Name	School	Grade	Course/Subject	Number of Students	Interval of Instruction
		9	Algebra I		Sept. 2018 – April. 2019

Standards, Rationale, and Assessment Method

Focused Area: Mathematical Modeling

Rationale:
Students will apply the mathematics they know to solve problems arising in everyday life, society and the workplace. They are able to identify important quantities in a practical situation and map their relationships using mathematical tools. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

High school students also should understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. High school students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. High school students learn to determine domains to which an argument applies, listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Standards:
- Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge and skills. Possible content connections: A-CED.1, 2, 3, N-Q.1, 2, A-SSE.3, A-REI.6, A-REI.12, A-REI.11-12, F-BF.1a, F-BF.3, A-CED.1, A-SSE.3, F-IF.4, 5, 6, F-IF. 7
- HS.D.2-5 Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge and skills. Possible content connections: A-CED.1, 2, 3,, A-SSE.3, A-REI.6, A-REI.12, A-REI.11-2, limited to linear equations and exponential equations with integer exponents
- HS.D.2-6 Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge and skills. Possible content connections: A-CED.1, 2, 3, N-Q.1, 2, A-SSE.3, A-REI.6, A-REI.12, A-REI.11-2, limited to linear and quadratic functions.
- HS.D.2-8 Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge and skills. Possible content connections: F-BF.1a, F-BF.3, A-CED.1, A-SSE.3, F-IF.4, 5, 6, F-IF.7, limited to linear functions and exponential functions with domains in the integers.
- HS.D.2-9 Solve multi-step contextual word problems with degree of difficulty appropriate to the course, requiring application of course-level knowledge and skills. Possible content connections: F-BF.1a, F-BF.3, A-CED.1, A-SSE.3, F-IF.4, 5, 6, F-IF.7, limited to linear and quadratic functions.
- HS.D.3-3 Reasoned estimates: Use reasonable estimates of known quantities in a chain of reasoning that yields an estimate of an unknown quantity.
- HS.C.5.5, HS.C5.6, HS.C. 5.10-1: Given an equation or system of equations, reason about the number or nature of the solutions. Possible content connections: A-REI.4, A.REI.5, A-REI.11

- HS.C.6.1: Base explanations/reasoning on the principle that the graph of all its solutions plotted in the coordinate plane. Possible content connections: A-REI-10
- HS.C.8.1: Construct, autonomously, chains of reasoning that will justify or refute algebraic propositions or conjectures. Possible content connections: A-APR.1
- HS.C.9.1: Express reasoning about transformation of functions. Possible content connections: F.BF.3
- HS.C.10.1: Express reasoning about linear and exponential growth. Possible content connections: F-LE.1
- HS.C.12.1: Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures about functions. Possible content connections: F-IF.8a
- HS.C.16.2: Given an equation or system of equations, present the solution steps as a logical argument that concludes with the set of solutions. Possible content connections: A.REI.1, A.REI.4
- HS.C.18.1: Construct, autonomously, chains of reasoning that will justify or refute propositions or conjectures about linear equations in one or two variables. Possible content connections: A.REI.1, A.REI.3

Focused Mathematical Practice Standards:
MP 1: Make sense of problems and persevere in solving them
MP 2: Reason abstractly and quantitatively
MP 3: Construct viable arguments and critique the reasoning of others.
MP 4: Model with mathematics
MP8 : Look for and express regularity in repeated reasoning

Assessment Method: Authentic Assessments (Assessment Portfolio) will be used as a tool to measure students' growth. The assessment portfolio incorporates carefully selected practice-forward tasks that reflect higher levels of cognitive complexity. All tasks included in the portfolio will be "practice forward" and rubric-scored.

Starting Points and Preparedness Groupings
Student tiers will be determined using NWER 2018 fall data to develop a baseline index. Each tier will be assigned a target command level.

Data Measures used to Establish Baselines
- 2018 Fall NWEA Score

Preparedness Group	Baseline Score
Tier 1	< 21 Percentile
Tier 2	21-40 Percentile
Tier 3	41-60 Percentile
Tier 4	61-80 Percentile
Tier 4	>80 Percentile

Student Growth Objective

By April 2019, 80% of students in each preparedness group will meet their assigned target command level for full attainment of the objective as shown in the scoring plan.

Preparedness Group (e.g. 1,2,3)	Number of Students in Each Group	Target Command Level on SGO Assessment Portfolio
Tier 1		>=2
Tier 2		>=3
Tier 3		>=4
Tier 4		4 or 5
Tier 5		5

Scoring Plan

State the projected scores for each group and what percentage/number of students will meet this target at each attainment level. Modify the table as needed.

Preparedness Group	Student Target Command Level	Teacher SGO Score Based on Percent of Students Achieving Target Score			
		Exceptional (4) >80%	Full (3) 79-80%	Partial (2) 50-78%	Insufficient (1) <50%
Tier 1	>=2				
Tier 2	>=3				
Tier 3	>=4				
Tier 4	>=4				
Tier 5	5				

Approval of Student Growth Objective

Administrator approves scoring plan and assessment used to measure student learning.

Teacher _____   Signature_____   Date Submitted_____

Evaluator _____   Signature _____   Date Approved _____

Results of Student Growth Objective

Summarize results using weighted average as appropriate. Delete and add columns and rows as needed.

Preparedness Group	Students at Target Score	Teacher SGO Score	Weight (based on students per group)	Weighted Score	Total Teacher SGO Score
Tier 1					
Tier 2					
Tier 3					
Tier 4					
Tier 5					

Revised 9.25.18

Notes
Describe any changes made to SGO after initial approval, e.g. because of changes in student population, other unforeseen circumstances, etc.

Review SGO at Annual Conference
Describe successes and challenges, lessons learned from SGO about teaching and student learning, and steps to improve SGOs for next year.

Teacher _____   Signature _____   Date _____

Evaluator _____   Signature _____   Date _____