

Semester TWO Rubric – Grade 5

Math

Report Card Line	4 ADVANCED	3 PROFICIENT	2 BASIC	1 MINIMAL
Applies reasonable estimations (WI B 4.2 and D 4.5)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Applies advanced estimating strategies in problem solving situations 	<ul style="list-style-type: none"> ▪ Determines number of objects in a set by estimation, including rounding decimals to the nearest hundredth ▪ Approximates measurements (weight, length & volume) by using estimation techniques ▪ Selects/uses estimation in problem solving situations 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help
Adds and subtracts numbers with multiple digits (WI B 4.5, 4.7 & F 4.6)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Recalls facts fluently ▪ Applies mental math to a variety of situations ▪ Generates algorithms for addition and subtraction ▪ Uses the commutative and associative properties for addition in simple equations ▪ Adds and subtracts decimals and money 	<ul style="list-style-type: none"> ▪ Recalls the basic facts of addition and subtraction ▪ Uses mental math ▪ Selects and applies algorithms for addition and subtraction ▪ Recognizes and uses the commutative and associative properties for addition in simple equations ▪ Adds and subtracts decimals and money ▪ Solves problems in vertical and horizontal formats 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help ▪ Recalls some basic facts of addition and subtraction 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help ▪ Recalls few basic facts of addition and subtraction

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<p>Multiplies numbers with multiple digits (WI B 4.5 and F 4.6)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Applies basic multiplication facts to multiple digit (Higher than 3 digit x 2 digit) problems efficiently ▪ Applies and explains how to use mental math in a variety of situations ▪ Generates algorithms for multiplication ▪ Applies properties of multiplication 	<ul style="list-style-type: none"> ▪ Applies basic multiplication facts to multiple digit problems (2 digit by 2 digit) ▪ Uses mental math ▪ Selects and applies algorithms for multiplication ▪ Uses a calculator correctly ▪ Recognizes and uses generalized properties of multiplication 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help
<p>Knows basic multiplication and division facts (WI B 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Automatically uses facts when solving complex, multi-step problems (ex – multiplication facts of 15, 20, 25, 30 and beyond) 	<ul style="list-style-type: none"> ▪ Recalls the basic facts of multiplication (factors 0 through 12) orally & in written work with minimal effort ▪ Recalls the basic facts of division (divisors to 12) orally and in written work with minimal effort 	<ul style="list-style-type: none"> ▪ Recalls some of the basic facts of multiplication (factors 0 through 12) orally & in written work ▪ Recalls some of the basic facts of division (divisors to 12) orally and in written work 	<ul style="list-style-type: none"> ▪ Recalls few of the basic facts of multiplication (factors 0 through 12) orally & in written work ▪ Recalls few of the basic facts of division (divisors to 10) orally and in written work

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<p>Divides numbers with multiple digits (WI B 4.5 and F 4.6)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Applies basic division facts to multiple digit (Higher than 3 digit x 2 digit) problems automatically ▪ Applies and explains how to use mental math in a variety of situations ▪ Generates and applies algorithms for division ▪ Uses inverse relationship of multiplication and division to check work 	<ul style="list-style-type: none"> ▪ Applies basic division facts to multiple digit problems (2 digit x 2 digit and 3 digits ÷ 1 digit) ▪ Uses mental math ▪ Selects and applies algorithms for basic division ▪ Uses a calculator correctly ▪ Uses inverse relationship of multiplication and division to check work 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help

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<p>Understands basic concepts of algebra (WIF 4.1, 4.2, 4.4, 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> • Applies basic algebraic skills to real life problem solving situations 	<ul style="list-style-type: none"> ▪ Uses variables to stand for any unknown quantity ▪ Uses the vocabulary & symbols of algebra accurately ▪ Recognizes how a change in one quantity can produce a change in another (balances equations) ▪ Uses simple equations and inequalities (<, >) in a variety of ways including: <ul style="list-style-type: none"> ✓ representing problem situations ✓ solving using different methods ✓ recording and describing solution strategies 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help

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<p>Understands place value (WI B 4.1)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Represents and explains whole numbers through billions, decimals through thousandths and fractions using place value concepts and standard, written and expanded notation. 	<ul style="list-style-type: none"> ▪ Represents and explains: <ul style="list-style-type: none"> ✓ whole numbers through millions and beyond ✓ decimals through hundredths ✓ fractions through sixteenths using place-value concepts and <u>standard, written and expanded notation</u> ▪ Recognizes and uses the concept of greater than, less than and equal to as well as their symbols (>,<=) 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help

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<p>Collects, organizes, records and interprets data using graphs, tables and charts (WI A 4.2 and E 4.1)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Analyzes a set of data using: range, mode, mean and median ▪ Uses data to formulate conclusion and predict trends 	<ul style="list-style-type: none"> ▪ Works with data in the context of real-life situations by: <ul style="list-style-type: none"> ✓ formulating questions that lead to data collection and analysis ✓ determining what data to collect, and when and how to collect it ✓ collecting, organizing and displaying data ✓ drawing reasonable conclusions based on data ✓ predict possible outcome ▪ Describes a set of data using: range, mean, mode and median ▪ Reads, extracts and uses information presented in graphs, tables and charts 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help

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<p>Understands the basic characteristics and language of geometry (WIC 4.1, 4.2 & 4.3)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Applies problem solving strategies relating to relationships among figures, such as location, position and intersection 	<ul style="list-style-type: none"> ▪ Demonstrates mastery of 2D and 3D figures through written work ▪ Shows understanding of plane geometry including points, lines, line segments, rays and angles as well as the use of their symbols ▪ Applies the concepts of symmetry, congruence and similarity when problem solving ▪ Identifies and uses relationships among figures, such as location, position and intersection 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help
<p>Understands basic concepts of fractions including addition and subtraction (WIB 4.6)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Multiplies fractions in complex, multi-step problems 	<ul style="list-style-type: none"> ▪ Reads, writes and orders fractions through sixteenths ▪ Identifies equivalent fractions through sixteenths ▪ Adds and subtracts fractions with like and unlike denominators 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<p>Requires intensive teacher help to:</p> <ul style="list-style-type: none"> ▪ Read and write simple fractions ▪ Add and subtract simple fractions with like and unlike denominators

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Simplifies fractions (WI B 4.4)	<ul style="list-style-type: none"> Always accurately simplifies fractions in written work 	<ul style="list-style-type: none"> Simplifies fractions in written work 	<ul style="list-style-type: none"> Sometimes simplifies fractions in written work 	<ul style="list-style-type: none"> Requires teacher assistance to simplify fractions in written work
Understands concepts of time (WI D 4.1 & 4.3)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> Applies them to a schedule or time zone problem solving situation (in USA) Compare elapsed time in problem solving situations 	<ul style="list-style-type: none"> Tells time to the minute Accurately calculates elapsed time using a clock to the one-minute interval Accurately calculates elapsed time using a calendar 	<ul style="list-style-type: none"> Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> Demonstrates few proficient skills and requires intensive teacher help
Understands concepts of money (WI D 4.1, 4.3, 4.4 and B 4.2)	<ul style="list-style-type: none"> Independently demonstrates proficient skills and Uses them in a business situation (lemonade stand concept) Equates a monetary value with its benchmark fraction and percent ($\\$0.25 = \frac{1}{4}$ of $\\$1.00 = 25\%$ of a dollar) “Counts back” change using minimal bills and coins 	<p>Student will accurately:</p> <ul style="list-style-type: none"> Combine and arrange all coin combinations Order monetary units (decimals) Make change using bills and coins in different ways beyond \$20.00 with a minimal amount of bills and coins Orally “counts back” change correctly using all coins 	<ul style="list-style-type: none"> Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> Demonstrates few proficient skills and requires intensive teacher help

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<p>Understands concepts of measurement (WID 4.1, 4.2, 4.3, 4.4 and 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Accurately applies measurement skills to create a project including surface area and volume (i.e. – surface area of a triangular or rectangular prism, square and triangular pyramid or cylinder) 	<ul style="list-style-type: none"> ▪ Recognizes and describes the attributes of length, weight (mass), volume, angle size and chooses the correct unit to measure them ▪ Reads and uses measuring instruments (ruler, scale, thermometer C/F) to the nearest ounce, gram, degree, and 1/16 inch ▪ Finds perimeter and area ▪ Uses standard measurement (metric & US customary) ▪ Uses and converts units including: <ul style="list-style-type: none"> ✓ yards, feet & inches (to quarter inch) ✓ pounds and kilograms (to nearest ounce or gram) ✓ gallons, quarts, pints & cups 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help

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Understands concepts of probability (WI E 4.4 & 4.5)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Explains the process used to create the outcome 	<ul style="list-style-type: none"> ▪ Determines if future events are more, less or equally likely, impossible or certain to occur ▪ Predicts outcomes of future events and tests predictions using data from a variety of sources ▪ Expresses probability as a ratio 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help
Uses and communicates problem solving strategies (WI A 4.1 & 4.5)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Solves multi-step problem solving problems 	<ul style="list-style-type: none"> ▪ Uses reasoning abilities to: <ul style="list-style-type: none"> ✓ identify relationships ✓ identify questions ✓ choose & justify strategies ✓ check results ▪ Solves multiple step problems ▪ Explains solutions clearly and logically (with supporting evidence) orally and in writing 	<ul style="list-style-type: none"> ▪ Demonstrates some proficient skills and/or requires some teacher help 	<ul style="list-style-type: none"> ▪ Demonstrates few proficient skills and requires intensive teacher help
Works with accuracy	<ul style="list-style-type: none"> ▪ Work is consistently accurate and with care 	<ul style="list-style-type: none"> ▪ Work is completed with minimal errors and with care 	<ul style="list-style-type: none"> ▪ Work is completed with frequent errors and care is not always evident 	<ul style="list-style-type: none"> ▪ Work is incomplete ▪ Work has significant errors ▪ Work is rarely completely with care
Completes work on time	<ul style="list-style-type: none"> ▪ Completes all assignments on time with evidence of time management 	<ul style="list-style-type: none"> ▪ Almost all work handed in on time 	<ul style="list-style-type: none"> ▪ Completes some assignments on time 	<ul style="list-style-type: none"> ▪ Completes few assignments on time