Start Strong:
Fall 2022 Administrations
Rutherford Public Schools
January 23, 2023

Support in Identifying Student Needs
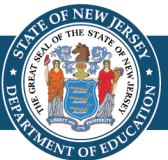
Start Strong Assessment Overview

Start Strong Fall 2022 assessments:

- Produced information to be used as a standards-based complement to the resources used by educators in their classrooms to evaluate the needs of students.

- Were administered quickly, in person, and provided immediate results.

Start Strong Fall 2022 assessments do not:

- Replace local standards-based benchmark assessments districts may already have in place.

- Replace the spring 2023 New Jersey Student Learning Assessments (NJSLA) statewide summative assessments or are predictive of their results.

Start Strong Test Design

- Based on a **subset** of prioritized **prior-year** academic standards to provide a data point on the level of support a student may need to engage in grade-level content.

  - Example: Grade 5 ELA Start Strong assessment is aligned to a subset of the NJSLS for Grade 4 ELA.

  - Example: Algebra I Start Strong assessment is aligned to Grade 8 learning standards relevant to algebraic concepts.

- Used **released** high-quality items from the NJSLA item bank

- Contained efficient question types to produce on-demand results for educators

- Could be administered in 45–60 minutes

Note: The test design, which allowed for shortened testing time and immediate results, means that Start Strong results must be interpreted and used differently than NJSLA results. They do not cover the breadth and depth of standards as seen on the NJSLA and do not support the same comparisons or inferences about student proficiency.

- When publicly reporting assessment results, consider the impacts of COVID-19 on learning.

- Districts **should not** compare any individual student/school/district Start Strong data to any NJSLA data.

- Please note that the Start Strong assessments were **not** designed to predict future student performance on the NJSLA, nor was it designed to estimate what score a student would have received if they had taken the NJSLA in spring 2022.

Start Strong assessments provide a data point to support:

- District-level curriculum planning and revisiting prerequisite concepts and skills

- Evaluating scope and sequence based on distribution of student support needs

- Providing professional learning supports for differentiation and scaffolding based on student results, aligned to principles and practices outlined in the [NJDOE Learning Acceleration Guide](#)

- Using the Individual Student Reports (ISRs) for conversations between parents and educators on where their child might need support at the beginning of the school year

District And School Context That Impacted Start Strong Data

- The Department encourages districts to clearly and prominently provide information about the context of Start Strong data, including its limitations as a result of the pandemic or other factors.

- As always, assessment data should be analyzed alongside other important measures of student outcomes, like benchmark assessments, teacher-created formative assessments, and attendance data to provide a more complete perspective on resources, support, and student success.

Rutherford Public School's
Number of Students Tested
Start Strong Fall 2022 Administrations

English Language Arts	Students Tested
ELA04	165
ELA05	189
ELA06	206
ELA07	186
ELA08	186
ELA09	175
ELA10	195
Total	1302

Mathematics	Students Tested
MAT04	165
MAT05	189
MAT06	205
MAT07	186
MAT08	*
Algebra 1	268
Geometry	193
Algebra 2	166
Total	1372

Science	Students Tested
SC06	206
SC09	173
SC12	186
Total	565

Note: "Students Tested" represents individual valid test scores for English Language Arts, Mathematics and Science.

Rutherford Public School's
Start Strong Fall 2022 Administrations
English Language Arts — Support Levels

Grade	More Support Needed (Count)	More Support Needed (Percentage)	Some Support Needed (Count)	Some Support Needed (Percentage)	Less Support Needed (Count)	Less Support Needed (Percentage)
4	44	27%	38	23%	83	50%
5	35	19%	43	23%	111	59%
6	39	19%	45	22%	122	60%
7	47	24%	48	26%	91	50%
8	28	15%	44	24%	114	61%
9	50	29%	34	19%	91	52%
10	53	27%	34	17%	108	55%
	Note: Percentages may not total 100 due to rounding.					

Grade	More Support Needed (Count)	More Support Needed (Percentage)	Some Support Needed (Count)	Some Support Needed (Percentage)	Less Support Needed (Count)	Less Support Needed (Percentage)
4	41	25%	53	32%	71	43%
5	62	33%	46	24%	81	43%
6	49	24%	89	43%	67	33%
7	60	32%	60	33%	66	36%
8*						
Algebra 1	170	63%	68	25%	30	11%
Geometry	81	42%	54	28%	58	30%
Algebra 2	51	31%	60	36%	55	33%

*Approximately 30,000 New Jersey students in grade 8 participated in the Algebra I assessment. Thus, Math 8 outcomes are not representative of grade 8 performance as a whole.

Grade	More Support Needed (Count)	More Support Needed (Percentage)	Some Support Needed (Count)	Some Support Needed (Percentage)	Less Support Needed (Count)	Less Support Needed (Percentage)
6	48	23%	89	43%	69	34%
9	61	35%	88	51%	24	13%
12	100	54%	38	20%	48	26%

Note: Percentages may not total 100 due to rounding.

Subgroup	More Support Needed	Some Support Needed	Less Support Needed
District	22	22	55
Subgroup – Asian	18	20	69
Subgroup – Hispanic	26	21	50
Subgroup - 2 or more	22	21	58
Subgroup – White	21	23	56
Subgroup - Special Ed.	53	23	25

Note: Percentages may not total 100 due to rounding.

Subgroup	More Support Needed	Some Support Needed	Less Support Needed
District	37	31	31
Subgroup –Asian	18	25	57
Subgroup – Hispanic	37	31	31
Subgroup – 2 or more	28	35	38
Subgroup – White	37	35	29
Subgroup – Special Ed.	71	20	9

Note: Percentages may not total 100 due to rounding.

Subgroup	More Support Needed	Some Support Needed	Less Support Needed
District	37	38	25
Subgroup – Asian	26	38	37
Subgroup – Hispanic	52	36	13
Subgroup – 2 or more	32	32	35
Subgroup – White	36	40	24
Subgroup – Special Ed.	75	19	6

Note: Percentages may not total 100 due to rounding.

Notable Achievements

- The district as a whole is most successful in English Language Arts, with no grade level below 50% for the category *Less Support Needed.*

- In English Language Arts, all of the subgroups except Special Education are at 50% or above for the category *Less Support Needed.*

- In Mathematics, the subgroup Asian is over 50% in the category *Less Support Needed.*

ELA Intervention Strategies

Grade 4 (Students were assessed on Grade 3 standards)

Lowest Score in Reading Literature - **54% of all students were incorrect**

- RL.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

- RL.3.3. Describe the characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the plot.

Lowest Score in Reading Information - **45% of all students were incorrect**

- RI.3.1. Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

- RI.3.3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

ELA Intervention Strategies

Grade 4 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

•IXL Skill LGA - Distinguish characters' points of view

•IXL Skill MW8 - Select and use text features

•IXL Skill 8CJ - Compare information from two texts

•IXL Skill 82A - Remove the sentence that does not belong

•IXL Skill VVG - Identify supporting details in literary texts

•IXL Skill 8MJ - Identify supporting details in informational texts

ELA Intervention Strategies

Grade 5 (Students were assessed on Grade 4 standards)

Lowest Score in Reading Literature - **55% of all students were incorrect**

- RL.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.

- RL.4.2. Determine a theme of a story, drama, or poem from details in the text; summarize the text.

Lowest Score in Reading Information - **52% of all students were incorrect**

- RI.4.1. Refer to details and examples in a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.

- RI.4.5. Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text.

ELA Intervention Strategies

Grade 5 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored   poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

- IXL Skill CQA - Determine the order of events in informational texts

- IXL Skill 94B - Combine main ideas from two texts

- IXL Skill ETU - Draw inferences from a text

- IXL Skill ZC2 - Identify text structures

- IXL Skill SDP - Identify supporting details in literary texts

- IXL Skill 87Z - Identify supporting details in informational texts

ELA Intervention Strategies

Grade 6 (Students were assessed on Grade 5 standards)

- Lowest Score in Reading Literature - **44% of all students were incorrect**

    - RL.5.1. Quote accurately from a text, and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.

    - RL.5.3. Compare and contrast two or more characters, settings, or events in a story or drama, drawing on specific details in the text (e.g., how characters interact).

Lowest Score in Reading Information - **52% of all students were incorrect**

- RI.5.1. Quote accurately from a text and make relevant connections when explaining what the text says explicitly and when drawing inferences from the text.

- RI.5.3. Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

ELA Intervention Strategies

Grade 6 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

- IXL Skill F7K - Match causes and effects in informational texts

- IXL Skill SYH - Analyze passages from *The Lightning Thief*

- IXL Skill G7K - Compare information from two texts

- IXL Skill QZW - Compare and contrast in informational texts

- IXL Skill T7W - Choose evidence to support a claim

- IXL Skill 23B - Identify supporting details in informational texts

- IXL Skill 6FM - Identify supporting details in literary texts

ELA Intervention Strategies

Grade 7 (Students were assessed on Grade 6 standards)

Lowest Score in Reading Literature - **53% of all students were incorrect**

- RL.6.1. Cite textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text.

- RL.6.4. Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of a specific word choice on meaning and tone.

- L.6.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 6 reading and content, choosing flexibly from a range of strategies.

Lowest Score in Reading Information - **62% of all students were incorrect**

- RI.6.1. Cite textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text.

- RI.6.6. Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.

ELA Intervention Strategies

Grade 7 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored   poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

- IXL Skill H6Q - Read and understand informational passages

- IXL Skill G7X - Compare and contrast in informational texts

- IXL Skill UYD - Compare information from two texts

- IXL Skill BDR - Determine the author's point of view

- IXL Skill 38P - Analyze passages from Anne Frank: The Diary of a Young Girl

- IXL Skill 5GN - Choose evidence to support a claim

- IXL Skill LZS - Identify supporting details in informational texts

- IXL Skill W8V - Identify supporting details in literary texts

ELA Intervention Strategies

Grade 8 (Students were assessed on Grade 7 standards)

Lowest Score in Reading Literature - **41% of all students were incorrect**

- RL.7.1. Cite several pieces of textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text.

- RL.7.3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot).

Lowest Score in Reading Information - **35% of all students were incorrect**

- RI.7.1. Cite several pieces of textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferences drawn from the text.

- RI.7.2. Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.

ELA Intervention Strategies

Grade 8 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored   poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

- IXL Skill 5FL - Analyze short stories

- IXL Skill MMK - Analyze the effects of figures of speech on meaning and tone

- IXL Skill BYP - Read and understand informational passages

- IXL Skill KLU - Analyze passages from The Giver

- IXL Skill 64H - Analyze passages from The Outsiders

- IXL Skill BMP - Choose evidence to support a claim

- IXL Skill 8HV - Identify supporting details in informational texts

- IXL Skill XXH - Identify supporting details in literary texts

ELA Intervention Strategies

Grade 9 (Students were assessed on Grade 8 standards)

Lowest Score in Reading Literature - **49% of all students were incorrect**

- RL.8.1. Cite the textual evidence and make relevant connections that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

- RL.8.3. Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision.

Lowest Score in Reading Information - **50% of all students were incorrect**

- RI.8.1. Cite the textual evidence and make relevant connections that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

- RI.8.5. Analyze the structure an author uses to organize a specific paragraph in a text, including the role of particular sentences, to develop and to refine a key concept.

ELA Intervention Strategies

Grade 9 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

• IXL Skill UDA - Analyze the development of informational passages

• IXL Skill 45D - Analyze the effects of figures of speech on meaning and tone

• IXL Skill ADR - Choose the best evidence to support a claim

• IXL Skill XWU - Identify supporting evidence in a text

• IXL Skill P93 - Choose the analysis that logically connects the evidence to the claim

ELA Intervention Strategies

Grade 10 (Students were assessed on Grade 9 standards)

Lowest Score in Reading Literature - **57% of all students were incorrect**

- RL.9-10.1. Cite strong and thorough textual evidence and make relevant connections to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.

- RL.9-10.2. Determine a theme or central idea of a text and analyze in detail its development over the course of the text, including how it emerges and is shaped and refined by specific details and provide an objective summary of the text.

Lowest Score in Reading Information - **51% of all students were incorrect**

- RI.9-10.1. Accurately cite strong and thorough textual evidence, (e.g., via discussion, written response, etc.) and make relevant connections, to support analysis of what the text says explicitly as well as inferentially, including determining where the text leaves matters uncertain.

- RI.9-10.5. Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).

ELA Intervention Strategies

Grade 10 Suggested remedies:

• Teachers should review the Start Strong results and analyze the questions in which students scored poorly. Every teacher should have access to the readings, the questions, and how each of their students responded. These can be used in multiple ways in a teacher's instructional planning.

IXL Skill G2F - Analyze the development of informational passages

IXL Skill EHF - Analyze short stories

IXL Skill ZNS - Analyze the effects of figures of speech on meaning and tone

IXL Skill VCZ - Identify stronger and weaker evidence to support a claim

IXL Skill NFD - Identify supporting evidence in a text

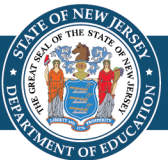# Math Intervention Strategies

Interventions for Grades 4-10

Grade 4 Deficiencies and Remedies:

3.NF.A.3.A- Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.

- **Students will:**
  - Extra work with equivalent fractions, particularly on a number line
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize Splash Math, IXL, and other online resources
  - Utilize NJSLA practice exams and released items
  - After school tutoring if applicable

3.NF.A.3.B- Recognize and generate simple equivalent fractions, e.g., 1/2 = 2/4, 4/6 = 2/3. Explain why the fractions are equivalent, e.g., by using a visual fraction model.

- **Students will:**
  - Extra work with equivalent fractions
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize Splash Math, IXL, and other online resources
  - Utilize NJSLA practice exams and released items
  - After school tutoring if applicable

Math Intervention Strategies

3.NF.3.D- Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole.   Record the results of comparisons with the symbols >, =, or

- **Students will:**
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize Splash Math, IXL, and other online resources
  - Utilize NJSLA practice exams and released items
  - After school tutoring if applicable

- ***Grade 5 Deficiencies and Remedies:***

   4.NF.A.2- Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that   comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

- **Students will:**
  - Understand and compare fractions
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

Math Intervention Strategies

4.NF.B.4.C- Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem.

- **Students will:**
  - Continue to practice complex word problems throughout the school year
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

4.OA.A.3- Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

- **Students will:**
  - Continue to practice complex word problems throughout the school year
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

Math Intervention Strategies

Grade 6 Deficiencies and Remedies:

5.NF.A.1- Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.

- **Students will:**
  - Continue to practice adding and subtracting fractions with unlike denominators
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

5.NF.B.5.A- Interpret multiplication as scaling (resizing), by comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

- **Students will:**
  - Utilize applications to see that multiplication is resizing
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

Math Intervention Strategies

5.MD.C.5.C- Recognize volume as additive. Find volumes of solid figures composed of two non overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.

- **Students will:**
  - Continue to find volumes of non overlapping figures
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions

  - Utilize IXL in appropriate standards

Grade 7 Deficiencies and Remedies:

6.RP.A.1- Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities

- **Students will:**
  - Use real world concepts to extend their understanding of ratios
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

6.RP.A.3.D- Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities.

- **Students will:**
  - Practice word problems that conversion of units
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items
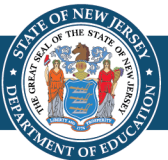
Math Intervention Strategies

6.EE.A.1- Write and evaluate numerical expressions involving whole-number exponents.

- **Students will:**
  - Continue to practice writing numerical expressions with exponents
  - Utilize Math in Focus Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize NJSLA practice exams and released items

Grade 8 Algebra Deficiencies and Remedies:

8.EE.A.2- Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots   of small perfect cubes. Know that $\sqrt{2}$ is irrational.

- **Students will:**
  - **Utilize Big Ideas Math Interventions**
  - **Utilize LinkIt Interventions**
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

8.EE.C.8.B- Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.

- **Students will:**
  - Practice solving systems of equations, particularly utilizing the testing platform
  - Utilize Big Ideas Math Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

Math Intervention Strategies

8.F.A.1- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

- **Students will:**
    - Review definitions and examples of functions
    - Utilize Big Ideas Math Interventions
    - Utilize LinkIt Interventions
    - Utilize IXL in appropriate standards
    - Utilize Khan Academy
    - Utilize NJSLA practice exams and released items

8.G.B.7- Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real world and mathematical problems in two and three dimensions.

8.G.B.8-. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

- **Students will:**
    - Apply the Pythagorean Theorem in application problems
    - Concepts will be reviewed in Geometry curriculum
    - Utilize Big Ideas Math Interventions
    - Utilize LinkIt Interventions
    - Utilize IXL in appropriate standards
    - Utilize Khan Academy
    - Utilize NJSLA practice exams and released items

Math Intervention Strategies

Grade 9 Algebra 1 Deficiencies and Remedies:

8.EE.A.2- Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.
- **Students will:**
    - Utilize Big Ideas Math Interventions
    - Utilize LinkIt Interventions
    - Utilize IXL in appropriate standards
    - Utilize Khan Academy
    - Utilize NJSLA practice exams and released items

8.EE.C.8.B- Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection.
- **Students will:**
    - Practice solving systems of equations, particularly utilizing the testing platform
    - Utilize Big Ideas Math Interventions
    - Utilize LinkIt Interventions
    - Utilize IXL in appropriate standards
    - Utilize Khan Academy
    - Utilize NJSLA practice exams and released items

Math Intervention Strategies

8.F.A.1- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

- **Students will:**
  - Review definitions and examples of functions
  - Utilize Big Ideas Math Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

8.G.C.9- Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.

- **Students will:**
  - Review formulas of volumes during application problems
  - Concepts will be reviewed in Geometry curriculum
  - Utilize Big Ideas Math Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

8.G.B.7- Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real world and mathematical problems in two and three dimensions.
8.G.B.8-. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

- **Students will:**
  - Apply the Pythagorean Theorem in application problems
  - Concepts will be reviewed in Geometry curriculum
  - Utilize Big Ideas Math Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

Math Intervention Strategies

Geometry Deficiencies and Remedies:

8.F.A.1- Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.

- **Students will:**
  - Review definitions and examples of functions
  - Utilize Big Ideas Math Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

8.G.B.7- Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real world and mathematical problems in two and three dimensions.

8.G.B.8-. Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.

- **Students will:**
  - Apply the Pythagorean Theorem in application problems
  - Concepts will be reviewed during triangle unit
  - Utilize Big Ideas Math Interventions
  - Utilize LinkIt Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items
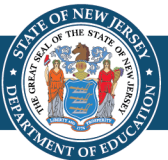
Math Intervention Strategies

Algebra 2 Deficiencies and Remedies:

HSA.REI.D.10- Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line)

- **Students will:**
    - Utilize graphing software for equations with two variables
    - Utilize Big Ideas Math Interventions
    - Utilize IXL in appropriate standards
    - Utilize Khan Academy
    - Utilize NJSLA practice exams and released items

HS.REI.B.3- Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

- **Students will:**
    - Increased focus on solving complex equations and inequalities
    - Utilize Big Ideas Math Interventions
    - Utilize IXL in appropriate standards
    - Utilize Khan Academy
    - Utilize NJSLA practice exams and released items
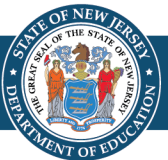
Math Intervention Strategies

HS.REI.B.4- Solve quadratic equations in one variable.

- **Students will:**
  - Increased focus on solving complex quadratic equations
  - Utilize Big Ideas Math Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

HS.CED.A.4- Create equations that describe numbers or relationships

- **Students will:**
  - Increased practice on creating equations from application problems
  - Utilize Big Ideas Math Interventions
  - Utilize IXL in appropriate standards
  - Utilize Khan Academy
  - Utilize NJSLA practice exams and released items

Science Intervention Strategies

Interventions for Grades 6, 9 and 12

Grade 6 Deficiencies and Remedies:

EAE:PS2.A:C and E- Engaging in Argument From Evidence: Forces and Motion: Cause and Effect

- Students will: Be introduced to the *Claim, Evidence, Reasoning* model
- Continue to apply knowledge of forces to predict phenomena in natural or designed systems

AID:ESS2.B:PAT- Analyzing and Interpreting Data: Plate Tectonics and Large Scale Systems Interactions: Patterns

- **Students will:**
  - Continue to analyze data when appropriate to the curriculum
  - Identify land and water patterns to examine how Earth's plates have moved, collided, and spread apart

EAE:PS3.B:E&M- Engaging in Argument From Evidence: Conservation of Energy and Energy Transfer: Energy and Matter: Flows, Cycles, and Conservation

- **Students will:**
  - Be introduced to the *Claim, Evidence, Reasoning* model
  - Understand that matter may take different forms through hands on experiences
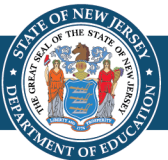
Science Intervention Strategies

Grade 9 Deficiencies and Remedies:

UMCT:ESS1.A:S,P and Q- Using Mathematics and Computational Thinking: The Universe and its Stars: Scale, Proportion, and Quantity

- **Students will:**
  - Continue to utilize mathematical representatives when appropriate to the curriculum
  - Increased focus on how algebraic thinking can be used to examine scientific data
  - Increased focus on the significance of scale, proportion, and quantity as it relates to phenomenon

EAE:LS1.A:SF- Engaging in Argument From Evidence: Structure and Function: Structure and Function

- **Students will:**
  - Continue to practice the *Claim, Evidence, Reasoning* model
  - Increase curricular focus on systems of structures and their function to solve problems
  - Revisit concepts as it relates to the Environmental Science Curriculum

PACI:PS4.A:SF- Planning and Carrying Out Investigations: Wave Properties: Structure and Function

- **Students will:**
  - Continue to plan and carry out laboratory investigations throughout the curriculums
  - Increased focus on wavelength and frequency of waves and how they can be applied to different models

Science Intervention Strategies

<u>Grade 12 Deficiencies and Remedies:</u>

DUM:PS1.A:PAT- Developing and Using Models: Structure and Properties of Matter: Patterns

- **Students will:**
  - Create various types of models when appropriate to the curriculum
  - Increased focus on observing difference patterns and how they can be utilized to explain phenomena

CEDS:ESS3.C: S & SM- Constructing Explanations and Designing Solutions: Human Impacts of Earth Systems: Systems & System Models

- **Students will:**
  - Increased focus on the management of natural resources in Environmental Science
  - Use of models to investigate and analyze human impacts

EAE:ESS3.C: S & SM- Engaging in Argument from Evidence: Human Impacts of Earth Systems: Systems and System Models

- **Students will:**
  - Use of *Claim, Evidence, Reasoning* Model for laboratory activities
  - Increased focus on using sufficient evidence and scientific reasoning to defend and critique claims