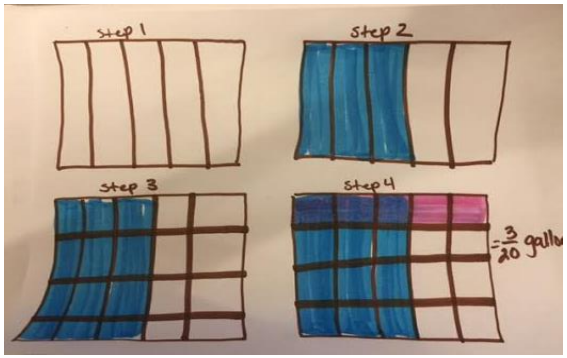
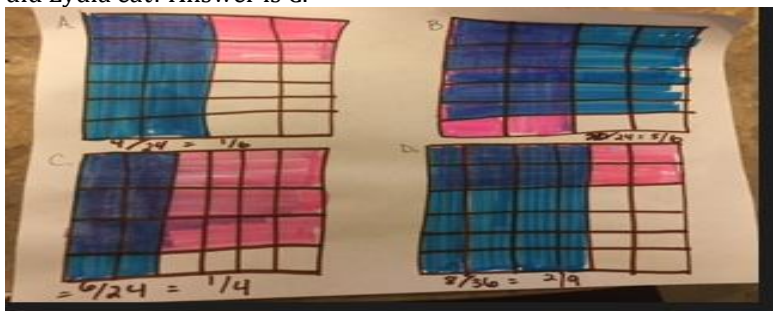
Curriculum Sample Template – 8 Pages Max. (12 pages for integrated ELA sample)

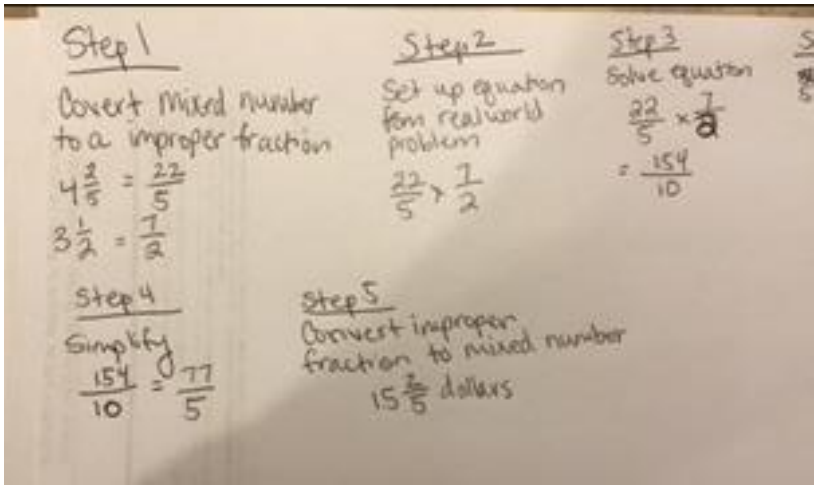
Grade Level	5	**Content Area**	Math
Course Title (grades 9-12 Only)	NA		
Expected Prior Knowledge *List the knowledge/skills mastered earlier in the year that are foundational to the mastery of the Required Standard(s).*	Students know how to multiply fractions. Convert mix fractions to improper fractions. Students know how to make a visual representation of the model. Students know how to determine the computation needed to solve a word problem.		
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.*	5.NF.B.6 Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or 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, 25 student whiteboards, sets of pattern blocks		

* ***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 solve real-world problems involving multiplication of fractions • By drawing an visual model **Anticipatory Set (AS)**: Teacher will (TW) prompt the student to tell them the steps to multiply two fractions. TW put 1/3 x 4/5 on the board to have the students tell them the step to solve. **Teacher Model/Inquiry:** TW model solving the following real-world problems containing fractions by drawing a visual model as a strategy to solve under the document camera. Cassandra had 3/5 of a gallon of tea. Her brother said he wanted 1/4 of Cassandra's tea. How much does her brother want in gallons? Answer should be left as a fraction. TW model using metacognition to explaining: step 1 of creating the visual model to multiply fractions. Step 1: is the draw vertical lines to divide the square into 5 sections because the denominator in 3/5 is five. Step 2: shade in three of the section since the numerator is 3. Step 3: draw horizontal to divide the shape into four sections since the denominator in ¼ is 4. Step 4: color in one section of the horizontal sections since the numerator is 1. Step 5: Count up the total sections in the visual model. There are 20 which become the denominator. Count up the amount of sections that the blue and pink are both in. There are 3. Therefore the answer is 3/20 gallons. TW will use metacognition throughout the model to explain the strategy of using a visual model.  .	**Objectives:** Students will state the objective to their partner. **Anticipatory Set (AS)**: When called upon SW tell the teacher the step needed to multiply the fractions. **Teacher Model/Inquiry:** Students will (SW) watch and listen to teacher. SW will draw the visual model to multiply fractions in their notebooks. SW answer teacher questions. SW tell their neighbor the steps the teacher used to make the visual model to solve the real-world problem containing fractions that used multiplication. **Guided Practice:** In collaborative groups of two, SW solve the following real world problem containing a fraction to be multiplied using a visual model as the strategy to solve. Nicole found a can of paint 2/3 full. She used 3/4 of what was left to paint her bedroom. How much of the whole can of paint did she use? SW show the teacher when they are done and explain their thinking verbally to the teacher. **Check for Understanding**: SW read the problem and draw a visual model to solve the problem on their whiteboard. Students will select A,B, C, or D from the multiple choices. SW write A,B, C, or D on their whiteboard. **Independent Practice:** Students will correct the independent practice. **Closure:** Students will write a summary of the five step of the strategy to draw a visual model to multiply fractions. **Small Group Re-teaching:** Student who did not achieve mastery will attend a small group session. SW using pattern blocks to make concrete visual models of the strategy to multiply fractions from real world problems. **Extensions:** Students who achieve mastery will use the computer program Study Island to complete additional questions pertaining to the standard.

	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 this real world problem containing fractions under the document camera with the multiple choice answers. TW will student solve on their whiteboards. TW will have students write A,B,C or D on the whiteboard and show teacher. Lydia broke off 2/6 of the granola bar. She then ate 3/4 of what she broke off as shown in the picture below. What fraction of the entire granola bar did Lydia eat? Answer is C.  **Independent Practice:** Students will be given five similar real-world problem containing fractions that a visual model can be used to multiply. Students will need to get 4 out of 5 (80%) to achieve mastery and move into the extension. **Closure:** TW will have the students write summary of the strategy to multiply fractions using the visual model. **Small Group Re-Teaching:** TW will model making a concrete visual model from pattern blocks of the strategy to multiply fractions from a real world problem.	
2	**Objectives:** Teacher will state the objective to students- SWBAT solve real-world problems with mixed numbers and fractions involving multiplication • By writing an equation as a strategy **Anticipatory Set (AS):** Teacher will (TW) have students remind them of the steps to convert a mixed number to an improper fraction. **Teacher Model/Inquiry:** Teacher will (TW) model solving the following real-world problems containing fractions and mixed numbers by using the strategy to make an equation to solve.	**Objectives:** Students will state the objective to their partner. **Anticipatory Set (AS)**: When called upon SW tell the teacher the step needed to convert a mixed number to an improper fraction. **Teacher Model/Inquiry:** Students will (SW) watch and listen to teacher. SW will draw the visual model to multiply fractions in their notebooks. SW answer teacher questions. SW tell their neighbor the steps the teacher used for the strategy to make an equation to solve the real-world problem containing fractions that used multiplication. **Guided Practice:** In collaborative groups of two, SW solve the following real world problem containing a mixed numbers to be multiplied using the strategy to make an equation. On a rainy day, Parker and his mom watched

Sergio had 4 2/5 dollars and Gina had 3 1/2 times that amount. How much money did Gina have in dollars? Remember to convert to a mixed number if the fraction is improper.
TW model with metacognition step 1: covert a mixed number into an improper fractions. Step 2: set-up an equation from a real world problem with mixed fractions to multiply. Step 3: solve equation. Step 4: Simplify the improper fraction. Step 5: Convert the improper fraction to a mixed number. The answer is 15 2/5 dollars.



Guided Practice: TW monitor students work guiding practice.TW ask students questions. TW will clarify student thinking as needed. TW will check student's
answer when they are done.

Check for Understanding: TW will put this real world problem containing fractions under the document camera with the multiple choice answers. TW will student solve on their whiteboards. TW will have students write A,B,C or D on the whiteboard and show teacher.

The distance around the running track at school is 9/10 of a mile. If Leah ran 2 ½ laps, how far did she run?

A. 2 1/5 B. 2 ¼ C. 2 ¾ D. 2 9/10 Answer B

Independent Practice: Students will be given five similar real-world problem containing mixed numbers and fractions to be multiplied. Student movies for 2 2/3 hours. They played games for 1 1/4 times as long as they watched movies. How many hours did Parker and his mom play games?

SW show the teacher their answer (answer is 3 1/3) when they are done and explain their thinking verbally to the teacher.
Check for Understanding: SW read the problem and draw a visual model to solve the problem on their whiteboard. Students will select A,B, C, or D from the multiple choices. SW write A,B, C, or D on their whiteboard.
Independent Practice: Students will correct the independent practice.
Closure: Students will write a summary of the five step of the strategy to draw a visual model to multiply fractions.
Small Group Re-teaching: Student who did not achieve mastery will attend a small group session. SW using pattern blocks to make concrete visual models of the strategy to multiply fractions from real world problems.
Extensions: Students who achieve mastery will use the computer program Study Island to complete additional questions pertaining to the standard.

	will use the strategy write an equation to solve. Students will need to get 4 out of 5 (80%) to achieve mastery and move into the extension. **Closure:** TW will have the students write summary of the strategy to write a equation to solve real world problems that contain mixed numbers and fractions that need to be multiply. **Small Group Re-Teaching**: TW will model making a concrete visual model from pattern blocks of the strategy to multiply fractions from a real world problem.	
	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. assessment includes 1 multiple choice questions and 2 questions that require an open response to assess the student's mastery in solving real world problems involving multiplications of fractions and mixed numbers using equation and visual model. Students will be required to read a real world problem and generate an equation or visual model to solve the problem. The three summative assessment items below will be worth a total of 16 points. Students will need to get at least13 out 16 to receive an 80% or higher to be considers 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):

Directions: Solve the problem below using the make an equation strategy. Circle your answer. 4 points for the correct answer.

A carpenter needs $4\frac{1}{2}$ strips of lumber for a project. Each strip is to measure $\frac{1}{3}$ meter. How many meters of lumber does the carpenter need in all?

A. $4\frac{5}{6}$ meters B. $1\frac{1}{2}$ meters C. $1\frac{1}{3}$ meters D. $\frac{5}{6}$ meters

Answer: B

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

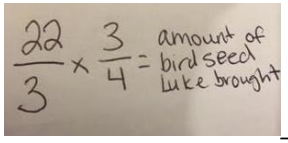
Directions: Write an equation needed to solve the problem. . Circle your answer. 6 points total. 3 points for correct equation. 3 points for correct answer.

Lena was given 6 2/3 pounds of bird seed for her feeders. Luke bought 3/4 of the amount of bird seed that Lena received. How many pounds of bird seed did Luke buy? If answer is a mixed number, the whole number and the fraction should be separated by a space.

Equation:_____

Answer_____

Answer key:

Equation:__ 

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Answer: <u>5 pounds</u>

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

Directions: Read the real-world problem. Use the strategy drawing a visual model. Simplify the answer. (6 points total, 3 points for the visual model and 3 points for the simplify answer in fraction form.)

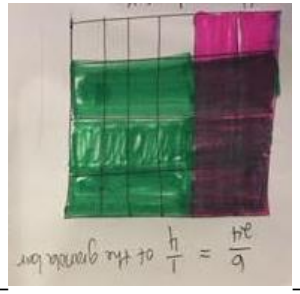
Lydia broke off 2/6 of the granola bar. She then ate 3/4 of what she broke off as shown in the picture below.

What fraction of the entire granola bar did Lydia eat?

Visual model_____

Simplified answer_____

Answer key:

Visual model___  _____

Simplified answer: <u>1/4 of the granola bar</u>