

Semester TWO Rubric – GRADE 4

Math

Report Card Line	4 ADVANCED	3 PROFICIENT	2 BASIC	1 MINIMAL
<p>Recognizes, names and writes whole numbers through millions (WI B 4.1 and 4.3)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Reads, writes, compares and orders numbers beyond millions ▪ Applies knowledge to problem solving situations 	<ul style="list-style-type: none"> ▪ Reads and writes whole numbers to millions ▪ Applies knowledge to 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
<p>Applies reasonable estimations (WI B 4.2 and D 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Automatically uses estimation to check for reasonable answers ▪ Applies estimation to rounding decimals to the nearest hundredth 	<ul style="list-style-type: none"> ▪ Determines number of objects in a set by estimation including rounding numbers to the nearest 1000 ▪ Approximates measurements (weight, length & volume) by using estimation techniques ▪ Selects and 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

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<p>Adds and subtracts numbers with multiple digits (WI B 4.5, 4.7 & F 4.6)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Demonstrates the ability to use addition and subtraction skills in complex, multi-step problems 	<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 ▪ Adds and subtracts decimals and money ▪ Solves problems in vertical and horizontal format 	<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 facts (WI B 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Consistently recalls facts instantly and accurately ▪ Is intrinsically motivated to retain fluency over extended period of time 	<ul style="list-style-type: none"> ▪ Recalls the basic facts of multiplication (factors 0 through 12) orally and in written work ▪ Uses mental math 	<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>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"> ▪ Multiplies 2 digit by 2 digit problems – or beyond 	<ul style="list-style-type: none"> ▪ Uses mental math ▪ Selects and applies algorithms for multiplication (2 digit X 1 digit and 3 digit X 1 digit) ▪ Recognizes & uses generalized properties of multiplication ▪ Uses a calculator correctly 	<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 division facts (WI B 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Consistently recalls facts instantly and accurately ▪ Is intrinsically motivated to retain fluency over time 	<ul style="list-style-type: none"> ▪ Recalls the basic facts of division (divisors to 9) orally and in written work ▪ Uses mental math 	<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>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"> ▪ Divides problems with a 2 digit divisor – or beyond 	<ul style="list-style-type: none"> ▪ Recalls the basic facts of division and applies them to multiple digit problems (2x1 digit) ▪ Uses mental math ▪ Selects and applies algorithms for 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"> ▪ Accurately finds the value of the variable in complex equations and inequalities (<, >) 	<ul style="list-style-type: none"> ▪ Uses letters, boxes or other symbols to stand for any number, measured quantity, or object in simple situations ▪ Uses variables accurately ▪ Recognizes how a change in one quantity can produce a change in another (balances equations) ▪ Uses simple equations and inequalities (>, <) to: <ul style="list-style-type: none"> ✓ represent problem situations ✓ solve problems using different methods ✓ record and describe 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
<p>Understands place value (WIB 4.1)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Represents and explains decimals through hundredths and fractions through sixteenths 	<ul style="list-style-type: none"> ▪ Represents and explains whole numbers through millions and decimals (monetary units) using place-value concepts: <ul style="list-style-type: none"> ✓ physical materials ✓ number lines ✓ verbal descriptions ✓ expanded notation ✓ symbolic renaming (e.g. $43=40+3=30+13$) ▪ 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"> ▪ Independently formulates questions and <u>designs investigations</u> to address the questions ▪ Describes a set of data using mean (average) 	<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 ▪ Describes a set of data using: <ul style="list-style-type: none"> ✓ high & low values (range) ✓ most frequent value (mode) ✓ middle value of a set (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 (WI C 4.1, 4.2 & 4.3)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Identifies acute and obtuse angles ▪ Determines 3-D figure from 2-D representation ▪ Creates a tessellation using flips, turns, or slides 	<ul style="list-style-type: none"> ▪ Describes 2 & 3-D figures by: <ul style="list-style-type: none"> ✓ naming them ✓ comparing, sorting, classifying and combining them ✓ drawing/constructing models ✓ identifying properties (vertices, edges, faces, right angles) ✓ explaining how figures are related to objects in the environment ▪ Recognizes symmetry, congruence and similarity ▪ Identifies and demonstrates flips, turns, and slides 	<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 (WI B 4.6)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Reads, writes, and <u>orders</u> fractions through sixteenths ▪ Identifies equivalent fractions through sixteenths ▪ Adds and subtracts simple fractions with <u>unlike</u> denominators 	<ul style="list-style-type: none"> ▪ Reads and writes fractions (halves, fourths, & tenths) ▪ Identifies and represents equivalent fractions for halves, fourths, eighths, tenths and sixteenths ▪ Adds and subtracts fractions with like denominators 	<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 mixed numbers (WI B 4.3)	<ul style="list-style-type: none"> ▪ Adds and subtracts mixed numbers with borrowing/regrouping 	<ul style="list-style-type: none"> ▪ Uses mixed numbers ▪ Renames improper fractions to mixed numbers 	<ul style="list-style-type: none"> ▪ Requires some teacher help to use mixed numbers 	<ul style="list-style-type: none"> ▪ Requires teacher help to use mixed numbers
Understands concepts of time (WI D 4.1 & 4.3)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Accurately determines elapsed time using a clock to the 1 minute interval ▪ Determines elapsed time in problem solving situations 	<ul style="list-style-type: none"> ▪ Reads and interprets a clock ▪ Knows and uses correct vocabulary dealing with time (appropriate units of measurement) ▪ Accurately determines elapsed time using a calendar / clock (5 min. interval) ▪ Tells time to the minute 	<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)	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Makes change beyond \$20 with specific bill and coin restrictions (minimal amount of coins and bills) ▪ With teacher support “counts back” change 	<ul style="list-style-type: none"> ▪ Recognizes and describes monetary value (Student determines the value of a given amount of coins and bills) ▪ Orders monetary units (decimals) ▪ Demonstrates several coin combinations for a given value ▪ Makes change beyond \$20 (begins to understand concept of least amount of coins) – not subtraction ▪ Begins to understand concept of “counting back” change verbally 	<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"> ▪ Finds volume ▪ Uses estimation to determine appropriate tool or unit of measurement ▪ Uses units including: miles kilometers liters, milliliters 	<ul style="list-style-type: none"> ▪ Recognizes and describes the attributes of length, weight (mass), volume, and chooses the correct unit to measure them ▪ Reads and uses measuring instruments (ruler to nearest 1/8 inch, thermometer (F /C), scale, etc.) ▪ Finds perimeter ▪ Finds area ▪ Uses nonstandard & standard measurement (metric & US customary) ▪ Uses and converts units including: <ul style="list-style-type: none"> ✓ yards, feet & inches (to nearest half inch) ✓ kilograms & grams (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
<p>Understands concepts of probability (WIE 4.4 & 4.5)</p>	<p>Independently demonstrates proficient skills and:</p> <ul style="list-style-type: none"> ▪ Predicts outcomes of future events and tests predictions using data from a variety of sources 	<ul style="list-style-type: none"> ▪ Determines if future events are more, less or equally likely, impossible or certain to occur 	<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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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 multiple step problems ▪ Analyzes the mathematical thinking and strategies of others 	<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 ▪ Explains and demonstrates how a problem was solved (orally, visually or in written form) with supporting evidence 	<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 completed with care 	<ul style="list-style-type: none"> ▪ Work is completed with care and minimal errors 	<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 completed 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"> ▪ Rarely completes assignments on time