# *Student Growth Objective Form*

| Name | School | Grade | Course/Subject | Number of Students | Interval of Instruction |
|---|---|---|---|---|---|
| | | 9 | Intensified 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.

Agile mind is an intervention program and spends time reviewing prerequisite material, particularly 7th grade standards. In 7th grade, Students extend addition, subtraction, multiplication, and division to all rational numbers, maintaining the properties of operations and the relationships between addition and subtraction, and multiplication and division. By applying these properties, and by viewing negative numbers in terms of everyday contexts (e.g., amounts owed or temperatures below zero), students explain and interpret the rules for adding, subtracting, multiplying, and dividing with negative numbers. They use the arithmetic of rational numbers as they formulate expressions and equations in one variable and use these equations to solve problems.

**Standards:**
- 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, N-Q.1, 2, 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.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.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
- 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 | | | | | |

**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 _____

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