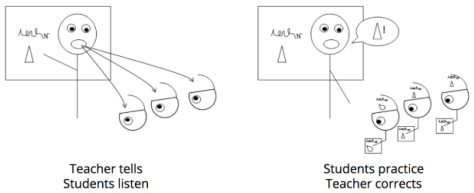
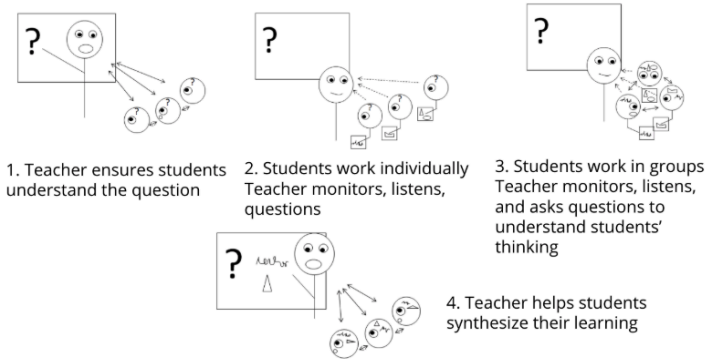
Region West Scope and Sequence Observation Tool Elementary Numeracy				
Program	**Units in which I should expect students to be engaged *and* the concepts they should be learning**		**High impact routines or practices we should see in place based on the content students are expected to learn. Connections to our LD West Signature Strategies**	**Notes**
Eureka Math	K-Math Calendar 1-Math Calendar 2-Math Calendar 3-Math Calendar 4-Math Calendar 5-Math Calendar	Eureka Curriculum Maps SY 22-23 Instructional Blocks SY 22-23 Instructional Block Scope & Sequence	**Eureka Math Instructional Routines** • Three-Phase Structure • Talk Moves • Number Talks Region West Signature Strategies: High-Leverage Interleaved Warm-Ups, Deep Problem Solving Tasks vs Procedural Tasks, and Progress Monitoring	
Illustrative Mathematics	**K-Unit 4: Understanding Addition and Subtraction** **1-Unit 4: Numbers to 99** **2-Unit 5: Working with Numbers to 1000** **3-Unit 4: Relating Multiplication to Division** **4-Unit 4: From Hundredths to Hundred-Thousandths** **5-Unit 4: Wrapping Up**	IM Pacing Guide IM Curriculum Maps	IM Instructional Routines Know and Wonder, Number Talk, Which One Doesn't Belong (WODB), etc... Region West Signature Strategies: High-Leverage Interleaved Warm-Ups, Deep Problem Solving Tasks vs Procedural Tasks, and Progress Monitoring	

	Multiplication and Division with Whole Numbers			

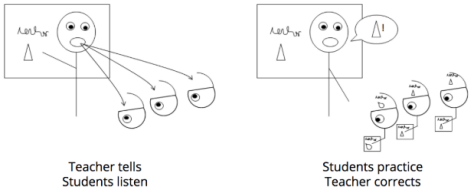
Region West Scope and Sequence Observation Tool
Secondary Numeracy - Middle School

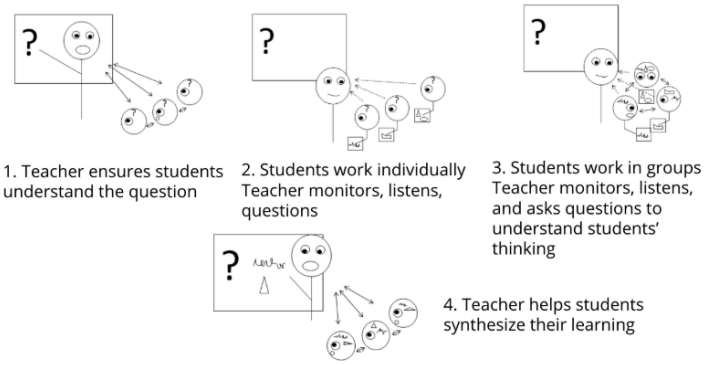
Program	Units in which I should expect students to be engaged *and* the concepts they should be learning	High impact routines or practices we should see in place based on the content students are expected to learn. Connections to our Region West Signature Strategies	Notes
Illustrative Mathematics Classrooms with pacing challenges, click for Additional Guidance	**6th grade:** Unit 6: Expressions and Equations Unit 7: Rational Numbers **7th grade:** Unit 5: Rational Number Arithmetic Unit 6: Expressions, Equations, and Inequalities **8th grade:** Unit 7: Exponents and Scientific Notation Unit 8: Pythagorean Theorem and Irrational Numbers	2022-2023 Region West Secondary Math - Scope and Sequence for All courses. In a problem-based curriculum, students work on carefully crafted and sequenced mathematics problems during most of the instructional time. **Region West Signature Strategies -** Each lesson should include a warm-up, a problem solving section and a formative assessment of the teacher's choice (except in iM where form assessment should be a given Cool-down. (see notes for iM Cool-downs) **Active learning is best -** Students learn best and retain what they learn better by solving problems. *Often, mathematics instruction is shaped by the belief that if teachers tell students how to solve problems and then students practice, students will learn how to do mathematics.*  *Decades of research tells us that the traditional model of*	**About the IM Cool-Downs** In the Illustrative Mathematics curriculum, cool-downs are formative assessments given at the end of each lesson. Often, though, understanding of a concept is built incrementally through several lessons, so evidence of unfinished learning from a cool-down does not necessarily mean that the material from the lesson needs to be addressed again immediately.
SpringBoard **CPM** **McGraw Hill CA Math** **Holt McDougall**	**6th grade** **Expressions and Equations** **6.EE.1:** Write & evaluate expressions with whole-number exponents. **6.EE.2:** Write, read and evaluate expressions with variables. **6.EE.3-4:** Using the properties of numbers,		

Math **HMH Go Math**	generate equivalent expressions and identify when two expressions are equivalent or not. **6.EE.5-7:** Reason about and solve one-variable equations / inequalities when solving real-world math problem. **6.EE.8:** Write an inequality to represent a real-world or math problem and use number line to model solutions. **6.EE.9:** Investigate relationships between two variables (dependent vs. independent) **7th grade** **Expressions and Equations** **7.EE.1-2:** Use properties of operations to generate equivalent expressions (distributive property and combining like terms). **7.EE.3:** Solve multi-step real-life/ math problems involving whole numbers, fractions & decimals. **7.EE.4:** Construct and solve two-step linear equations and inequalities to solve real-life math problems.	*instruction is flawed.* Traditional instructional methods may get short-term results with procedural skills, but students tend to forget the procedural skills and do not develop problem solving skills, deep conceptual understanding, or a mental framework for how ideas fit together. They also don't develop strategies for tackling non-routine problems, including a propensity for engaging in productive struggle to make sense of problems and persevere in solving them. In order to learn mathematics, students should spend time in math class *doing mathematics*. "Students learn mathematics as a result of solving problems. Mathematical ideas are the outcomes of the problem-solving experience rather than the elements that must be taught before problem solving."[3] Students should take an active role, both individually and in groups, to see what they can figure out before having things explained to them or being told what to do. Teachers play a critical role in mediating student learning, but that role looks different than simply showing, telling, and correcting. The teacher's role is 1. to ensure students understand the context and what is being asked, 2. ask questions to advance students' thinking in productive ways, 3. help students share their work and understand others' work through orchestrating productive discussions, and 4. synthesize the learning with students at the end of activities and lessons.	

	8th grade **Linear Equations and Systems and Statistics** **8.EE.8:** Solve pairs of simultaneous equations. **8.SP.1-3:** Investigate patterns in bivariate data **8.SP.4:** Construct and interpret a two-way table summarizing data	 1. Teacher ensures students understand the question 2. Students work individually Teacher monitors, listens, questions 3. Students work in groups Teacher monitors, listens, and asks questions to understand students' thinking 4. Teacher helps students synthesize their learning	

Region West Scope and Sequence Observation Tool
Secondary Numeracy - High School

Program	Units in which I should expect students to be engaged *and* the concepts they should be learning	High impact routines or practices we should see in place based on the content students are expected to learn. Connections to our LD West Signature Strategies	Notes
Illustrative Mathematics Classrooms with pacing challenges, click for Additional Guidance	**Algebra:** Unit 5: Exponential Functions Unit 6: Quadratic Functions **Geometry:** Unit 5: Solid Geometry Unit 6: Coordinate Geometry **Algebra 2:** Unit 5: Transformations of Functions Unit 6: Trigonometric Functions	2022-2023 Region West Secondary Math - Scope and Sequence for All courses. **Active learning is best -** Students learn best and retain what they learn better by solving problems. Often, mathematics instruction is shaped by the belief that if teachers tell students how to solve problems and then students practice, students will learn how to do mathematics.  *Decades of research tells us that the traditional model of instruction is flawed*. Traditional instructional methods may get short-term results with procedural skills, but students tend to forget the procedural skills and do not develop problem solving skills, deep conceptual understanding, or a mental framework for how ideas fit together. They also don't develop strategies for tackling non-routine problems, including a propensity for engaging in productive struggle to make sense of problems and persevere in solving them. In order to learn mathematics, students should spend time in math class *doing mathematics*. "Students learn mathematics as a result of solving problems. Mathematical ideas are the outcomes of the problem-solving	**About the IM Cool-downs** In the Illustrative Mathematics curriculum, cool-downs are formative assessments given at the end of each lesson. Often, though, understanding of a concept is built incrementally through several lessons, so evidence of unfinished learning from a cool-down does not necessarily mean that the material from the lesson needs to be addressed again immediately. **Spark discussion, perseverance, and enjoyment of mathematics.** IM Algebra 1, Geometry, and Algebra 2 are problem-based core curricula rooted in content and practice standards to foster learning and achievement for all. Students learn by doing math, solving problems in mathematical and real-world contexts, and constructing arguments using precise language. Teachers can shift their instruction and facilitate student learning with high-leverage routines that guide them in understanding and making connections between concepts and procedures. **Intentional lesson design that promotes mathematical growth.** IM Algebra 1, Geometry, and Algebra 2 lessons are designed with a focus on independent, group, and whole-class instruction,

		experience rather than the elements that must be taught before problem solving."[3] Students should take an active role, both individually and in groups, to see what they can figure out before having things explained to them or being told what to do. Teachers play a critical role in mediating student learning, but that role looks different than simply showing, telling, and correcting. The teacher's role is 5. to ensure students understand the context and what is being asked, 6. ask questions to advance students' thinking in productive ways, 7. help students share their work and understand others' work through orchestrating productive discussions, and 8. synthesize the learning with students at the end of activities and lessons. In a problem-based curriculum, students work on carefully crafted and sequenced mathematics problems during most of the instructional time. Each lesson should include a warm-up, a problem solving section and a formative assessment of the teacher's choice (except in iM where form assessment should be a given Cool-down. (see notes for iM Cool-downs)  	building mathematical understanding and fluency with all students. Teachers will also use Warm-ups and Cool-downs to help guide lesson pacing and planning.
SpringBoard **CPM** **Big Ideas**	**Algebra: Interpret the Structure of Expressions (Linear, Exponential & Quadratic)** **A.SSE.1** - Interpret parts of an expressions **A.SSE.2** - Use structure to rewrite expressions **Write Expressions in Equivalent Forms to Solve Problems** **A.SSE.3a** - Factor a quadratic expression to reveal the zeros **A.SSE.3b** - Complete the square in quadratic expression **A.SSE.3c** - Use properties of exponents to transform for exponential functions **Create Equations that Describe Numbers or Relationships** **A.CED.1** - Create equations and inequalities in one variable **A.CED.3** - Represent constraints by equations Solve Equations and Inequalities in One Variable **A.REI.4** - Use completing the square method **A.REI.4b** - Solve quadratic equations by inspection		

	Geometry: Right Triangles and Trigonometry - Define Trig Ratios & Solve Right Triangle Related Problems **G.SRT.6** - Understand that side ratios in right triangles are properties of the angles in the triangle leading to definitions of trigonometric ratios for acute triangles. **G.SRT.7** - Explain and use the sine and cosine relationship in complementary angles **G.SRT.8** - Use trigonometric ratios and Pythagorean theorem to solve problem		
	Algebra 2: **Seeing Structures in Expressions** **A.SSE.1-2** Interpret the structure of expressions **A.SSE.3-4** Write expressions in equivalent forms to solve problems. **Arithmetic w/ Polynomials Rational Expressions** **A.APR.1** Perform arithmetic operations on polynomials *APR.2-7 - Alg 2 only **A.APR.2-3** Understand the relationship between zeros and factors of polynomials **A.APR.4-5** Use polynomial identities to solve problems **A.APR.6-7** Rewrite rational expressions		