Curriculum Sample Template
Max. 8 Pages

Grade Level	11th	**Content Area**	Math
Course Title (grades 9-12 Only)	Algebra II		
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	To master this concept, students must be very good at breaking down equations into individual components. Students must also have confidence completing multi-step and substitution problem involving units of measurement.		
Alignment to Program of Instruction *Briefly outline methods of instruction found in this sequence of lessons that align to the Program of Instruction described in A.3.*	In alignment with FES's one-to-one methodology, students will use their computers, Canvas, and the Acellus software. Canvas and Acellus will provide diagnostic data and videos/modules for introduction to new material/direct instruction. At the end of the lesson, students will use Acellus Courseware or their Canvas Online Learning System to complete a formative assessment. For the summative assessment, students will also use Acellus or Canvas. Direct instruction will use multiple checks for understanding, and computer-based Kagan cooperative strategies will be implemented during guided practice.		
Standard Number and Description *List the Number* and the full description for the Required Standard or Science Performance Objective listed in section A.6.*	(N-Q) A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.		
Materials/Resources Needed	Computers, Acellus software, Canvas, headphones, interactive notebooks, scratch paper, graphic software.		

* ***Standard Number****: For English Language Arts (Reading and Writing), use Grade, Strand, Standard (e.g., 3.RI.2). For K-8 Math, use Grade, Domain, Standard (e.g., 6.EE.7). For HS Math, use Conceptual Category-Domain, Standard (e.g., A-REI.6). For Science, use Grade, Strand, Concept, PO (e.g., 4.1.3.1).*

Lesson (add as needed)	Instructional Strategies TW = teacher will. SW = students will. CFU = checks for understanding.	Student Activities
1	**Objective**: • SW calculate the unit rate by breaking down the problem into it's simplest terms. **Key Points/Terms:** • We use units to extrapolate our understanding of a concept to novel scenarios. **Activation of Prior Knowledge**: Teacher will place a "Do Now" activity on Canvas and instruct students to begin. The "Do Now" will ask students to determine the units needed within a feet per second word problem. Online cooperative learning strategies will be used here, including comparing answers and providing one another with feedback. **INM/Modeling**: Teacher will introduce the objective and will direct students to open their computers to the Canvas login. Teacher will instruct students to complete the Canvas unit rate diagnostic and continue onto the new material modules. Teacher will then introduce more complex unit rate problems and instruct students how to solve more complex problems using the unit rate. Teacher will also model a description of the unit rate in terms of real world context. Teacher will use built in checks for understanding to ensure comprehension and will monitor progress by walking around the room. Teacher will provide assistance when necessary and will redirect students if needed. **Guided Practice**: Teacher will wait until students have	Students will type the objective and key points in their interactive online notebooks. Students will actively complete the feet per second Do Now by answer in Canvas. The students will calculate the unit rate within the Do Now. Students will respond to all checks for understanding and will volunteer to share their forum answers when prompted. Students will login into Canvas using their computers and headphones. No other screens will be up at this time. Students will complete the unit rate diagnostic before moving onto the new material modules. Students will then learn how to use unit rates to solve more complex problems. Students will also describe the unit rate in terms of real world context. Students will take notes during the module and will continue commenting on the Do Now if they finish their work before their peers.

	finished their new material, and then instruct them to the guided practice module. Teacher will provide students with several word problem scenarios with highlighted words. Each highlighted word will be part of the unit rate equation. Teacher will instruct students to type in the correct unit rate for the problem.	Students will read through each word problem, then identify the unit rate using the highlighted words as a guide. Students will practice finding the unit rate for 4-6 problems.
	Independent Practice: Teacher will redirect students to their Acellus login and guide them to the formative assessment/independent practice section. This formative assessment will ask students to type in the unit rate for each problem.	Students will login onto Acellus and will complete the formative assessment/independent practice. Students will complete the unit rate problems and remain respectful of their classmates during this silent time. When finished, students will reflect on their performance on the formative assessment.
	Exit Ticket: Teacher will pass out sticky notes to each student. Teacher will place one final unit rate problem on the board and students will write the answers on the sticky note. Notes will be placed on door upon class exit.	Students will complete the exit ticket by completing the sticky note and placing it on the door when leaving.
2	**Objective**: SWBAT demonstrate understanding of two-step unit rate problems by choosing and interpreting units consistently in formulas **Key Points/Terms:** • First, identify what the final unit rate the problem is asking for • Second, work backwards to the beginning of the problem and follow conversions until you have the final unit rate.	Students will type the objective and key points in their interactive online notebooks.
	Activation of Prior Knowledge: Teacher will place a "Do Now" activity Canvas's forum board and instruct students to begin. The "Do Now" will ask students to complete one step unit rate problems within the Canvas forum. **INM/Modeling**: Teacher will introduce the objective for the	Student will actively complete the one step unit rate problems Do Now. Students will respond to all checks for understanding and will volunteer to share their forum answers when prompted.

	day will direct students to open their computers to the Acellus login. Teacher will instruct students to complete the Acellus two-step unit rate diagnostic and continue onto the new material modules. Students will then watch and participate in the new material modules, which walk the student through the steps to solving two-step unit rate problems. Teacher will also model how to interpret the unit rates. Teacher will use checks for understanding to ensure comprehension and will monitor progress by walking around the room. Teacher will provide assistance when necessary and will redirect students if needed.	Students will login into the Canvas portal using their computers. No other screens will be up at this time. Students will complete the diagnostic before moving onto the new material modules. Within the new material modules, students will walk through the steps to solving two-step unit rate problems. Once students have demonstrated how to solve a two-step unit rate problem, students will interpret what the units in the formulas mean. Students will take notes during the module and will continue commenting on the Do Now if they finish their work before their peers.
	Guided Practice: Teacher will ask students to open the forums section of the Canvas online learning system. Teacher will direct students to the interpreting unit rates virtual gallery walk forum. Within this virtual gallery walk, students will complete a "passport" which asks them to complete one and two-step unit rate problems and question the students about which unit rate to choose. Teacher will model expected behavior and provide redirections if necessary.	Students will open the community forum post in Canvas and select the unit rate gallery walk and "passport". Students will complete their "passport" which asks them to complete one and two-step unit rate problems and question the students about which unit rate to choose. Students will participate in the forum and respect one another.
	Independent Practice: Teacher will redirect students to their Canvas login and guide them to the formative assessment/independent practice section. This formative assessment will consist of 12 two-step unit rate questions. Teacher will model the expected behavior and use checks for understanding to ensure comprehension. With each unit rate, students must interpret the unit rate and describe how this unit rate can be used in other formulas.	Students will login onto Canvas and will complete the formative assessment/independent practice. Within this section, students will find the unit rate and interpret and describe how this unit rate can be used in other formulas. Students will remain respectful during independent practice and will answer all checks for understanding. When finished, students will reflect on their performance on the formative assessment by writing a private forum post.
	Exit Ticket: Teacher will ask students to respond to one final forum post; where the students are asked to write a two-step unit rate problem. Teacher will express that this is to	

	serve as an extension activity to see how well they can extrapolate new material. Teacher will circulate during these last classroom minutes.	Students will complete the unit rate exit ticket text forum post before exiting the classroom.
3	**Objective**: SWBAT analyze graphs and data displays and interpret the scale and the origin of the graph and data display. **Key Points/Terms:** • Graphs are like a puzzle to be decoded. The origin tells us how the story started. **Activation of Prior Knowledge**: Teacher will post a "Do Now" activity on Canvas that asks students to calculate one and two-step unit rate problems. Teacher will cold call students to share answers and interpret the meaning of the unit rate. **INM/Modeling**: Teacher will introduce the scale drawings objective and will direct students to open their computers to the Canvas login. Teacher will instruct students to complete the Canvas new material module about interpreting the origin of graphs and data displays. Teacher will also instruct students to create their own examples of the meaning and interpretation of the origin. Teacher will use checks for understanding to ensure comprehension and will monitor progress by walking around the room. Teacher will provide assistance when necessary and will redirect students if needed. **Guided Practice**: Teacher will ask students to open their graphs and data tables forum within Canvas. Once within Canvas, students will follow a module that instructs them to interpret the origin of given graphs and scenarios. All answers will be posted within the forum.	Students will type the objective and key points in their interactive online notebooks. Students will login to Canvas and prepare their class materials. Student will actively complete the unit rate Do Now and prepare to be called upon to interpret the unit rate. Students will login into the Canvas portal using their computers. No other screens will be up at this time. Students will complete the new material about interpreting the origin of graphs and data displays. Students will take notes during the module and create their own examples of the meaning and interpretation of the origin. Students will open the graphs and data tables forum post in the Canvas online learning system. Each student will interpret the origin of the graph and data table and leave their answers within the forum. Students will participate in the forum and respect one another.

	Independent Practice: Teacher will redirect students to their Acellus login and guide them to the formative assessment/independent practice section. Teacher will model the expected behavior and use checks for understanding to ensure comprehension. This formative assessment will be to interpret a sequence of graphs and data tables. Within each graph or data table, students must interpret the meaning of the origin within the context of a real world scenario.	Students will login onto Canvas and will complete the formative assessment/independent practice. For each independent practice question, students must interpret the meaning of the origin within the context of a real world scenario. Students will remain respectful during independent practice and will answer all checks for understanding. When finished, students will reflect on their performance on the formative assessment. Students will ensure all units are correct on the scale drawings.
	Exit Ticket: Teacher will direct students to complete one brief, final forum post as their exit ticket. The post will ask students to interpret the origin of a final graph. These will be posted within the forum and students must also review the interpretations of their classmates.	Students will complete the exit ticket forum by interpreting the origin of a final graph. Once finished, students will review the interpretations of their classmates.

Summative Assessment Items:

(Two points each. 10 points total. Must achieve 80% of better to master the standard)

1. Tammy drew a scale drawing of her elementary school. The scale of the drawing was 1 millimeter for every 4 meters. The school yard is 108 meters long in real life. How long is the school yard in the drawing?

2. Julie measured the middle school and made a scale drawing. In real life, the gym is 63 feet wide. It is 84 inches wide in the drawing. What scale did Julie use for the drawing?

3. A 5-foot roll of waxed paper costs $4.20. What is the price per inch?
4. Every day, Nina rides the subway from the station by her house to the station by her work, a distance of 4 miles. What is the distance between the two subway stations on a map with a scale of 2 inches : 1 mile?
5. Quincy has a swim meet on the same day as a school dance. He will have to go right from the meet to the dance. On a map, the locations of meet at the dance are 9 centimeters apart. What is the actual distance between the swim meet and the dance if the scale of the map is 1 centimeter : 9 kilometers? If this were graphed, interpret the meaning of the origin.

Answer Key

1. 27 millimeters
2. 4 inches = 3 feet
3. $0.07
4. 8 inches
5. 81 kilometers. If this were graphed, the meaning of the origin would be Quincy's starting location.