Transition to Technical Math Unit Rubrics
Agriculture, Food & Natural Resources (AFNR)

Standard	4 - Mastery	3 - Proficient	2 - Basic	1- Below Basic	0 - No Evidence
TM-NS1.A. Analyze proportional relationships and use them to solve contextualized and mathematical problems.	A. Create equivalent proportions for quantities with an authentic task.	A. Set-up and solve a proportion as part of an authentic task. Including units when applicable. AND A. Describe the proportional relationship between quantities within an authentic task.	A. Set up a proportion and solve.	A. Set up a single ratio using units.	A. Not yet able to setup a ratio or proportion.
TM-NS1-B. Compute unit rates associated with ratios of fractions, decimals, and percent and including ratios of lengths, areas and other quantities measured in like or different units.	B. Find and correct calculation errors within an authentic task.	B. Calculate unit rates from like and unlike units of quantities given within an authentic task.	B. Calculate unit rates from like and unlike units of quantities.	B. Calculate unit rates of like units of quantities.	B. Not yet able to calculate rates.
TM-NS1-C. Apply properties of operations to calculate with numbers in any form including signed numbers.	C. Find and correct calculation errors, using any real number, within an authentic task.	C. Calculate values for different problems within an authentic task(s) for any real number. Problems must include signed values and a variety of real numbers.	C. Calculate values for different problems within an authentic task(s) for integer, simple fractions and simple decimal.	C. Calculate values for different problems within an authentic task(s) for an integer.	C. Not yet able to consistently calculate answers for problems using real numbers in an authentic task.
TM-NS1-E. Assess the reasonableness of answers using mental computation and estimation and rounding strategies.	E. Apply mental math skills to find and correct errors in contextual problems.	E. Mathematically determine and support, using mental math, the reasonableness of an answer to a contextual problem. (Must be able to determine and support reasonable and non-reasonable answers.)	E. Recognize reasonable solutions to problem and level of needed precision.	E. Apply basic rules of rounding and estimation using mental math.	E. Not yet able to use mental math skills to determine if an answer is reasonable.
TM-NS2-C Use ratio reasoning (dimensional analysis) to convert measurement units including, but not limited to, distances and rates.	C. Find and correct an error within an authentic task. C. Apply multiple ratios to solve an authentic task.	C. Apply dimensional analysis to convert units, including distance and rates, within an authentic task.	C. Apply dimensional analysis to convert a measurement	C. Recognize which ratio must be used to convert to measurement.	C. Not yet able to convert measurement units within a ratio.
TM-NS3-A. Evaluate expressions at specific values for their variables. Include expressions that arise from formulas in authentic problems.	A. Not yet able to accurately evaluate an expression for a given value.	A. Evaluate variable expressions with integer values.	A. Evaluate variable expressions with integers, decimals, and fraction values.	A. Evaluate variable expressions containing common integer, decimal, and fractional values found in authentic task. (with and without technology)	A. Explain how the values of the variable(s) effect with each other and how changes can affect the final value in an authentic task.

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TM-NS4.A. Draw conclusions and justify those conclusions from graphics such as order forms, bar charts, pie charts, diagrams, flow charts, maps, and dashboards.	A. Justify a different conclusion, based on the same data sets, within an authentic task.	A. Make and justify conclusions made from different types of visual representations of data within an authentic task.	A. Can estimate values to make conclusions from a variety of visual representations.	A. Can identify what the parts of the graph represent of various representations. (such as horizontal and vertical axis)	A. Not yet able to make conclusions from different types of visual representation of data.
TM-NS4.B. Identify and interpret trends, patterns, and relationships from graphs and charts.	B. Use trends to make predictions based on the identification and interpretation of trends and patterns in an authentic task.	B. Identify and interpret trends, patterns, and relationships from graphs and charts in an authentic situation.	B. Can compare and state differences, general characteristics, or trends of graphs	B. Identify differences, general characteristics, or trends of graphs. (ie such as size of value or increasing vs. decreasing)	B. Not yet able to interpret trends, patterns or relationships from graphs and charts.
TM-NS4.C. Identify types of graphs that best represent a given set of data	C. Identify pros and cons of different graphs given a set of data from an authentic task.	C. Identify and defend chosen graphical representation of a given set of data from an authentic task.	C. Recognize when specific data is best represented by certain graphs	C. Identify types of graphs and what they are used for.	C. Not yet able to identify graphs and uses for them.
TM-NS4.D. Make and justify decisions based on data.	D. Critique another person's decision and process used.	D. Explain and justify, using data and information as support, a decision made while solving an authentic task.	D. Make a decision and recite the process used to make a decision when solving an authentic task.	D. Make a decision while solving an authentic task, may be a correct or incorrect decision.	D. Not yet able to make a decision without guided support or examples.
TM-BA1-A. Use properties of operations to generate equivalent expressions.	A. Not yet able to create equivalent expressions.	A. Identify equivalent expressions.	A. Show that two expressions are equivalent.	A. Apply properties of operations to create equivalent expressions within an authentic task.	A. Describe properties and operations to create equivalent expressions within an authentic task.