Leadership and Collaboration Unit Length: 2 Weeks

STEM SCIENCE TECHNOLOGY ENGINEERING MATH	**Mathematics Unit Plan**	
Teacher: Williamson	Grade: 9	Course: Algebra I
Unit Title: Leadership and Collaboration		

LEARNING TARGETS

LT1: I can use properties of rational and irrational numbers (CC.N-RN4.)
LT2: I can interpret structures of expressions. (CC.SSE).

UNIT OVERVIEW — **Overall summary of the unit, activities, tasks, and/or content.**

In this unit, students will develop an understanding of the importance of collaboration within a math class, and will practice applying the mathematical habits of interaction as they classify numbers within the real number system, explore properties of numbers and use the order of operations. Students will also begin to develop mathematical vocabulary as they interpret algebraic expressions

MOTIVATORS — **Hooks for the unit and supplemental activities. (PBL scenarios, video clips, websites, literature)**

~ Video clip emphasizing teamwork from movie Here Comes the Boom:
- http://www.wingclips.com/movie-clips/here-comes-the-boom/restoring-cells

~ Video clip from Who Wants to be a Millionaire- When not knowing math can cost you 15,000:
- https://www.youtube.com/watch?v=BbX44YSsQ2I :

~ Classifying ourselves using a graphic organizer
~ Video Clip – Change the World from the movie Jobs:
- http://www.wingclips.com/movie-clips/jobs/change-the-world

Week	Learning Targets	Materials & Resources	Instructional Procedures	Differentiated Instruction	Assessment
1	I can use properties of rational and irrational numbers. (CCS.N-RN.3)	TI NSPIRE scavenger hunt. • education.ti.com/.../A9BD7A03DF064C3E92B7E1778.. Map.mathshell.org- Rational and irrational numbers	Essential Questions: How can I use technology to enhance my learning in and out of the classroom? How can I classify numbers within the real number system? Set: Teacher will demonstrate a bull's eye graphic organizer classifying	Remediation Stations will have folders with graphic organizer hints, and leveled worksheets. Enrichment	Formative: MDC lesson assessment for rational and irrational numbers- part 1. • http://map.mathshell.org/materials/lessons.php?taskid=424&subp

		lesson Kuta software.com worksheets Math foldables for order of operations, integer review Teacher created videos	components of stem school. Students will then do a graphic organizer classifying themselves. They will share these with class. <u>Teaching Strategies</u> • Students will complete scavenger hunt of TI NSPIRE calculator with a partner. Partners will then compare answers with one other pair of students. • Students will rotate through 3 stations: Classifying numbers within the real number system. using a bull's eye graphic organizer. Applying rules of properties by creating a graphic organizer chart. Defining topic vocabulary using Frayer Models. All Graphic Organizers can be included in an interactive notebook to use a s a resource. • Students will work cooperatively in a relay activity and silent number line to order and classify numbers within the real system. • Students will complete map.mathshell.org lesson on rational and irrational numbers. <u>Summarizing Strategy</u> Students will complete tickets out the door, and a 3-2-1 (list three kinds of real numbers, explain two differences between rational and irrational numbers, and one explanation of what it means to be non terminating and non repeating). <u>Homework</u> Students will watch teacher created videos regarding the real number system, and will complete the guided summaries and questions that accompany each video. See: <u>https://Williamsonalgebra1.blogspot.com</u> Lesson 1: Intro to Unit 1. Lesson 2: Classifying Real Numbers. Lesson 3: Integer Rules.	Students will have opportunities to perform operations with rational and irrational numbers. <u>Learning Styles</u> Visual. Auditory and kinesthetic. Flexible Grouping	age=concept
2	I can interpret structures of expressions. (CCS.SSE) I can rewrite rational expressions. (CCS. APR)	Foldable graphic organizer for operations Teacher created videos Kutasoftware .com worksheets Map.mathshell.org lesson "Interpreting Algebraic Expressions" Holt Fuse App Variable Expressions and Equations differentiated lesson from DOE.	<u>Essential Questions:</u> How can I translate between words and algebra? How can I evaluate algebraic expressions? <u>Set:</u> Students will fold piece of paper into 4 quadrants and label each with the operations add, subtract, multiple and divide. Given a list of words and phrases such as sum, difference, etc.. Students will write the given words under the appropriate operation. <u>Teaching Strategies</u> • Using downloaded lesson from DOE, "Unlocking the Mysteries of Equations", student pairs will play a card matching game "Memory" <u>http://dspearmath.weebly.com/uploads/5/1/1/3/5113576/1_and_2_step_equation_handouts.pdf</u>	<u>Remediation</u> Chapter one -Are you Ready and Ready to Go On lessons from My.hrw.com <u>Enrichment</u> Create a brief video that would engage and assist other students regarding algebraic expressions. <u>Learning Styles</u> Auditory, visual and	**S**ummative: Assessment from Chapter 1 Explorations in Core Math. •My.hrw.com

			• MDC lesson Interpreting Algebraic Expressions http://map.mathshell.org/materials/lessons.php?taskid=221&subpage=concept Summarizing Strategy Students will think- pair- share with one other student, communicating which expressions they each felt were most difficult. Each will explain why they felt they were challenging and one way to make them understandable.	kinesthetic.	