Minnesota 6th Grade MCAIII Mathematics Teacher Reflection Form

Have your students mastered these benchmarks?

Number and Operations

Vocabulary	***integer***, x-axis, y-axis, horizontal axis, vertical axis, rational number, coordinate grid, is greater than, is less than, ***percent***, ***ratio***, prime factor, prime factorization, ***exponent***, power, base, greatest common factor, least common multiple, ***rate***, unit rate, reciprocal
Exceeds Standard	Recognizes when it is appropriate to apply the concept of factoring; sees connection between factoring and application in a problem solving situation; efficiently translates between fraction, decimal, and percent forms of positive rational number to solve problems; compares ratios and understands their relationship to fractions; recognizes ratios in context.
Meets Standard	Understands the concept of factors and factoring (composing and decomposing numbers); determines equivalences among fractions, decimals, and percents but reverts to one representation to solve problems (e.g., changes everything to decimals); creates ratio to represent situation when given key words in context; understands concept of ratio.
Partially Meets	Names pairs of factors of numbers (e.g., 12 = 2 x 6, 12 = 3 x 4); recognizes equivalences among common fractions, decimals, and percents; recognizes a ratio (only) in numeric form; solves unit rate problems in a straight-forward context (division).
Does Not Meet	Can only name common pairs of factors of a given number (e.g., 12 = 3 x 4); uses decimals to separate numbers (e.g., ¾ = 3.4); sees decimal in money context only; solves ratio or rate problems as multiplication and division problems.

Self-Reflection #1	Unit	#	Benchmark	Self-Reflection #2
		6.1.1.1	**Locate positive rational numbers** on a number line and **plot pairs of positive rational numbers** on a coordinate grid**.**	
		6.1.1.2	**Compare** positive **rational numbers** represented in various forms. Use the symbols **< , = and >.**	
		6.1.1.3	Understand that **percent** represents parts out of 100 and ratios to 100.	
		6.1.1.4	Determine **equivalences among fractions, decimals and percents**; select among these representations to solve problems.	
		6.1.1.5	**Factor whole numbers**; express a whole number as a product of **prime factors** with **exponents**.	
		6.1.1.6	Determine **greatest common factors and least common multiples**. Use common factors and common multiples to calculate with fractions and find equivalent fractions.	
		6.1.1.7	Convert between equivalent representations of positive rational numbers.	
		6.1.2.1	Identify and **use ratios to compare quantities**; understand that comparing quantities using ratios is not the same as comparing quantities using subtraction.	
		6.1.2.2	Apply the relationship between ratios**, equivalent fractions and percents to solve problems in various contexts**, including those involving mixtures and concentrations.	
		6.1.2.3	**Determine the rate for ratios** of quantities with different units.	
		6.1.2.4	Use reasoning about multiplication and division to **solve ratio and rate problems**.	
		6.1.3.1	**Multiply and divide decimals and fractions**, using efficient and generalizing procedures, including standard algorithms.	
		6.1.3.2	Use the meanings of fractions, multiplication, division and the **inverse relationship** between multiplication and division to make sense of procedures for multiplying and dividing fractions.	
		6.1.3.3	**Calculate the percent of a number** and **determine what percent one number is of another number** to solve problems in various contexts.	
		6.1.3.4	Solve real-world and mathematical problems requiring *arithmetic* with **decimals**, **fractions** and **mixed numbers**.	
		6.1.3.5	**Estimate** solutions to problems with whole numbers, fractions and decimals and use the estimates to assess the reasonableness of results in the context of the problem.	

Algebra

Vocabulary	evaluate, translate, function, coordinate grid, order of operations, simplify
Exceeds Standard	Interprets equations and inequalities with multiple unknowns; understands that solving for a variable is not always the answer to the question.
Meets Standard	Represents relationships between varying quantities using equations and inequalities, involving variables, graphs, and verbal descriptions; uses the properties of arithmetic as well as order of operations to generate equivalent expressions and to solve problems.
Partially Meets	Solves one-step problems in straightforward situations; uses computational facts, instead of equality, to find solutions; recognizes patterns (e.g.,multiplicative and additive patterns); recognizes relationships between varying quantities represented in tables, graphs, or verbal descriptions.
Does Not Meet	Understands concept of variable as a place holder for an answer; recognizes patterns (additive) within lists of numbers; occasionally solves one-step problems in very familiar situations (money); can find missing whole number based on number facts, not algebraic properties.

Self-Reflection #1	Unit	#	Benchmark	Self-Reflection #2
		6.2.1.1	Understand that a **variable** can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts.	

		6.2.1.2	Represent the relationship between two varying quantities with **function rules**, **graphs and tables**; translate between any two of these representations.	
		6.2.2.1	Apply the associative, commutative and distributive properties and **order of operations** to generate equivalent expressions and to solve problems involving positive rational numbers.	
		6.2.3.1	Represent real-world or mathematical situations using **equations and inequalities** involving variables and positive rational numbers.	
		6.2.3.2	**Solve equations** involving positive rational numbers using number sense, properties of arithmetic and the idea of maintaining equality on both sides of the equation.	

Geometry and Measurement

Vocabulary	intersecting, vertical, ***adjacent, complementary, supplementary***, straight, ***hypotenuse, leg***, ***interior***, exterior, diagonal, ***customary, metric, capacity***
Exceeds Standard	Determines area and perimeter of irregular shapes; determines surface area; understands and uses relationships between angles in geometric figures; converts among units of measure within a measurement system.
Meets Standard	Recognizes and applies formulas for two- and three-dimensional figures; determines area and perimeter of irregular shapes when key is one-square unit; recognizes vocabulary associated with angles; knows basic conversions among units within a measurement system (e.g., feet to inches, centimeters to meters).
Partially Meets	Calculates area and volume for basic figures (rectangles) when dimensions are provided; determines area and perimeter of irregular shapes by counting; calculates surface area when a net is provided; converts between feet and inches, hours and minutes.
Does Not Meet	When determining area and perimeter of irregular shapes, counts by whole numbers (part is whole, diagonal is always one unit); associates 180 degrees with a triangle and 90 degrees with a right angle; finds one missing angle if given the other two in a triangle; given a problem requiring unit conversion, will multiply or divide.

Self-Reflection #1	**Unit**	**#**	**Benchmark**	**Self-Reflection #2**
		6.3.1.1	Calculate the **surface area and volume** of **prisms** and use appropriate units, such as cm^2 and cm^3. **Justify** the formulas used. Justification may involve decomposition, nets or other models.	
		6.3.1.2	Calculate the **area of quadrilaterals**. Quadrilaterals include **squares, rectangles, rhombuses, parallelograms, trapezoids and kites**. When formulas are used, be able to explain why they are valid.	
		6.3.1.3	**Estimate the perimeter and area of irregular figures** on a grid when they cannot be decomposed into common figures and use correct units, such as cm and cm^2.	
		6.3.2.1	Solve problems using the relationships between the **angles formed by intersecting lines**.	
		6.3.2.2	Determine missing angle measures in a **triangle** using the fact that **the sum of the interior angles of a triangle is 180**˚. Use models of triangles to illustrate this fact.	
		6.3.2.3	Develop and use formulas for the **sums of the interior angles of polygons** by decomposing them into triangles.	
		6.3.3.1	Solve problems in various contexts involving **conversion of weights, capacities, geometric measurements and times within measurement systems** using appropriate units.	
		6.3.3.2	**Estimate weights, capacities and geometric measurements** using benchmarks in measurement systems with appropriate units.	

Data Analysis and Probability

Vocabulary	***probability, outcome***, tree diagram, ***event, random, sample space***, combinations, event, likely, unlikely, certain, impossible, ratio, theoretical, frequency, relative frequency, experimental, predict
Exceeds Standard	Represents probabilities in real-world problems, including determining sample space in a variety of ways; understands concept of probability; solves problems involving compound probability.
Meets Standard	Determines sample space; understands simple probability in fractions, decimals, and percents.
Partially Meets	Determines sample space (i.e., the set of all possible outcomes) in a simple and very familiar context; understands simple probability expressed in fractional form.
Does Not Meet	Determines probability as a fraction when sample space is given.

Self-Reflection #1	**Unit**	**#**	**Benchmark**	**Self-Reflection #2**
		6.4.1.1	Determine the **sample space** (set of possible outcomes) for a given **experiment** and determine which members of the sample space are related to certain events. Sample space may be determined by the use of **tree diagrams, tables or pictorial representations.**	
		6.4.1.2	Determine the probability of an event using the ratio between the size of the event and the size of the sample space; **represent probabilities as percents, fractions and decimals between 0 and 1 inclusive**. Understand that probabilities measure likelihood.	
		6.4.1.3	Perform experiments for situations in which the probabilities are known, compare the resulting **relative frequencies** with the known probabilities; know that there may be differences.	
		6.4.1.4	Calculate **experimental probabilities** from experiments; represent them as percents, fractions and decimals between 0 and 1 inclusive. Use experimental probabilities to **make predictions** when actual probabilities are unknown.	

Benchmarks that will be taught by the mid-January OLPA

Unit 1 –
Unit 2 –
Unit 3 –
Unit 4 – (taught in January)

HOW TO USE THE MCA TEACHER RELECTION FORMS

Minnesota MCAIII Mathematics Teacher Reflection Form

Have your students mastered these benchmarks? What is your evidence?

Directions: Take 20 minutes 2-5 times a year to reflect on your student's mastery of grade level standards. All staff are highly encouraged to reflect one week prior to and within one week after all MCA testing dates (including OLPA). The questions on this sheet written in **red** are questions you can ask yourself as you use the reflection form.

Achievement Level Descriptors HOW are you teaching the standards?	**Strand** (Number and Operations, Algebra, Geometry and Measurement, Data Analysis or Probability)
Vocabulary	*This section represents the vocabulary highlighted in the Test Specifications. All of these terms may show up on student assessments. In addition, terms from prior grades will be on the assessment.* ***What specific best practices for teaching vocabulary have you used to teach all these terms? What evidence do you have that students have mastered these terms? Are all students using these terms orally and in writing?*** *Tip: ELL and Sp Ed staffs have great ideas for teaching academic vocabulary to students.* ***Words highlighted are terms that appear in the test specifications more than once. If a term appears in slightly larger font, this term appears multiple times.***
Exceeds Standard	This is the gold standard level for all students. All students should receive instruction that allows them to master this level. This level often expects students to have ***conceptual understanding*** of the standards in this section. It requires students to make connections. If students only receive teaching at the lower levels, most will not meet or exceed the state standards. **What specific classroom experiences have given your students a chance to master conceptual understanding of grade level standards?**
Meets Standard	Students who "Meet' grade level standards have are considered 'proficient' by the state.
Partially Meets	Students who score as "Partially Meets" on the MCA's have likely mastered the skills in the 'does not meet' section below as well as the skills listed in this section. Ask yourself: "**What is the difference between the words in the 'partially meets' and 'does not meet' sections? What did this look like in my classroom?"**
Does Not Meet	Students who score as "Does Not Meet" on the MCA's can only do items described in this section. This level often represents teaching skills vs. teaching concepts. **What percent of my teaching is represented by the description in this level**? It is recommended that teachers spend at most 25% of their time teaching at this level.

Self-Reflection #1	Unit	#	Benchmark	Self-Reflection #2
It is important for all teachers to personally reflect on each benchmark. How one reflects can take many forms. Here are 2 options, but feel free to reflect in your own way. **Option 1:** How well do you predict your students will do on each benchmark? Rank each benchmark as High OR Medium OR Low **Option 2** - Use this rubric **1**: I have not taught this benchmark **2**: I have taught this benchmark **3**: I have assessed this benchmark **4**: I have evidence that 85% or more of students have mastered the entire benchmark. **5**: 85% or more of students have mastered the benchmark and consistently use appropriate notation and mathematical vocabulary both written and orally.	COMING SUMMER 2013 The numbers in this section represent the units listed on the MPS Focused Instruction curriculum guide Year-at-a–glance (YAG)	The number in this section represents the numbers the state uses to identify each benchmark in the standards. 1st #: Grade Level 2nd #: Strand 3rd #: Standard 4th #: Benchmark	This section is the exact benchmark language from the Minnesota 2007 MCAIII state standards. These are the benchmarks all students in grades 3-8th and 11th grade will be assessed on each May. Sites that choose to participate in the OLPA (Optional Local Purpose Assessment) will be assessed on these benchmarks as well.	This column can also be completed using one of the reflection options from the first column. Note: This same form can be used by students, particularly at the secondary level, to personally reflect on their progress towards meeting grade level standards.

Benchmarks that will be taught by the mid-January OLPA:

COMING SUMMER 2013

This is a list of benchmarks from the Focused Instruction Curriculum Guides that students should have mastered by the end of Semester 1.