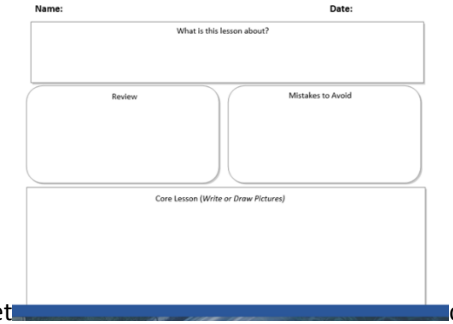
Curriculum Sample Template – 8 Pages Max. (12 pages for integrated ELA sample)

Grade Level	4	**Content Area**	Math
Course Title (grades 9-12 Only)	NA		
Expected Prior Knowledge *List the knowledge/skills mastered earlier in the year that are foundational to the mastery of the Required Standard(s).*	Students have reached mastery in developing an understanding of fraction equivalence. Students understand that a fractions is part to whole. Students know how to convert between visual fractions and abstract factions. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size. Understand a fraction as a number on the number line; represent fractions on a number line diagram. Student can make a visual representation of the fraction using a model, set, and number line.		
Alignment to Program of Instruction *Describe how the methods of instruction found in this sequence of lessons align to the Program of Instruction described in the application package.*	Pensar Academy utilizes a Blended Learning (BL) educational model that includes Direct Instruction (DI), Small Group Intervention, and Projects Based Learning (PBL) for students to achieve mastery of the Arizona College and Career Readiness Standards (ACCRS). Lessons are comprised of the 21st century skills of critical thinking, collaboration, communication, and creativity. Pensar Academy ensures that all students can reach mastery through the use of Universal Design for Learning (UDL) in the preparation of lessons that incorporate multiple learning styles, such as visual, auditory, tactile and kinesthetic. Pensar Academy's rotational model has embedded Response to Intervention (RTI) logistics to ensure that students who did not meet mastery are provided intervention immediately following the lesson to increase their understanding of the material. Students who are at the mastery level (a minimum of 80%) after the direct instruction will have the opportunity for enrichment through the use of Study Island and teacher constructed online learning activities. All students will apply learned content and skills learned through this rotational model in PBL extension periods. These components ensure that, at Pensar Academy, will students receive an individualized education comprised of 21st century skill building and optimal success in surpassing the ACCRS.		
Standard Number* and Description *The standard number and description of the Required Standard(s) being instructed and assessed to mastery in the curriculum sample.*	4.NF. B.3 - Understand a fraction a/b with a>1 as a sum of fractions 1/b. a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.		
Materials/Resources Needed *List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables)*	Computer, Projector, Document Camera, Manipulative (pattern blocks), 25 student whiteboards Worksheets for AS set sections 1 and 2, Tape, Yardstick		

* ***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, Cluster, Standard (e.g., 6.EE.B.7). For HS Math, use Conceptual Category-Domain, Cluster, Standard (e.g., A-REI.C.6).*

Lesson (add as needed)	**Instructional Strategies -** *List and describe teacher actions, lesson by lesson, which will provide students with opportunities to engage the grade-level rigor defined by the Required Standard(s). Indicate alignment of instructional strategies to specific component(s) or content/skill(s) of the Required Standard/component.*	**Student Activities -** *Describe the activities, lesson by lesson, in which students will engage to allow them to master the grade-level rigor defined by the Required Standard(s). Indicate alignment of student activities to specific component(s) or content/skill(s) of the Required Standard/component.*
1	**Objectives:** Teacher will state the objective to students- SWBAT add fractions with like denominators • using joining parts by drawing a visual model **Anticipatory Set (AS)**: Teacher will show https://learnzillion.com/lessons/1421-add-fractions-by-joining-parts **Teacher Model/Inquiry:** Teacher will (TW) model adding fractions 1/5 and 3/5 together using the strategy joining parts. TW model making a hands on model of each fraction with pattern blocks under the document camera to show the parts to whole relationship. TW will model and explain their metacognition that the denominator is the amount of parts that the model has been sectioned into. TW will explain that the numerator is the amount of sections that they have out of the total. TW model joining the numerator sections of fraction 1/5 to the visual model of fraction 3/5. TW model that when both fractions of joining together the answer is 4/5. TW complete the same procedure with the problem above but instead of using pattern block the TW draw the visual model on a piece of paper. **Guided Practice:** TW monitor students work guiding practice.TW ask students questions. TW will clarify student thinking as needed. TW will check students answer when they are done. **Check for Understanding**: TW will put 1/6+3/6 on the board. TW have tell students to solve the problem on their whiteboards. TW will have students show their answers. TW call on random students to explain their thinking. **Independent Practice:** Students will be given five problem to add two fractions by joining pairs. For each problem student will write an explanation to explain their thinking. Students will need to get 4 out of 5 (80%) to achieve mastery and move into the extension. **Closure:** Teacher will put 2 cognitive closure questions on the overhead. Teacher will collect the cards at the end of class. 1. How can I use this information in Science or cooking at home? 2. How would I teach this lesson to a friend? **Small Group Re-Teaching:** TW will model the joining strategy to add fractions. TW will model creating the two fractions with the pattern blocks. TW model on the printed visual models of the fractions coloring the parts of the model to represent the numerator of the fraction.	**Objectives:** Students will state the objective to their partner. **Anticipatory Set (AS)**: During the video the students will complete the  Name: Date: What is this lesson about? Review Mistakes to Avoid Core Lesson (*Write or Draw Pictures*) worksheet during the video. **Teacher Model/Inquiry:** Students will (SW) watch and listen to teacher. SW will have pattern blocks to following along. SW will make the physical model of 1/5 and 3/5 and joining the pairs. SW draw the visual models in their notebook and solve using joining strategy. SW answer teacher questions. **Guided Practice:** In collaborative groups of two, SW use the pattern blocks and draw visual models on to add fractions using joining pairs to complete these two problems. SW put the answers to the problem in their notebook. SW raise their hands when completed to have teacher check their work. 1. 2/5 + 1/5 2. 2/7 + 4/7 **Check for Understanding**: SW draw a model of the fractions to add by using joining pairs on the whiteboard. Students can use the pattern blocks if needed. SW show their whiteboard with the answer and visual model when asked. SW will explain their thinking when asked by teacher. **Independent Practice:** Students will correct the independent practice. **Closure:** Students will select one of the cognitive closure stems. They will write their answer on a notecard to be given to the teacher. **Small Group Re-teaching:** Student who did not achieve mastery will attend a small group session. SW complete additional problems for adding fractions by joining pairs. SW use the manipulation (pattern blocks). SW have models (the denominators sectioned out into parts of the whole) on a worksheet for the two fractions to be added. Students will practice drawing in the parts that are in the numerator. **Extensions:** Students who achieve mastery will use the computer program Study Island to complete additional questions pertaining to the standard.

2	**Objectives:** Teacher will state the objective to students- SWBAT subtract fractions with like denominator by • Using separating part strategy and drawing a visual model. **Anticipatory Set (AS)**: TW show the video https://learnzillion.com/lessons/1422-subtract-fractions-by-separating-parts **Teacher Model/Inquiry:** Teacher will (TW) model subtracting fractions 1/5 and 3/5 using the strategy separating parts strategy. TW model making a hands on model of each fraction with pattern blocks under the document camera to show the parts to whole relationship. TW will model and explain their metacognition that the denominator is the amount of parts that the visual model has been sectioned into. TW will explain that the numerator is the amount of sections that they have out of the total. TW model separating the numerator sections of fraction 1/5 from the model of fraction 3/5. TW model that when fraction 1/5 is separated from 3/5 the answer is 2/5, TW complete the same procedure with the problem above but instead of using pattern block the TW draw the model on a piece of paper. **Guided Practice:** TW monitor students work guiding practice.TW ask students questions. TW will clarify student thinking as needed. TW will check students answer when they are done. **Check for Understanding**: TW will put 3/6 – 1/6 on the board. TW have tell students to solve the problem on their whiteboards. TW will have students show their answers and visual model. TW call on random students to explain their thinking. **Independent Practice:** Students will be given five problem to subtract two fractions by separating pairs. For each problem student will write an explanation to explain their thinking. Students will need to get 4 out of 5 (80%) to achieve mastery and move into the extension. **Closure:** Teacher will put 2 cognitive closure questions on the overhead. Teacher will collect the cards at the end of class. 3. How can I use this information in cooking? 4. How would I teach this lesson to a friend? **Small Group Re-Teaching:** TW will model the separating parts strategy to subtract fractions. TW will model creating the two fractions with the pattern blocks. TW model on the printed models of the fractions coloring the parts of the visual model to represent the numerator of the fraction.	**Objectives:** Students will state the objective to their partner. **Anticipatory Set (AS)**: SW will watch and complete the same worksheet from AS in section 1 during the video. **Teacher Model/Inquiry:** SW watch and listen to teacher. SW will have pattern blocks to following along. SW will make the physical model of 1/5 and 3/5 and use the separation parts strategy as the teacher models it under the document camera. SW draw the models in their notebook and solve using the separation model in notebook. SW answer teacher questions. **Guided Practice:** In collaborative groups of two, SW use the pattern blocks and draw models on to subtract fractions using the separating parts strategy to complete these two problems. SW put the answers to the problem in their notebook. SW raise their hands when completed to have teacher check their work. 2. 2/5 - 1/5 2. 4/7 – 2/7 **Check for Understanding**: SW draw a model of subtracting two fraction by using separating parts on the whiteboard. Students can use the pattern blocks if needed. SW show their whiteboard with the answer and visual model when asked. SW will explain their thinking when asked by teacher. **Independent Practice:** Students will correct the independent practice. **Closure:** Students will select one of the cognitive closure stems. They will write their answer on a notecard to be given to the teacher. **Small Group Re-teaching:** Student who did not achieve mastery will attend a small group session. SW complete additional problems for subtracting fractions by separating parts. SW use the manipulation (pattern blocks). SW have visual models (the denominators sectioned out into parts of the whole) on a worksheet for the two fractions to be subtracted. Students will practice drawing in the parts that are in the numerator. **Extensions:** Students who achieve mastery will use the computer program Study Island to complete additional questions pertaining to the standard.
3	**Objectives:** Teacher will state the objective to students- SWBAT solve word problems involving addition and subtraction of fractions with like denominators by: 1. by using visual fraction models	**Objectives:** Students will state the objective to their partner. **Anticipatory Set (AS)**: SW listen to teacher's example. In groups of three students will brainstorm two situations and write them on a post-it note. SW

2. communicate their thinking verbally and in written form

Anticipatory Set (AS): Teacher will give students an example of real world situations when adding and subtraction fractions with visual models are used. For example, teacher will give the example of "you have a wall that is partially painted with 1/3 of the wall already painted by you. Your two friends will paint the rest. You want to split it evenly among your two friends. How much will each friend paint in fraction form." Teacher will put students in groups of three to brainstorm two additional real-life situation that you would add or subtract fractions. TW will call on random groups to share their real-life situations. TW write acceptable situations on the board.

Teacher Model/Inquiry: TW model solving the two word problems below. TW model and explain their metacognition for creating and dividing the visual model into 9 equal parts since the denominator is 9. TW will model and explain their metacognition of shading in to 5 sections to represent the numerator. TW model and explain their metacognition of using the strategy in section 1 and 3 to determine that the other piece of tape is 4/9. TW model explaining their strategy in written form under the document camera to communicate their thinking. In #2 the TW model drawing the visual model.

1. The picture above is piece of tape. Sean and Patty have a piece of tape that is 9inches long. Sean cut the piece of tape into two pieces. One of the pieces is 5/9 on the original length. How much long is the remaining section of tape in fraction form?

2. Patty has a wall that is 11 feet long which is painted red. She painted 3/11 of the wall blue. How much of the wall has remained red?

Guided Practice: TW put the two word problems below under the document camera. TW can on random students to tell them how to solve the problem. For example, the TW say "What information do I know?" "How should I draw my visual model?" "What should I now do to my visual model?" "Which strategy would be best to use, the joining pairs or separating parts?" "Explain to the class how you solved the problem." "How do you know your answer is correct?" TW tell all students to write the written explanation to communicate their thinking for how they solved the problem in their notebooks.

1. Sean, Patty and Sandy are painting a fence that is 12 feet long. Sean painted 6/12 of the wall. Patty and Sandy decided to split the

when called on will tell their real- left situation to the class for the list generated on the board.

Teacher Model/Inquiry: SW listen to teacher. Students will draw the visual model in their notebook. After teacher divides the model into sections, the SW divide their model to represent the denominator. SW watch teacher shade in the parts for the numerator. SW shade in their sections on their visual models. SW listen to teacher's explanation for the strategy used to solve the word problem, and write down the teacher's written explanation to communicate and process used.

Guided Practice: SW answer the teacher's questions as called upon. SW draw the visual model and complete the work to solve the word problems in their notebooks. All students will write their written explanation to communicate their thinking to solve the problem in their notebook. Students will do this for both problems. After each word problems, SW explain the process to solve the problem to their partner.

Check for Understanding: SW complete the word problem on their whiteboards and write the communication of their thinking to solve the problem in their notebooks. SW show their notebook and students will read their written communication of thinking to their partner. SW show their work and written communication to the teacher when asked.

Independent Practice: Students will correct the independent practice.

Closure: SW create two word problem and write them on a post-it note. SW share with their partner. TW read their problem to the group when asked.

Small Group Re-teaching: Student who did not achieve mastery will attend a small group session. SW will use hand-on manipulative to solve problems that are similar to the ones in the lesson. For example the teacher will have a piece of tape that is 9 inches long and a yard stick to stimulate the lumber problems. This will create concrete opportunities for the students to develop conceptual understanding.

Extensions: Students who achieve mastery will use the computer program Study Island to complete additional questions pertaining to the standard.

	rest of the wall and painted it. How much did in fraction form did each person paint? 2. Patty has a wall that is 11 feet long which is painted red. She painted 3/11 of the wall blue. How much of the wall has remained red? Solve using a visual model. Communicate your thinking in written form. **Check for Understanding**: TW have students solve the following word problem on their whiteboards. Sean has a 13 feet piece of lumber. He cut off 5/13 off. He wanted to divide the remaining portion into equal parts. In fraction form, how much will each section be? Draw a visual model, solve, and communicate your thinking for solving the problem in written form. TW will walk around and look at students work to determine if they understand. **Independent Practice:** Using the real- life situation generated during the AS in this section. The TW modify the idea into word problems to include the fractions. TW put five of the real-life situations word problems on the board for students to solve and communicate their thinking in writing. Students will need to get 4 out of 5 (80%) to achieve mastery and move into the extension. **Closure:** TW have students create their own word problems for adding and subtracting fractions (one of each) that using the joining parts and separating pairs strategies and write on a post-it note. TW have students share with their partner and will call on students to share with the group. **Small Group Re-Teaching:** TW will use hand-on manipulative to re-teach the similar problem above concretely.	
4	**Objectives:** Teacher will state the objective to students SWBAT solve an addition or subtraction problem 1. By creating an equation as a strategy **Anticipatory Set (AS)**: TW remind students that there are multiple strategies previously learned can be applied to solving problems that include an unknown such as the ones solved during the lessons in section 1-3. TW will have students generate a list with their partner. TW call on students to tell one of the strategies in their list. TW write the appropriate strategies on the board. **Teacher Model/Inquiry:** TW model making an equation for the two problems below. These are the same problems that were previously used in the prior day lessons. The teacher is using the same problems because they want the students to concentrate on learning the strategy of creating an equation. 1. Sean has a piece of tape that is 9inches long. Sean cut the piece of tape into two pieces. One of the pieces is 5/9 on the original length. How much long is the remaining section of tape in fraction form? Communicate your thinking in written form. In #1, TW model creating an equation. TW explain that both pieces total 9in so it will be represented by 1 whole in the equation. TW explain that 5/9 is the	**Objectives:** Students will state the objective to their partner. **Anticipatory Set (AS)**: SW will generate a list of strategies that can be used to solve problems that include an unknown. For example, guess and check, creating an equation, drawing a picture/model, work backward ect. SW will tell the class one of their strategies when called upon to list on the board. **Teacher Model/Inquiry:** SW listen to teacher. They will copy the teacher's example into their notebooks. **Guided Practice:** In groups of two, students will create an equation in their notebooks and solve it when directed by teacher. SW communicate their writing in written form using the cooperative structure (sage & scribe). The typical response for communicating your thinking is four sentences. SW take turns being the scribe and the sage. When the student is the scribe they will write the sentence that the sage tell them. SW switch for each sentence. SW answer questions and read their communication of thinking when requested by teacher. **Check for Understanding**: SW complete the problem. SW show they answer on the whiteboard when requested by teacher. SW read the communication of thinking when called upon.

	known and that "t" will represent the unknown section of tape. The equations is 5/9 + T = 1 whole. TW model solving for T to find the part in fraction form that is needed to complete the whole to know the part of the whole each piece of tape consisted of. T=4/9. TW model communicate their thinking for creating the equation and the process to solve it in written form under the document camera. 2. Sean, Patty and Sandy are painting a fence that is 12 feet long. Sean painted 6/12 of the wall. Patty and Sandy decided to split the rest of the wall and painted it. How much of the wall did Patty and Sandy each paint in fraction form? Communicate your thinking in written form. TW model #2 similarly to problem #1. The equation is 1- 6/12=2x TW explain that since separating parts is being used that the 6/12 is being subtracted by the 1 whole. TW model communicate their thinking for creating the equation and the process to solve it in written form under the document camera. **Guided Practice:** 1. Patty has a wall that is 11 feet long which is painted red. She painted 3/11 of the wall blue. How much of the wall has remained red? 2. Patty has a wall that is 11 feet long which is painted red. She painted 3/11 of the wall blue. How much of the wall has remained red? Solve using a visual model. Communicate your thinking in written form. Problem #1-TW will have students create the equations in the collaborative groups of two. TW will give those three minutes. TW call on a groups to have them tell the class their equation. TW write the equation on the board. TW will have students solve their equations for 3 minutes. TW ask students for their answer. TW will have students communication their thinking in writing. TW call on students to read their written communication. **Check for Understanding**: Sean has a 13 feet piece of lumber. He cut off 5/13 off. He wanted to divide the remaining portion into equal parts. In fraction form, how much will each section be? Create an equation, solve, and communicate your thinking for solving the problem in written form. TW will have students complete the problem on their whiteboards. TW call on students to read their communication of thinking they wrote. **Independent Practice:** TW put five of the real-life situations word problem from section 3 closure (the students had created their own in the closure section of 3) on the board for students to create an equation to solve and communicate their thinking in written form. Students will need to get 4 out of 5 (80%) to achieve mastery and move into the extension. **Closure:** TW will have students write a summary of their learning about create equations to solve words problems with adding and subtracting fraction to find an unknown.	**Independent Practice:** Students will correct the independent practice. **Closure:** SW will write a summary of their learning of creating an equation to solve word problems that contain adding or subtracting fractions to find an unknown. **Small Group Re-teaching:** Student who did not achieve mastery will attend a small group session the teacher. SW will use pattern blocks to build a concrete equations of the problems created during the lesson. **Extensions:** Students who achieve mastery will use the computer program Study Island to complete additional questions pertaining to the standard.

	Small Group Re-Teaching: TW model creating a concrete model using pattern blocks to develop conceptual understanding.	
	Projects Based Learning Component	**Projects Based Learning Component-**The corresponding project will be determined by the curriculum team during the summer of 2016. Please refer to A.5 for essential details of the committee.
S.A.	*Provide an opportunity for the student to complete the summative assessment items which is clearly separate from instruction and guided or independent practice, and in which the student is assessed independently. In the Student Activities column, provide a brief description of the summative assessment (S.A.) items that will allow students to demonstrate mastery of the rigor of the Required Standard(s)/components, and the context in which the items will be administered.*	The S.A. includes 4 questions through which students demonstrate their understanding of fractions being ><1 and joining and separating parts. One item is multiple choice and the other 3 items of open response using visual fractions. The 4 summative assessment items will be a total of 15 points. Students will need to achieve 12 out of 15 (80%) to be considered at mastery.

Summative Assessment Items and Scoring: *Below, provide at least three Summative Assessment Items that together accurately measure student mastery of the application of the content and/or skills as defined by the grade-level rigor in the Required Standard(s). For each assessment item, provide an answer key or scoring rubric which clearly describes how assessment items are to be scored and how points will be awarded, such that mastery of the application of the content and/or skills as defined by the grade-level rigor in the Required Standard is clearly demonstrated by an acceptable score.*

Summative Assessment Item 1 (clearly identify answer key/scoring rubric, and acceptable score):

Direction: Solve the word problem below. Select the correct multiple choice. 3 points for correct answer.

Jo has a piece of tape that is $^{7}/_{8}$ inch long. She cuts the tape into two pieces. One piece is $^{3}/_{8}$ inch long. How long is the other piece of tape? a. $^{3}/_{8}$ in. b. $^{4}/_{8}$ in. c. $^{7}/_{8}$ in. d. $^{10}/_{8}$ in. Answer B

Summative Assessment Item #2, #3, and #4 (clearly identify answer key/scoring rubric, and acceptable score):

Directions: Use the word problem below to solve assessment items #2, #3, and #4.

John, Dana, and Douglas painted their bedroom. John painted 2/8 of a wall in his bedroom. Dana and Douglas painted the rest of the wall, and they each painted the same amount.

Summative Assessment Item #2 (clearly identify answer key/scoring rubric, and acceptable score): (add as needed):

Use the box below to show how much of the wall each person painted. Use blue for John, yellow for Dana, and green for Douglas. 2 points per person 6 points total.

Answer:

Summative Assessment Item #3
Directions: Solve the following part of the problem. 3 point for correct answer.
How much of the wall did Douglas and Dana paint together?
Answer: 6/8 or ¾ either will be accepted

Summative Assessment Item #4
Direction: Write an equation for the problem. 3 points for the correct answer.
Write an equation to show much John, Dana and Douglas painted together.
Answer: 2/6 + 2D=1