ST. LOUIS PUBLIC SCHOOLS

Language Companion to the DESE Math Model Curriculum, Grade 4

Developed as part of Saint Louis Public Schools
"Math Success for ELLs" grant,
a partnership between Webster University, Magic House,
and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Grade 4- Whole Number Place Value

Essential Measurable Learning Objectives	Language Objective	Sentence Frame
Students will recognize that a digit in one place represents 10 times what it represents in the place to its right.	Students will describe orally the pattern between place values using complex sentences.	_____ equals _____(*place value*) is true/false because ____ is the ____(*same as/ is not the same*) value as _____. Example*: 600 equals 60 tens is true because the hundred place is ten times more than the tens place.* *60 X 10 = 600*
Students will read and write a multi-digit whole number.	Students will name and label given numbers in different forms (*standard, expanded and word)* using complete sentences.	The number _____ is written in _____. The number _____ written in word form is ____. The number _____ written in expanded form is _____. Example*: The number 4,876 is written in standard form.* *The number four thousand, eight hundred seventy six written in word form is the number 4,876.* *The number 4,876 written in word form is four thousand eight hundred seventy six* *The number 4000+800+70+6 written in expanded form is the number 4,876.* *The number 4,876 written in expanded form is 4000+800+70+6.*
Students will compare multi-digit numbers.	Students will compare any given numbers using target vocabulary: *is greater than, is less than, is equal to.*	The number_____ is greater than_____. The number_____ is less that _____. The number_____ is equal to_____. Example: *The number 428 is greater than*

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

		348.
Students will record comparisons using <, >, and =.	Students will read aloud comparisons of numbers using the target phrases: *greater than, less than, equal to*.	_____ *(<, >, =)* _____ means that _____ is (*less than, greater than, or equal to*) _____ Example: *100 < 213 means that one hundred is less than two hundred thirteen.*
Students will round multi-digit whole numbers to any place value.	Students will explain orally the process of rounding numbers using key vocabulary terms: *nearest, reasonable, round to, estimate*.	The number ___ rounded to the nearest ____ place is ____. It is reasonable because the number ____ is closer to _____than _____. Example: *The number 428 rounded to the nearest tens place is 430 and is reasonable because the number 428 is closer to 430 than 420.*

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Grade 4- Fractions Equivalent and Ordering

Essential Measurable Learning Objectives	**Language Objective**	**Sentence Frame**
Students will explain and generate equivalent fractions using drawing and models.	Students will explain orally the relationship between equivalent fractions using target vocabulary: *equivalent to, equal to, same as, because.*	_____ (*fraction*) is equivalent to _____ (*fraction*) because_____. Example: *1/2 is equivalent to 2/4 because_____.*
Students will use visual models to justify why multiplying or dividing the numerator and denominator by the same number generates an equivalent fraction.	Students will state the process of finding equivalent fractions using logical connectors and conjunctive adverbs: *if...then, because, same as*.	An equivalent fraction to _____ is _____ because I multiplied the numerator and denominator by _____. Example: *An equivalent fraction to 1/4 is 2/8 because I multiplied the numerator and denominator by 4 as the visual model represents.*
Students will demonstrate understanding that the whole used to compare two fractions must be the same.	Students will write the explanation of the concept using the target vocabulary: *compare, fractions, whole unit, equivalent, quantity*.	I know that_____ and _____ are equivalent fractions because they _____. Example: *⅓ of the hexagon is equal to 2/6 of the same hexagon because both fractions cover the same quantity of space of the hexagon.*
Students will compare two given fractions, using <, >, =, by generating equivalent fractions with common numerators or common denominators using drawings or models.	Students will state the process of finding equivalent fractions using comparative adjectives, nouns and phrases: *less than, greater than, equal to, common, denominator, numerator, model*.	The fraction ___ is (*less than, greater than, or equal to*) the fraction ___ because the visual model of _____ shows a(n) _____ (*greater, less, or equal*) amount than in _____. Example: *The fraction ½ is greater than the fraction ¼ because the visual model of ½ shows a greater amount than in ¼.*

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Essential Measurable Learning Objectives	**Language Objective**	**Sentence Frame**
Students will compare two given fractions using <, >, or = by reasoning about the size or their locations on a number line or by comparing them to a benchmark fraction using drawings or models.	Students will explain the concept orally using the target vocabulary: *compare, fractions, whole, less than, more than, number line, closer to*.	_____ (*fraction 1*) is _____(*more than, less, than, or equal to*)_____ (*fraction 2)* because _____ (*fraction 1*) is closer to _____(*0, one half, or 1*) and _____ (*fraction 2)* is closer to _____(*0, ½, or 1).* Example: *1/3 is less than ¾ because 1/3 is closer to 0 and ¾ is closer to 1.*

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Grade 4- Decimal Notation

Essential Measurable Learning Objectives	Language Objective	Sentence Frame
Students will express fractions with denominators of 10 as an equivalent fraction with a denominator of 100.	Students will state the process of finding equivalent fractions using comparative adjectives, nouns and phrases: *less than, greater than, equal to, common, denominator, numerator, model*.	The two fractions are equivalent when ____.
Students will add two fractions with denominators of 10 and 100.	Students will explain the process of combining two fractions using the key vocabulary: *fractions, denominators, plus, add, equal*.	To add __/__ + __/__: First ____. Then ____. Last ____. The sum is _____.
Students will use decimal notation for fractions with denominators of 10 and 100.	Students will write equivalent statements using conditional tense: *I would, I should, I could*.	For the fraction _____, I would write the decimal as_____. Example: *For the fraction 5/10, I would write the decimal as 0.5 (five tenths).*
Students will compare two decimals to the hundredths by reasoning about their size.	Students will explain the process of comparing two decimals using logical connectors or conjunctive adverbs: *if….then, because, to, same as*.	_____ is (*greater than, less than, equal to)*, because _____.
Students will explain that comparing two decimals is valid only when they refer to the same whole.	Students will justify in writing why comparing unequal wholes is invalid using comparative adjectives: *greater than, less than, or equal to.*	Example: *0.5 of a small pizza is less than 0.5 of a large pizza*.
Students will justify the comparison of two decimals by reasoning about the size of the decimals and using a visual model.	Students will compare two decimals in writing using comparative adjectives.	The decimal _____ is _____(*greater than, less than)* the decimal _____ because _____ is located to the _____(*left, right*) of_____ on the number line. Example*: The decimal 0.2 is greater*

		than the decimal 0.17 because 0.2 is located to the right of 0.17 on the number line.
Essential Measurable Learning Objectives	**Language Objective**	**Sentence Frame**
Students will compare two decimals to the hundredths place and record the comparison using symbols <, >, =.	Students will write a problem using comparative adjectives: *greater than, less than, or equal to.*	Compare 0 .47 and 0.9, and explain which decimal is *(greater than, less than, or equal to)* the other? Example: *Decimal 0.47 is less than 0.9 because 47 hundredths is less quantity than 90 hundredths.*

Grade 4- Adding and Subtracting Fractions

Essential Measurable Learning Objectives	**Language Objective**	**Sentence Frame**
Model with objects/drawings to add and subtract fractions (like denominators) within the same whole. All expectations in this unit are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, 100.	Students will state the process of adding and subtracting fractions using sequencing words.	First, I show the fraction ___ (*number line, fractions strips, and pattern blocks*). Next, I show the fraction ____. Then, I ___(+, -) my fractional parts. Last, my answer is _____. or To add __/__ + __/__: First ____. Then ____. Last ____. The sum is _____.
Use visual models with equations to decompose a fraction in more than one way, including decomposing a fraction (like denominators) into a sum of its unit fraction.	Students will explain orally two ways to decompose a fraction using conditional tense: *could, should, would.*	I could decompose __/__ by breaking it into _____. I could also decompose ___/___ into _____.
Add and subtract mixed numbers, with like denominators, using equivalent fractions, properties of operations or the relationship between addition and subtraction.	Students will write the process of adding or subtracting mixed fractions using sequencing words: *first, next, finally.*	Given this equation _____, first I _____. Next, I _____. Finally, I _____. Example: *Given this equation _____, first I rewrite the linear equation in the vertical model. Next, I add or subtraction the parts of the whole. Finally, I add or subtract the whole numbers and write the answer.*

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Essential Measurable Learning Objectives	**Language Objective**	**Sentence Frame**
Solve addition and subtraction word problems, referring to the same whole and with like denominators, using drawing, pictures, and equations.	Students will justify orally the process used to solve the problem using key vocabulary: *numerator, denominator, parts, whole, addition and subtraction.*	I know _____. My model is _____. I need to know _____. My solution is _____.

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Grade 4- Multiplying Fractions by Whole Numbers

<table>
<tr><th>Essential Measurable Learning Objectives</th><th>Language Objective</th><th>Sentence Frame</th></tr>
<tr><td>Students will represent a fraction a/b as a multiple of 1/b using a visual model.</td><td>Students will describe in writing their visual model using the key words: plus, equal to, times.</td><td>_____ plus _____ is equal to _____ which is also equal to ____ times ____.

Example: 1/3 plus 1/3 is equal to 2/3 which is also equal to two times 1/3.</td></tr>
<tr><td>Students will multiply a fraction by a whole number using the understanding that a fraction a/b is a multiple of 1/b using a visual model.</td><td>The students will summarize the concept by writing a procedure using key words: compute, convert, product, multiply, fraction, numerator, denominator, simplify.</td><td>First, _____.
Next, _____.
Then,_____.
Finally, _____.</td></tr>
<tr><td>Students will solve word problems involving multiplication of a fraction by a whole number by using visual models and equations.</td><td>Students will describe the process of solving a word problem with the four square chart using complete sentences.</td><td>I know _____. My model is _____. I need to know _____. My solution is _____.<table><tr><td>I Know</td><td>Model</td></tr><tr><td>I Need to Know</td><td>Solution</td></tr></table></td></tr>
</table>

Developed as part of Saint Louis Public Schools “Math Success for ELLs” grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education

Grade 4- Problem Solving with Whole Numbers

Essential Measurable Learning Objectives	**Language Objective**	**Sentence Frame**
Students will solve multi-step word problems with whole numbers with whole number answers.	Students will describe orally the process of solving a multi-step word problem using sequence words.	First, I know _____. Then, I need to find_____ . Next, to solve the problem _____ . Finally my answer is _____.
Students will interpret remainders.	Students will write the meaning of a remainder of a given division problem using complete sentences.	In this problem ___is the remainder, because when I divided _____into _____equal groups there were __ left over. Example: *24÷7* *In this problem 3 is the remainder, because when I divided 24 into 7 equal groups there were 3 left over.*
Students will represent problems using equations with a letter standing for the unknown quantity.	Students will describe orally their method for solving a problem with an unknown using target vocabulary: *variable*, *a*, *represent*.	To solve the problem I must_____. I used the variable (a) to represent an unknown value. To solve for (a) I will _____.
Students will assess the reasonableness of answers using mental computation and estimation strategies including rounding.	Students will defend their answer in writing using the method of their choice (*estimation, rounding, or mental math*) in a complete sentence.	I know that my answer is reasonable because _____. The evidence to support my answer is _____. (*These could be two independent sentence stems. We probably would not use both.*)

Developed as part of Saint Louis Public Schools "Math Success for ELLs" grant,
a partnership between Webster University, Magic House, and Saint Louis Public Schools ESOL Program,
funded by the US department of Education