Curriculum Sample: 6th Math
Max. 8 Pages

Grade Level	6	**Content Area**	Math
Course Title (grades 9-12 Only)			
Length of Unit	Five 55-minute periods	**Time of Year**	Second Quarter
Expected Prior Knowledge *The knowledge/skills mastered earlier in the year foundational to the mastery of the required Standard in the current sample.*	Students are expected to have been exposed to representing and analyzing mathematical situations and structures using algebraic representations; be able to multiply and divide fractions; be able to fluently add, subtract, multiply and divide multi-digit decimals using the standard algorithm for each operation; able to use an algebraic expression to represent a quantity in a given context		
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.*	The school's program of instruction stresses alignment with research-supported instructional techniques of Hunter's Essential Elements of Instruction.		
Standard Number and Description *List the Number* and full description for the required Standard.*	6.EE.7 Standard: Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q and x are all non-negative rational numbers		
Summative Assessment *Describe a cumulative and comprehensive activity, clearly separate from instruction and guided or independent practice, which allows each student to individually demonstrate mastery of the required Standard. A copy of the summative assessment must be attached to the curriculum sample.*	Students will complete 5 multiple choice questions to assess their ability to write equations of the form $x + p = q$ and $px = q$, and 5 open response questions to assess their ability to solve one-step equations. The assessment and answer key are below.		
Scoring Scale and Mastery Level *Explain how the assessment is scored, to include points per question, how points are awarded, total points possible, criteria necessary to demonstrate mastery, and grading scale. A copy of the answer key and scoring rubric (whichever applicable) must be attached to the curriculum*	There will be ten questions. Each question will be worth ten points, for a total of 100 points. Scoring will be done with the answer key provided. The multiple choice questions will include only one correct possible answer, and will be scored all-or-nothing. The open-response questions will require students to show their work; no credit will be given without it. Questions in which the students chooses the correct operation, but carries it out incorrectly (student correctly chooses division, but gets 4 instead of 5 when dividing 100/20) will receive 5 of 10 points. Students must attain a goal of 80 of 100 points to demonstrate mastery.		

sample.	
Materials/Resources Needed	Paper, pencil, dry-erase board, markers, eraser

* ***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	**Instruction**	**Student Activities**
1	SWBAT go back and forth between written descriptions of situation and equations, for both book and real-world problems Key Points: Equations are made up of expressions Variables are symbols for an quantity whose value we do not yet know Use cue words in the description to help determine operations: product, sum, of, difference, etc. Method of Instruction: Guided questioning in review of materials, Think-Pair-Shares, and guided practice	1) Do-now: In pairs, students will take turns writing out in English a description of a real-world situation (my age is three years more than my sister's age), and then trade with one another and write a mathematical expression (x + 3) 2) Guided Practice: Students will write descriptions of real-world situations, and write out equations for them. Students will turn in these examples. 3) Independent Practice/Homework: Given 3 equations, students will make up real-life situations that fit.
2	SWBAT solve one-step equations using addition Key Points: Both sides of the equation must be treated in the same manner To remove a negative number from one side of the equation, add the number to both sides An isolated number does not have the same value as the number in front of a variable, which is multiplication Method of Instruction: Teacher-led modeling, guided questioning and practice, independent practice	1) Do-now: Students will perform warm-up exercises using examples the teacher has selected from Day 1 Activity #2 2) Guided Practice: Students at their desks solve one-step equations using addition 3) Guided-Practice: Students go to the board to do one-step equations 4) Independent Practice: Students do problems on worksheets
3	SWBAT identify when to use addition and subtraction in solving one-step equations, and solve for the variable Key Points: To identify the whether to use addition or subtraction, look at the sign on the number to be removed, and perform the opposite operation on that number on both sides of the equation	1) Do-now: At desks, students try to solve one-step problem with subtraction 2) Guided-Practice Students works at desks on set of 10 problems with subtraction 3) Guided-Practice Students work at desks and board on both addition and subtraction

	Method of Instruction: Teacher-led modeling, guided-practice, independent practice	one-step problems 4) Independent Practice/Homework Students make up one-step addition and subtraction problems, and write problem on one side, and answer on the other, for use on Day 5
4	SWBAT to solve one-step equation problems using multiplication and division, including problems with decimals and fractions Key Points: Reemphasize to students that they must treat both sides of the equation in a similar manner Remind students of process for multiplying a whole number by a fraction Teacher collects problems from Activity 5 for use on Day 5 Method of Instruction: Direct instruction, guided practice and independent practice	1) Guided-Practice: Students solve worksheets at desk with one-step multiplication problems 2) Do-now: Students work multiplication problems at board 3) Guided-Practice Students solve worksheets at desk with one-step division problems 4) Do-now: Students solve one-step problems at board using all four operations 5. Independent Practice/Homework: Students make up one-step addition and subtraction problems, and write problem on one side, and answer on the other, for use on Day 5
5	Teacher observes and corrects demonstrations Teacher supervises hat problems which include examples from all objectives covered during the week Teacher provides summative assessment Method of instruction: Group guided-practice	1) Do now: First half of class--In groups of 3, students make up problems involving money, and use coins to physically demonstrate the problems, first to the teacher, then to the other groups 2) Guided Practice: The problems the students wrote cover all the objectives for the week, and are placed in a hat, and students pull out problems to solve. 3) Students complete summative assessment

Paste Summative Assessment Here:

For each problem, write an equation that expresses the situation, and could be used to figure out what you do not know.

1. In 5 years Anne will be 16 years old. You do not know how old Anne is right now.

A) 5 – X = 16

B) 5 + X = 16

C) 5 + X = 16
D) 5 -16 = X

2. You have purchased 3 apples for a cost of $1.20. You do not know how much the apples cost.
A) 3X = 1.20
B) 3/1.20 = X
C) 3(1.20) = X
D) 3 + X = 1.20

3. You are skate boarding straight home. You do not know how far from home you are right now, but you realize that if you skate-board for 3 blocks, you will be at an intersection you know is 5 blocks away from home.
A) X + 3 = 5
B) 3X = 5
C) 3/5 = X
D) 3 – X = 5

4. You found a quarter this morning, and put it in your pocket. At night, when you took out all your change, you found you had a total of $1.75
A) 1.75/.25 = X
B) .25 + 1.75 = X
C) .25 + X = 1.75
D) .25X = 1.75

5. You have 2 cups of flour set aside for your bread recipe. You decide it is too much, and remove flour until there are only 1.75cups.
A) 2 = 1.75 X
B) 1.75/X = 2
C) 2 – X = 1.75
D) 17.5 + 2 = X

Solve each of the following equations for x. You MUST show your work.
6. X + 3 = 5
7. 4X = 20
8. X – 2.5 = 1.5
9. 1/4X = 25
10. -3X = 15

Paste Answer Key/Scoring Rubric Here:

1. B

2. A

3. A

4. C

5. C

6. $X + 3 = 5$
$\underline{\quad -3 \quad -3}$
$X = 2$

OR $X + 3 = 5$
$X + 3 - 3 = 5 - 3$
$X = 2$

7. $\frac{4X}{4} = \frac{20}{4}$ $X = 5$

8. $X - 2.5 = 1.5$
$\underline{+2.5 \quad +2.5}$
$X = 4.0$

OR $X - 2.5 = 1.5$
$X - 2.5 + 2.5 = 1.5 + 2.5$
$X = 4.0$

9. $4(¼)X = (25)4$
$X = 100$

10. $\frac{-3X}{-3} = \frac{15}{-3}$ $X = -5$