanding. Expectations that begin with the word “understand” are often especially good opportunities to connect the practices to the content. Students who lack understanding of a topic may rely on procedures too heavily. Without a flexible base from which to work, they may be less likely to consider analogous problems, represent problems coherently, justify conclusions, apply the mathematics to practical situations, use technology mindfully to work with the mathematics, explain the mathematics accurately to other students, step back for an overview, or deviate from a known procedure to find a shortcut. In short, a lack of understanding effectively prevents a student from engaging in the mathematical practices. The content standards which set an expectation of understanding are potential “points of intersection” between the Standards for Mathematical Content and the Standards for Mathematical Practice. These points of intersection are intended to be weighted toward central and generative concepts in the school mathematics curriculum that most merit the time, resources, innovative energies, and focus necessary to qualitatively improve the curriculum, instruction, assessment, professional development, and student achievement in mathematics.	

Module Title	Message	Assignment / Call to Action
		DEEPEN your understanding of the PA Core Standards shifts in mathematics.

Module Title	Content Directions	Resource / URL
About the Standards for Mathematical Practice and Content		
Standards for Mathematical Practice		

Module Title	Content Directions	Resource / URL
	NCTM and The Hunt Institute have produced a series of videos to enhance understanding of the mathematics that students need to succeed in college, life, and careers. Beginning in the primary grades, the videos address the importance of developing a solid foundation for algebra, as well as laying the groundwork for calculus and other postsecondary mathematics coursework. The series also covers the Standards for Mathematical Practice elaborated in the PA Core Standards for Mathematics and examines why developing conceptual understanding requires a different approach to teaching and learning.	https://itunes.apple.com/us/itunes-u/hunt-institute-ccss-series/id461816983?mt=10
The Standards for Mathematical Content		

Module Title	Content Directions	Resource / URL
	This course is intended to deepen your understanding of the PA Core Standards shifts in mathematics. It is designed to stimulate thinking around designing and delivering instruction matched to the Standards and how this may change your classroom practice. The content describes how the Standards differ from previous Standards and thoroughly explains the Shifts of focus, coherence and rigor.	https://itunes.apple.com/us/course/ccss-for-teachers-math-shifts/id679843407

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS and Notes
Module 1: Addition and Subtraction of Numbers to 10 and Fluency					
About Module 1	In grade 1, work with numbers to 10 continues to be a major stepping-stone in learning the place value system. Module 1 focuses upon building fluency with addition and subtraction facts — a major gateway to later grades. The next major stepping stone in understanding place value is learning to group “10 ones” as a single unit: 1 ten.				
	FOCUS Standards for Module 1				
	CC.2.2.1.A.1 - Represent and solve problems involving addition and subtraction within 20.				
	Standards for Mathematical Practice in Module 1				
	• MP# : Make sense of problems and persevere in solving them. • MP# 2: Reason abstractly and quantitatively. • MP# 3: Construct viable arguments and critique the reasoning of others. • MP# 6: Use appropriate tools strategically. • MP# 7: Attend to precision.				
	Click on the "i" button beside each resource/url to find additional information and/or step by step instructions. Watch You Tube videos on ViewPure.com to eliminate ads.				
Addition and Subtraction	In this lesson, students add and subtract within 10 using strategies such as: counting on, making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction, and creating equivalent but easier or known sums.				
		TEACHING addition and subtraction by making ten.		https://www.illustrativemathematics.org/illustrations/1169	
		TEACHING addition and subtraction within 10.		https://www.illustrativemathematics.org/illustrations/162	
		I CAN add up to 10 using ten frames.		https://itunes.apple.com/us/app/10-frame-fill/id418083871?mt=8	http://illuminations.nctm.org/activity.aspx?id=3565
		TEACHING addition and subtraction strategies using number racks.	Give students addition and subtraction problems of your choice to represent with one number rack.	https://itunes.apple.com/us/app/number-rack-by-math-learning/id496057949?mt=8	https://www.mathlearningcenter.org/web-apps/number-rack/
		TEACHING addition and subtraction strategies using number frames.	Give students addition and subtraction problems of your choice to represent with a 10 frame.	https://itunes.apple.com/us/app/number-frames-by-math-learning/id873198123?mt=8	https://www.mathlearningcenter.org/web-apps/number-frames/
		I CAN add numbers up to 10 using base ten blocks.	Choose Addition - Answers up to 10	https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	
		TEACHING addition using objects and a number line.		https://www.khanacademy.org/math/arithmetic/addition-subtraction/basic_addition/v/basic-addition	
		I CAN add up to 10 using a number line.	Use the "Jump Forwards" lily pad icon of this app. Some sums go to 15.	https://itunes.apple.com/us/app/teaching-number-lines/id492603378?mt=8	https://www.funbrain.com/linejump/index.html - Choose the Easy level
		TEACHING subtraction will undo addtion.		http://khanacademy.org/video/relating-addition-and-subtraction	
		TEACHING subtraction strategies using the number line.		www.youtube.com/watch?v=VZh6p3kUdyA	
		I CAN subtract from 10 using a number line.	Use the "Jump Backwards" lily pad icon of this app. Some subtraction problems begin at 15.	https://itunes.apple.com/us/app/teaching-number-lines/id492603378?mt=8	
		I CAN subtract numbers up to 10 using base ten blocks.	Choose Subtraction - Numbers up to 10	https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS and Notes
		I CAN add and subtract up to 10 to solve word problems.	Choose up to 10	https://itunes.apple.com/us/app/math-word-problems-addition/id703753981?mt=8	http://www.mathplayground.com/tb_addition_jr/thinking_blocks_junior.html - Choose 10 as Biggest Number: Part Whole Model 2 Parts or Comparison Model
		I CAN solve addition problems in two different ways.		https://itunes.apple.com/us/app/teachley-addimal-adventure/id661286973?mt=8	
		I CAN solve addition and subtraction word problems up to 10.	Choose addition or subtraction	https://itunes.apple.com/us/app/1st-grade-math-splash-math/id463469532?mt=8	https://www.splashmath.com/math-skills/first-grade
Word Problems	In this lesson, students solve word problems that call for addition of three whole numbers whose sum is less than or equal to 10.	TEACHING addition of three numbers.		https://www.illustrativemathematics.org/illustrations/468	
		I CAN add three numbers to solve word problems.		http://www.ixl.com/math/grade-1/word-problems-adding-three-numbers	Students can click on the speaker to have the problem read to them if they are unable to read.
		I CAN solve word problems with three addends.	Choose Biggest Number 10 and Part Whole Model - 3 Parts	http://www.mathplayground.com/tb_addition_jr/thinking_blocks_junior.html	

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS or Notes
Module 2: Place Value, Comparison, Addition and Subtraction to 20					
About Module 2	In Module 2, students practice grouping into tens and ones by adding and subtracting numbers to 20. Work begins slowly by modeling “adding and subtracting across ten” in word problems, with equations, and as part of fluency.				
	Focus Standards for Module 2				
	• CC.2.1.1.B.1 - Extend the counting sequence to read and write numerals to represent objects. • CC.2.1.1.B.2 - Use place value concepts to represent amounts of tens and ones and to compare two digit numbers. • CC.2.2.1.A.1 - Represent and solve problems involving addition and subtraction within 20. • CC.2.2.1.A.2 - Understand and apply properties of operations and the relationship between addition and subtraction.				
	Standards for Mathematical Practice in Module 2				
	• MP# 1: Make sense of problems and persevere in solving them. • MP# 3: Construct viable arguments and critique the reasoning of others. • MP# 5: Use appropriate tools strategically. • MP# 6: Attend to precision.				
	Click on the "i" button beside each resource/ url to find additional information and/or step by step instructions.Watch You tube videos on ViewPure.com to eliminate ads.				
Addition and Subtraction and Properties of Operations	In this lesson, students use addition strategies to build fluency and additive reasoning.	TEACHING addition strategies to build fluency and flexible strategies.	This video demonstrates multiple strategies, students explaining their methods, and reasoning. This video goes higher than addition to 20 but still demonstrates helpful strategies to develop additive reasoning.	https://www.teachingchannel.org/videos/grade-1-math	
Add and Subtract Within 20	In this lesson, students add and subtract within 20. They will use strategies such as counting on, making ten, decomposing a number leading to a ten, using the relationship between addition and subtraction, and creating equivalent but easier known sums.	TEACHING students to add and subtract within 20 using various strategies.	See page 6-15 of the document.	http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	
		TEACHING addition and subtraction strategies using number racks.	Give students addition and subtraction problems of your choice to represent with one or two number racks.	https://itunes.apple.com/us/app/number-rack-by-math-learning/id496057949?mt=8	https://www.mathlearningcenter.org/web-apps/number-rack/
		TEACHING addition and subtraction strategies using number frames.	Give students addition and subtraction problems of your choice to represent with the 10 or 20 frames.	https://itunes.apple.com/us/app/number-frames-by-math-learning/id873198123?mt=8	https://www.mathlearningcenter.org/web-apps/number-frames/
		TEACHING how to use pictures to solve a word problem.	This is a full lesson plan pertaining to this particular standard.	http://mdk12.org/instruction/academies/resources_2013/math/pdf/math_unit_resources/grade1/lessonplan1_oa_a_1solveproblems.pdf	
		I CAN practice adding numbers up to 20 using base ten blocks.	Choose Addition - Answers up to 20	https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	
		I CAN add two numbers up to 20.	Choose two numbers between 1 and 10 to add together using number pieces.	https://itunes.apple.com/us/app/number-pieces-basic-by-math/id611452042?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
		I CAN explain my strategy for adding two numbers.	Import a screenshot of your Number Pieces into the Show Me App and explain how you added the two numbers.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		TEACHING subtraction within 20.	This is a teaching video which shows subtraction within 20.	http://www.khanacademy.org/math/arithmetic/addition-subtraction/two_dig_add_sub/v/subtracting-within-20	
		I CAN practice subtracting numbers up to 20 using base ten blocks.	Choose Subtraction - Numbers up to 20	https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS or Notes
		TEACHING to subtract using three different problem types - result unknown, change unknown, and start unknown.	This is a subtraction task using three different problem types - result unknown, change unknown, and start unknown.	https://www.illustrativemathematics.org/illustrations/163	
		I CAN display and explain my thinking about how to subtract.	Import the last task into the Show Me app. Show and explain your thinking by creating a show me video.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Subtraction As An Unknown Addend Problem	In this lesson, students understand subtraction as an unknown-addend problem. For example, subtract 10 – 8 by finding the number that makes 10 when added to 8.	TEACHING subtraction as an unknown addend problem.	The purpose of this game is for students to practice creating subtraction equations while focusing on missing addends.	https://www.illustrativemathematics.org/content-standards/1/OA/B/4/tasks/1234	
		TEACHING subtraction with missing addends using ten frames.		http://www.youtube.com/watch?v=smMJXULXWD8	
		TEACHING addition and subtraction equations with different structures to show the connection between additon and subtraction.	Task asks students to find the missing number in each equation.	https://www.illustrativemathematics.org/content-standards/1/OA/D/8/tasks/4	
		I CAN use addition to solve a subtraction problem from the previous task.	Choose one of the subtraction problems from the previous task. Make a Show Me video to explain how to solve it using addtion.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Addition and Subtraction within 20 to Solve Word Problems	In this lesson, students use addition and subtraction within 20 to solve word problems by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.	I CAN add and subtract up to 20 to solve word problems.	Choose up to 20 level.	https://itunes.apple.com/us/app/math-word-problems-addition/id703753981?mt=8	http://more2.starfall.com/m/math/addResult-tennis/load.htm?d=demo&
Addition Whose Sum Is Less Than or Equal To 20	In this lesson, students solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20.	TEACHING addition of three whole numbers with a sum less than 20.	The problem in this lesson helps students to practice adding three numbers whose sum is 20 or less.	https://www.illustrativemathematics.org/content-standards/1/OA/C/6/tasks/1084	
		I CAN add three numbers that equal 20 or less.	This site allows students to add three numbers independently.	http://www.ixl.com/math/grade-1/word-problems-adding-three-numbers	
		I CAN add three numbers that equal 20 or less.	Interactive resource for students to reinforce adding three numbers that equal 20 or less.	https://www.khanacademy.org/math/early-math/cc-early-math-add-sub-topic/cc-early-math-add-subtract-20/e/adding-three-numbers	
Properties of Operations	In this lesson, students apply properties of operations as strategies to add and subtract (commutative property of addition, associative property of addition).	TEACHING the commutative and associative properties of addition.	Refer to pages 9 and 10.	http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	
		TEACHING the commutative and associative properties of addition.	This is a lesson plan designed to help students understand the commutative property of addition.	https://www.illustrativemathematics.org/content-standards/1/OA/B/3/tasks/1219	

GRADE 1 MODULE 3

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS or Notes
Module 3: Counting and Comparing Numbers					
About Module 3	In this module, students will learn to count to 120 from any point. Students will also learn how to compare numbers by looking at the groups of tens and the ones. They will use statements such as greater than, less than, or equal to to compare the numbers.				
	Focus Standards in Module 3				
	• CC.2.1.1.B.1 - Extend the counting sequence to read and write numerals to represent objects. • CC.2.1.1.B.2 - Use place value concepts to represent amounts of tens and ones and to compare two digit numbers.				
	Standards for Mathematical Practice				
	• MP# 1: Make sense of problems and persevere in solving them. • MP# 3: Construct viable arguments and critique the reasoning of others. • MP# 5: Use appropriate tools strategically. • MP# 6: Attend to precision.				
Counting and Comparing Numbers: Read and Write Numerals to 120	In this lesson, students read and write numerals up to 120 and represent a number of objects with a written numeral.	TEACHING to count on from any number less than 120.	Video of teacher working with kids using 100 charts to count on by 1 or by 10 from any number.	www.teachingchannel.org/videos/counting-by-ten-lesson	
		TEACHING to count on from one decade to the next.	This is a game similar to Concentration, but they match with the number that comes next, rather than the same number.	https://www.illustrativemathematics.org/illustrations/405	
		TEACHING to count on from any number less than 120.	Each student gets a number strip that has a beginning and ending number. Students fill in the missing numbers and then the class puts all of their strips in order.	http://firstgradeblueskies.blogspot.com/2014/02/exploring-numbers-to-120-freebies.html	
		I CAN count to 120 starting at any number.	This provides five questions for practice. Even if students get all answers correct, you can have them continue to practice and they will be posed with new problems.	https://www.khanacademy.org/math/early-math/cc-early-math-counting-topic/cc-early-math-counting/e/numbers-to-120	
		I CAN count to 120 starting at any number.	Choose Counting and Comparing - Count to 120	https://itunes.apple.com/us/app/1st-grade-math-splash-math/id463469532?mt=8	https://www.splashmath.com/math-skills/first-grade
		TEACHING counting objects being aware of how many hundreds, tens, and ones.	This video demonstrates representing numbers higher than 120, but could be adapted to only go to 120.	https://www.youtube.com/watch?v=Ab2geRzXMLI	
		I CAN represent numbers up to 120 using objects.	Select tens and ones.	http://www.abcya.com/base_ten_bingo.htm	
Counting and Comparing Numbers: Compare Two Digit Numbers	In this lesson, students compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols >, =, and <.	TEACHING the idea of greater than, less than, and equal to, to compare numbers.	Lesson plan that introduces >, <, and = to.	illuminations.nctm.org/Lesson.aspx?id=2657	
		I CAN compare numbers by using symbols.	PDF to use with lesson above.	http://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/preK-2/IneqIsland-AS-NumsAndFish.pdf	
		I CAN compare numbers by using symbols.	PDF to use with lesson above.	http://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/preK-2/IneqIsland-AS-IslandMat.pdf	
		TEACHING comparing numbers.	Video using maniulatives to compare numbers.	https://www.youtube.com/watch?v=vBBjR7-J8wc	
		TEACHING comparing numbers.	The Comparing Numbers game is a fun partner game in which students practice making two-digit numbers, decide which is greater, and write the appropriate comparison symbolically.	https://www.illustrativemathematics.org/content-standards/1/NBT/B/3/tasks/1102	
		I CAN compare numbers and explain my thinking.	Record your thinking while playing the previous game using the Show Me App.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS or Notes
		I CAN compare numbers.		https://itunes.apple.com/us/app/greater-gator/id625747308?mt=8	
		I CAN compare numbers.		https://itunes.apple.com/us/app/comparing-numbers-greater/id795214501?mt=8	https://www.splashmath.com/math-skills/first-grade - Choose Counting and Comparison, then Compare Numbers

GRADE 1 MODULE 4

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS and Notes
Module 4: Length Measurement, Telling Time, Representing and Interpreting Data					
About Module 4	In Module 4, the focus is on measuring lengths indirectly and by iterating length units, gives students time and opportunities to practice and internalize "making a 10" during daily fluency activities. Graphs are taught so students can display and interpret data. The clock is introduced and students will tell time to the nearest hour and half hour. Introducing measurement will allow for an increased variety of word problems that can be given throughout the year.				
	Focus Standards in Module 4				
	CC.2.4.1.A.1 - Order lengths and measure them indirectly and by repeating length units.				
	CC.2.4.1.A.2 - Tell and write time to the nearest half hour using both analog and digital clocks.				
	CC.2.4.1.A.4 - Represent and interpret data using tables/charts.				
	Standards for Mathematical Practice				
	• MP #1: Make sense of problems and perserve in solving them. • MP #2: Reason abstractly and quantitatively. • MP #3: Construct viable arguments and critique the reasoning of others. • MP # 5: Use appropriate tools strategically. • MP #6: Attend to precision. • MP #7: Look for and make use of structure.				
	Click on the "i" button beside each resource/ url to find additional information and/or step by step instructions. Watch You Tube videos on ViewPure.com to eliminate ads.				
Measurement, Data and Probability: Length Measurement	In this lesson, students use vocabulary with growing precision in relation to measurement. Then, students order three objects by length; compare the lengths of two objects indirectly by using a third object.	TEACHING vocabulary specific to measurement: measure, order, length, height, more, less, longer than, shorter than.	Create a word wall with the words listed on page 25 of the North Carolina Instructional Support Tools for all listed vocabulary.	http://www.k-5mathteachingresources.com/math-vocabulary.html	
		TEACHING how to compare the lengths of two objects indirectly by using a third object.	Review pages 25-26 of the North Carolina Instructional Support Tools for all listed vocabulary.	http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	
		TEACHING how to compare lengths.		http://locker.palcs.org/~jschelling/iTunes%20U/Module%203/compare%20lengths/compare%20lengths.mp4	
		I CAN use math vocabulary to describe length using connecting cubes.		http://www.k-5mathteachingresources.com/support-files/scoop-and-order.pdf	
		TEACHING how to compare the length of an object by comparing it to another object.		https://www.engageny.org/resource/grade-1-mathematics-module-3-topic-lesson-2	
		I CAN compare and order three objects by their length.		http://www.k-5mathteachingresources.com/support-files/which-is-longest.pdf	
		I CAN use math vocabulary to describe the length of objects.	Import a picture of your three objects into the Show Me App and compare their lengths using the math vocabulary in the box.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		I CAN compare and order three objects by length.	Choose All-Star Sorting	https://itunes.apple.com/us/app/dinosaur-train-classic-in/id601125477?mt=8	https://play.google.com/store/apps/details?id=org.pbskids.jurassicjr&hl=en
		I CAN compare the lengths of two objects by using a third.		https://www.khanacademy.org/math/early-math/cc-early-math-measure-data-topic/cc-early-math-measurement/e/order-by-length	
		I CAN compare the lengths of three different objects.		http://www.ixl.com/math/grade-1/compare-objects-length-and-height	

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS and Notes
Measurement, Data and Probability: Using Standard and Non-Standard Units of Measure	In this lesson, students use standard and non-standard units of measure to express the length of an objects as a whole number of length units.	TEACH how to measure lengths by iterating unit lengths.	The mathematical foci of this lesson are geometric concepts, location, navigation, direction, and spatial relationships and measurement concepts, using nonstandard units to measure a distance, and the iteration of units, measurement by using the same unit of measure repeatedly to determine the total. Students practice measuring with multiple units and a single unit following the methods modeled by the teacher and those appropriate for their level of understanding.	http://illuminations.nctm.org/Lesson.aspx?id=419	
		I CAN use objects to measure.		http://illuminations.nctm.org/uploadedFiles/Content/Lessons/Resources/preK-2/419-AS-Ladybugs.pdf	
		I CAN use snap cubes to measure lengths of other objects.	Take a movie of measuring an object of your choice in the classroom using snap cubes.	http://www.k-5mathteachingresources.com/support-files/measuring-with-snap-cubes.pdf	
		I CAN use objects to measure lengths of other objects.	Take a movie of Max's Challenge: Measure objects in your classroom — a desk, a book, the chalkboard — but DON'T use a ruler. Use your hands, feet, blocks, paper, pencils, or just about anything to measure the objects. of measuring an object of your choice in the classroom.	http://teacher.scholastic.com/max/pdf/MaxMath_measure.pdf	
		I CAN measure objects using non-standard units.		https://www.khanacademy.org/math/early-math/cc-early-math-measure-data-topic/cc-early-math-measuring-length/e/measuring-lengths-1	
		I CAN use my vocabulary words to explain measuring.	Student will show their understanding of the vocabulary by drawing an example and adding a audio explanation in their own words.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Measurement, Data and Probability: Telling and Writing Time	In this lesson, students tell and write time in hours and half hours using analog and digital clocks.	TEACHING time to hour on a digital and analog clock.		http://betterlesson.com/lesson/587836/time-to-the-hour	
		TEACHING how to tell time to the hour.		https://itunes.apple.com/us/podcast/1st-gr-telling-time-to-the-hour/id529828637?i=118233790&mt=2	
		TEACHING how to tell time to the hour and half hour.		https://itunes.apple.com/us/podcast/2nd-gr-telling-time-to-hour/id545322917?i=118839123&mt=2	
		I CAN tell time to the hour and half hour.	Student must select the British flag.	https://itunes.apple.com/us/app/telling-time-for-kids-learn/id592075414?mt=8	https://play.google.com/store/apps/details?id=com.mingoville.funclock.en&hl=en
		I CAN tell time to the hour and half hour.	Pick beginner level.	https://itunes.apple.com/us/app/quick-clocks-telling-time/id565826811?mt=8	
Measurement, Data and Probability: Represent and Interpret Data	In this section, students will learn to gather and represent data in tables and charts. They can use the data in tables and charts to solve problems.	TEACHING completion of a tally chart.	Listen to the book, Duck! Rabbit! before completing the tally chart.	https://www.youtube.com/watch?v=hPCoe-6RRks	
				http://www.k-5mathteachingresources.com/support-files/duck-rabbit.pdf	
		I CAN create a tally chart and explain my results.	Take a screen shot of the tally chart, import into the Show Me App and record three observations about the data.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS and Notes
		TEACHING representing and interpretting data.		http://mdk12.org/share/ccsc/uos/resources/math/gr1_represent_and_interpret_data/Lesson_Plan_1_MD_C_4_Data_Helps_Us_Answer_Everyday_Questions.docx	
		TEACHING representing and displaying data using pictures.		http://www.uen.org/core/math/downloads/1MD4.pdf	
		TEACHING using a chart to represent the varying weather within a month.		https://www.illustrativemathematics.org/content-standards/1/MD/C/4/tasks/1233	
		TEACHING graph and data vocabulary.		https://www.youtube.com/watch?v=-cSm_D7MrRI&list=PL9518573F5ADF58BB&index=3	
		TEACHING creating a bar graph.		https://www.youtube.com/watch?v=-Y9n67yG9d8&index=8&list=PL9518573F5ADF58BB	
		TEACHING representing and interpretting categorical data.		https://www.illustrativemathematics.org/illustrations/506	
		I CAN read a graph.		http://www.ixl.com/math/grade-1/interpret-bar-graphs	
				http://www.toytheater.com/fruit-fall.php	
		I CAN create graphs.		https://itunes.apple.com/us/app/kids-math-graphs-data-worksheets/id635355042?mt=8	
		I CAN compare two graphs.		http://www.ixl.com/math/grade-1/which-bar-graph-is-correct	
		I CAN ask a question, collect data, and display the data using a chart, tally chart, pictograph, or graph.	Students will be required to think of a question and surveyed 10 people. It is up to them to determine the question and the type of representation using the Educreations app.	https://itunes.apple.com/us/app/educreations-interactive-whiteboard/id478617061?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

GRADE 1 MODULE 5

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternate to IOS or Notes
Module 5: Identify, Compose, and Partition Shapes					
About Module 5	In Module 5, students think about attributes of shapes and practice composing and decomposing geometric shapes. The module placement also gives more spatially-oriented students the opportunity to build their confidence before they return to arithmetic.				
	Focus Standards in Module 5				
	CC.2.3.1.A.1 - Compose and distinguish between two- and three-dimensional shapes based on their attributes. CC.2.3.1.A.2 - Use the understanding of fractions to partition shapes into halves and quarters.				
	Standards for Mathematical Practices				
	• MP# 1: Make sense of problems and persevere in solving them. • MP# 3: Construct viable arguments and critique the reasoning of others. • MP# 5: Use appropriate tools strategically. • MP# 6: Attend to precision.				
	Click on the "i" button beside each resource/ url to find additional information and/or step by step instructions. Watch You Tube videos on ViewPure.com to eliminate ads.				
Geometry: Two and Three Dimensional Shapes and Fractions	In this lesson, students identify, build, and draw shapes to possess attributes.	TEACHING drawing shapes with specific attributes.	Refer to page 30.	http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	
		TEACHING attributes of two- and three-dimensional shapes.		https://www.illustrativemathematics.org/illustrations/1104	
		I CAN identify shapes and their attributes.	Video a fellow student identifying the attributes of each group of shapes from the previous activity.	http://www.apple.com/mac/imovie/	
Geometry: Composing and Distinguishing Between Two and Three-Dimensional Shapes	In this lesson, students compose two and three-dimensional shapes and distinguish between attributes.	TEACHING composing new shapes from other shapes.	Refer to page 31.	http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	
		TEACHING shape identification as parts of a larger shape.	Watch/Read "The Happy Square!" to identify how shapes are composed to create larger shapes.	http://youtu.be/IjJek0Cgd4k	
		I CAN build shapes.		https://itunes.apple.com/us/app/dragon-shapes-lumio-geometry/id658791693?mt=8	https://play.google.com/store/apps/details?id=com.lighthouselearning.dragonshapetournament.full&hl=en
Geometry: Partitioning Circles and Rectangles	In this lesson, students partition circles and rectangles into two and four equal shares to gain an understanding that decomposing into more equal shares creates smaller shares.	TEACHING partitioning and decomposing circles and squares.	Reference pages 31 and 32 in this document.	http://www.dpi.state.nc.us/docs/curriculum/mathematics/scos/1.pdf	
		TEACHING partitioning circles into equal parts.		https://learnzillion.com/lessons/3579-partition-a-circle-into-equal-shares	This video demonstrates partitioning circles into equal parts. This video can be used by teachers and students.
		I CAN partition a circular cake into halves and fourths.		http://pbskids.org/peg/games/make-the-cake	
		I CAN divide circles and rectangles into equal parts.	Choose Geometry and change the level on the home screen to Level 3 and 4.	https://itunes.apple.com/us/app/splash-math-grade-1-5-fun-learning-games-for-kids/id672658828?mt=8	https://www.splashmath.com/math-skills/first-grade
		I CAN divide circles and rectangles into equal parts.	Step 1: Have students draw a circle or rectangle and use the pencil tool to divide the shape into halves, thirds, and fourths. Be sure to change your color when using the pencil. The iPad needs to be held vertically so you can see the pencil tool below.	https://itunes.apple.com/us/app/draw-formally-know-as-idraw!/id395090690?mt=8	
			Step 2: Have students take a screen shot of the drawing, import it into the Show Me App and record their explanation of how their shape was divided so all parts are equal.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternate to IOS or Notes
		I CAN divide large squares into smaller squares.	Part 1 Have students decompose a large square into smaller squares using the colors in the app to represent the various squares made. Have students take a screenshot.	https://itunes.apple.com/us/app/geoboard-by-math-learning/id519896952?mt=8	https://www.mathlearningcenter.org/web-apps/geoboard/
		I CAN describe the process dividing a large square into smaller squares.	Using the screen shot from the previous activity, students will upload their image into the Show Me App to record their description of how they decomposed their shape.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS or Notes
Module 6: Place Value, Comparison, Addition and Subtraction of numbers within 100	In Module 6, students revisit understanding place value. Addition and subtraction to 40 rests on firmly establishing a “ten” as a unit that can be counted. In earlier modules, students loosely grouped 10 objects to make a ten. They now transition to conceptualizing that ten as a single unit (using 10 linker cubes stuck together, for example). Students begin to see a problem like 23 + 6 as an opportunity to push the “2 tens” in 23 over to the side and concentrate on the familiar addition problem 3 + 6. Then Module 6 graduates to “adding and subtracting within 100,” the learning goal differs from earlier, which focuses on addition and subtraction “within 20.”				
About Module 6					
	Focus Standards in Module 6				
	• CC.2.1.1.B.3 - Use place value concepts and properties of operations to add and subtract within 100. • CC.2.2.1.A.1 - Represent and solve problems involving addition and subtraction within 20. • CC.2.2.1.A.2 - Understand and apply properties of operations and the relationship between addition and subtraction.				
	Standards for Mathematical Practice				
	• MP# 1: Make sense of problems and persevere in solving them. • MP# 2: Reason abstractly and quantitatively. • MP# 3: Construct viable arguments and critique the reasoning of others. • MP# 4: Model with mathematics. • MP# 5: Use appropriate tools strategically. MP# 6: Attend to precision. • MP# 7: Look for and make use of structure. • MP# 8: Look for and express regularity in repeated reasoning.				
	Click on the "i" button beside each resource/url to find additional information and/or step by step instructions. Watch You Tube videos on ViewPure.com to eliminate ads.				
Place Value, Comparison, Addition and Subtraction of numbers within 100: Adding Within 100	In this lesson, students add within 100, adding a two-digit number and a one-digit number using place value concepts and properties of operations(communitive property of addition; associative property of addition). Relate the strategy to a written method and explain the reasoning used.	TEACHING addition story problems involving two-digit and a one-digit numbers.	Students have been learning about tens and ones. This day allows them to apply what they know to a "real life" farm crisis! The chickens have laid a bunch of eggs and students have to figure out how many the farmer is collecting!	http://betterlesson.com/lesson/502426/down-on-the-farm-base-10-problems	
		TEACHING place value when adding a one-digit and a two-digit number.	Khan academy video explaining understanding place value and adding a one-digit number to a two-digit number.	https://www.khanacademy.org/math/early-math/cc-early-math-add-sub-topic/cc-early-math-add-subtract-100/v/understanding-place-value-when-adding-ones	
		I CAN add two-digit and one-digit numbers.	Set the random number generator to 10. Generate two numbers to create a two digit number. Then roll the dice. Add that number to your two digit number. Record your problem and the answer in the show me app. Continue this process at least 5 more times.	https://itunes.apple.com/us/app/undecided/id444318521?mt=8	https://play.google.com/store/apps/details?id=com.deadmanproductions.undecided&hl=en
				https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
		I CAN practice adding a two-digit number to a one-digit number using base ten blocks.	Choose Addition - Answers up to 100 (2digit + 1digit)	https://itunes.apple.com/us/app/base-ten-blocks-math/id878351349?mt=8	
		I CAN practice adding a two-digit number to a one-digit number using base ten blocks.	Step 1: Represent the number 83 with base ten blocks and add in 6 ones. Use writing tool to write the corresponding number sentence.	https://itunes.apple.com/us/app/number-pieces-basic-by-math/id611452042?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
		I CAN explain how to add a two digit number to a one digit number.	Step 2: Have students take a screen shot of the drawing, import it into the Show Me App and record their explanation.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en

Module Title	Message	Assignment / Call to Action	Content Directions	Resource / URL	Alternative to IOS or Notes
		TEACHING adding a multiple of ten to a two-digit number.		https://www.youtube.com/watch?v=QGyUgGLpeCE	
				https://www.youtube.com/watch?v=BscyTczYxEU	musical video showing what happens when you add ten to a two-digit number.
		TEACHING addition and subtraction of a two-digit number and a multiple of ten.	Lesson plan for adding and subtracting ten.	http://betterlesson.com/lesson/588832/how-many-dots	
		I CAN practice adding a multiple of ten to a two-digit number using base ten block.	Step 1: Represent the number 36 with base ten blocks and add in 4 tens. Use writing tool to write the corresponding number sentence.	https://itunes.apple.com/us/app/number-pieces-basic-by-math/id611452042?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
			Step 2: Have students take a screen shot of the drawing, import it into the Show Me App and record their explanation.	https://itunes.apple.com/us/app/showme-interactive-whiteboard/id445066279?mt=8	https://play.google.com/store/apps/details?id=com.explaineverything.explaineverything&hl=en
Place Value, Comparison, Addition and Subtraction of numbers within 100: Subtracting Multiples of 10	In this lesson, students subtract multiples of 10 in the range 10-90, using concrete models and drawings. They relate the strategy to a written method and explain the reasoning used and understand subtraction as an unknown-addend problem. (Example, subtract 76-20 by finding the number that makes 76 when added to 20.)	TEACHING subtracting multiples of 10 in the range 10- 90, using concrete models.		http://www.youtube.com/watch?v=8CFeo-Hfd8w	
		TEACHING subtracting multiples of 10 in the range 10- 90, using concrete models.	Have students represent a two digit number of your choosing with base ten blocks and tell them to take away a certain number of tens. Have them record their answers on the screen and hold it up like a whiteboard.	https://itunes.apple.com/us/app/number-pieces-basic-by-math/id611452042?mt=8	https://www.mathlearningcenter.org/web-apps/number-pieces/
		I CAN subtract multiples of ten.	Choose add and subtract within 100>>change level to lev el 4 (subtract multiples of ten)	https://itunes.apple.com/us/app/1st-grade-math-splash-math/id463469532?mt=8	https://www.splashmath.com/math-skills/first-grade