# **Course Title:**

Inquiry

# Length:

Mid-September to Mid-May Grades 4, 5 & 6

# **School:**

Pierrepont

# **Primary Content:**

Gifted & Talented

# **Initial Approval Date:**

June 15, 2015

Revised: June 27, 2022

# **Embedded Content:**

Career, Readiness, Life Literacies and Key Skills

# **Initial BOE Approval Date (Born on):**

June 27, 2022

#### RUTHERFORD PUBLIC SCHOOLS Rutherford, New Jersey

# GIFTED AND TALENTED DEPARTMENT INQUIRY CURRICULUM - GRADES 4, 5 & 6

#### 1. Introduction/Overview/Philosophy

#### Introduction/Overview/Philosophy

The Inquiry Program is a pullout program for those identified students in 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> grades. The underlying theme throughout all Inquiry classes is problem-solving. Through a variety of problem-solving tasks, higher level thinking skills such as knowledge, comprehension, application, analysis, synthesis, and evaluation are developed in a sequential manner across all content areas. By providing our students with a differentiated curriculum that incorporates all subject areas, they are invited to explore a range of appropriate enrichment and acceleration activities. Through topics that are thoughtfully selected in order to capture optimum interest and motivation, students are encouraged to participate in further research. The variety of enriching and thought-provoking learning experiences offered in the Inquiry Program incorporate three levels of enrichment intended to promote critical thinking.

Type I—General Exploratory Activities (Content)- Exposure to disciplines, authors or events not covered in the regular curriculum. Children can be exposed to such areas long enough to be attracted to some of them for individual study.

Type II—Group Process Activities (Operations)- Students are taught skills for expanding their thinking and feeling processes. Among these activities are: brainstorming, analysis, classification, general inquiry, observation and evaluation.

Type III—Real Problem Solving (Products)- this type of enrichment involves children in thinking, feeling and doing in the manner of the practicing professional. Children are encouraged to focus on solvable problems so that they might become empowered to create products that influence outcomes and make a difference in the world.

Some students will pursue a particular topic of study at the exploratory level, while others may be motivated to pursue more in-depth problem solving on an issue that has relevance to them. The ultimate goal is developing a personal commitment to an independent or group project through which knowledge is applied in order to pose and/or solve a problem of interest. Commitment to a task by the individual is a major goal of the program.

In addition, a goal of the Inquiry program is to include activities aimed at developing the affective domain of our students such as: valuing, responding, receiving/attending. It is through both thinking and feeling that our students will develop into thoughtful, contributing valuable members of society.

#### 4th Grade

At the fourth grade level, students are challenged to look at problems in new and alternative ways. The goal is to extend and refine the problem-solving skills acquired in the Discovery Program. An emphasis is placed on learning to think in an organized, systematic pattern as the students begin to see relationships and develop generalizations about problems of a similar nature. Class exploratory activities provide opportunities for students to develop their higher-level thinking skills of applying information, and analyzing and synthesizing in order to define problems and devise solutions through interaction with their peers as well as through individual endeavors in areas of science, math, language arts, social studies and the creative arts.

Students develop their skills by working on curriculum units in environmental studies, logic, endangered animals, and values clarification. Concurrently, they are given opportunities to refine their listening skills, observing and perceiving skills, use of imagery, research, communication and creative productive thinking skills.

#### 5th Grade

The fifth grade Gifted and Talented Program continues the differentiated curriculum begun in the 4<sup>th</sup> grade that allows the students to explore appropriate immediate enrichment and acceleration activities in the areas of science, math, language arts, social science and computers. Through experiences that challenge critical thinking the program continues to strengthen the students' higher level thinking skills. During the fifth grade students are encouraged to test their hypotheses to formulate valid conclusions, to develop sound arguments and to arrive at consensus. In order to participate fully, fifth graders must increase their out-of-class preparation. Projects are completed and problems are solved both on an individual basis and in groups.

At the fifth grade level, students develop their cadre of research skills by not only utilizing the computer but also by recognizing other tools of inquiry—both print and media. Space science is a focus in the fifth grade program with a culminating field trip to the Buehler Discovery Center. Students will strengthen their critical thinking and problem solving with further exposure to logic and philosophy in addition to exploring topics such as: space exploration, aerospace engineering, and human survival.

#### 6th Grade

At the sixth grade level, students in the Inquiry Program are not only completing the three year spiral of accumulated intermediate skills, but they also are acquiring skills in more specialized areas. The teaching strategies are intended to develop more independence in research and in critical thinking. The problems posed provide opportunities for the students to expand their research skills as they explore not only the Internet, but work together problem-solving for a task solution. As the students mature, real-life problems and

decision-making are a major focus. The higher level thinking skills of analyzing, synthesizing and evaluating are emphasized using problems relevant to the students themselves such as: forensic science and detective skills in life and literature, mysteries from the past, creating mock trials, implementing a business and discussing and debating social issues.

#### 2. Objectives

#### A. Curriculum Objectives for Inquiry

Students will be able to refine and broaden

- 1. Divergent thinking
  - a. Creative thinking
  - b. Inventive thinking
- 2. Convergent thinking
  - a. Deductive thinking
  - b. Analytical thinking
  - c. Evaluative thinking
- 3. Visual/spatial perception
- 4. Interpretive thinking
- 5. Problem solving
- 6. Research skills

## 1. In the area of divergent thinking students will:

- a. use **creative thinking** to:
  - 1. use fluent and flexible thinking to brainstorm ideas/solutions.
  - 2. develop, produce, and dramatize.
  - 3. adapt story versions.
  - 4. illustrate interpretations.
  - 5. use the five-step writing process to write original pieces.
  - 6. create and construct original designs with a variety of manipulatives and art supplies.
- b. use inventive thinking to:
  - 1. use fluent and flexible thinking to brainstorm ideas/solutions.
  - 2. use the SCAMPER process to generate inventive ideas.
  - 3. use forced association to generate inventive or innovative ideas.
  - 4. invent to solve a problem.
  - 5. adapt items to be used for an alternate purpose.
- 2. In the area of **convergent thinking** students will:
  - a. use deductive thinking to:
    - 1. formulate predictions/hypothesis.
    - 2. determine varied ways to reach the same solution.
    - 3. solve a variety of visual and geometric puzzles.
    - 4. determine constructions of tangrams, polyhedrons, and tessellations.

- 5. organize clues and eliminate unrelated clues to determine a solution.
- 6. deduce information through the use of a logic elimination grid.

## b. use analytical thinking to:

- 1. analyze story elements.
- 2. compare and contrast story elements/manipulatives/interpretations.
- 3. interpret visual representations.
- 4. determine constructions of tangrams, polyhedrons, and tessellations.
- 5. use a variety of manipulatives and calculators to solve mathematical functions.
- 6. conclude results through the scientific method process.

#### c. use evaluative thinking to:

- 1. judge character traits and motivation.
- 2. compare, rate, rank, revise, and eliminate information.
- 3. determine cause and effect.
- 4. make conclusions about given information.
- 5. defend and validate perspectives.
- 6. exercise metacognition through KWL charts and reflective writing.
- 7. decide assessment criteria in rubric form.
- 8. self-assess using set criteria.

#### 3. In the area of visual/spatial perception students will:

- a. solve a variety of visual and geometric puzzles.
- b. identify attributes of geometric figures.
- c. represent through concrete symbols.
- d. interpret picture puzzles.
- e. use concrete manipulatives to construct visual products.
- f. elaborate figural and concrete forms.

# 4. In the area of **interpretive thinking** students will:

- a. use shared inquiry to:
  - 1. build awareness of interpretive issues in a story.
  - 2. analyze character motivation and development.
  - 3. find and use supporting evidence for opinions.
  - 4. present clear, persuasive arguments.

# 5. In the area of **problem solving** students will:

- a. use the creative problem solving process to:
  - 1. Fact Find sort out what facts are relevant to the problem and what information is lacking.
  - 2. Determine Problem analyze the situation and define the "real problem."
  - 3. Find Solutions think of creative ways to solve the problem.
  - 4. Select Criteria generate criteria to help decide the best solution.
  - 5. Judging Ideas use criteria to select the best idea.
  - 6. Determine Plan of Action plan how to implement the selected solution.

#### 6. In the area of **research skills** students will:

- a. determine purpose, goals, and activities of self-selected independent study projects.
- b. access and select meaningful information using the Internet, books, videos, and other media.
- c. use the five-step writing process of prewriting, drafting, editing, conferencing, and publishing for a variety of audiences and purposes.
- d. use a variety of computer software to record research.
- e. synthesize knowledge of a topic into self-selected culminating activities.
- f. cite references.
- g. present/share research to others.

#### B. New Jersey Core Curriculum Content Standards

#### Visual and Performing Arts

By The End of Grade 5:

- 1.2.5.Cr1a: Generate ideas for media artwork, using a variety of tools, methods and/or materials.
- 1.2.5.Cr2a: Collaboratively form ideas, plans and models to prepare for media artwork.
- 1.2.5.Cr3a: Construct and arrange various content into unified and expressive media arts productions.
- 1.2.5.Cr3c: Explore how elements and components can be altered for clear communication and intentional effects, point of view, perspective, and refine media artworks to improve clarity and purpose.

By the end of grade 8:

1.2.8.Cr1a: Generate a variety of ideas, goals and solutions for media artworks using creative processes such as sketching, brainstorming, improvising, and prototyping with increased proficiency, divergent thinking, and opportunity for student choice.

#### Comprehensive Health and Physical Education

By the end of grade 5:

- 2.1.5.EH.1: Discuss the impact of one's feelings and thoughts that lead to healthy and unhealthy behaviors.
- 2.1.5.EH.2: Explain how to cope with rejection, loss, difficult learning situations and/or separation from family or others.
- 2.1.5.EH.3: Identify different feelings and emotions that people may experience and how they might express these emotions (e.g., anger, fear, happiness, sadness, hopelessness, anxiety). By the end of grade 8:
- 2.1.8.EH.1: Compare and contrast stress management strategies that are used to address various types of stress-induced situations (e.g., academics, family, personal relationships, finances, celebrations, violence).
- 2.1.8.EH.2: Analyze how personal attributes, resiliency, and protective factors support mental and emotional health.

#### Science

By the end of Grade 4, students will:

1. 4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

- 2. **3-5-ETS1-1**. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 3. 3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 4. **3-5-ETS1-3**. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

#### By the end of Grade 5, students will:

- 1. 5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.
- 2. **5-LS2-1**. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment
- 3. **3-5-ETS1-1**. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
- 4. **3-5-ETS1-2**. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
- 5. **3-5-ETS1-3**. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

#### By the end of **Grade 6**, students will:

- 1. MS-ESS1-2. Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.
- 2. **MS-ETS1-1**. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
- 3. MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
- 4. **MS-ETS1-3.** Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.

#### **Social Studies**

#### Standard 6.1

All students will acquire the knowledge and skills to think analytically about how past and present interactions of people, cultures, and the environment shape the American heritage. Such knowledge and skills enable students to make informed decisions that reflect fundamental rights and core democratic values as productive citizens in local, national, and global communities.

By the end of Grade 5, students:

- 6.1.5.GeoSV.1: Identify the maps or types of maps most appropriate for specific purposes, (e.g., to locate physical and/or human features in a community, to determine the shortest route from one town to another town, to compare the number of people living at two or more locations).
- 6.1.5.CivicsCM.3: Identify the types of behaviors that promote collaboration and problem solving with others who have different perspectives.
- 6.1.5. Civics CM.4: Examine the responsibilities of differing positions of authority and identify criteria that are likely to make leaders qualified for those positions.
- 6.1.5. EconET.1: Identify positive and negative incentives that influence the decisions people make.
- 6.1.5.EconNE.4: Explain how creativity and innovation resulted in scientific achievement and inventions in many cultures during different historical periods.
- 6.3.5.CivicsPD.1: Develop an action plan that addresses issues related to climate change and share with school and/or community members.

#### **English Language Arts**

Students should understand and be able to do by the end of **grade 4**:

- 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
- RL.4.3. Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text (e.g., a character's thoughts, words, or actions).
- RL.4.4. Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in literature.
- RL.4.6. Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.
- RL.4.7. Make connections between specific descriptions and directions in a text and a visual or oral representation of the text.
- RL.4.10. By the end of the year, read and comprehend literature, including stories, dramas, and poems at grade level text-complexity or above, with scaffolding as needed.
- 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.4.2. Determine the main idea of a text and explain how it is supported by key details; summarize the text.
- RI.4.3. Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in 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.
- RF.4.3. Know and apply grade-level phonics and word analysis skills in decoding and encoding words. A. Use combined knowledge of all letter-sound correspondences, syllabication patterns, and morphology (e.g., roots and affixes) to read accurately unfamiliar multisyllabic words in context and out of context
- RF.4.4. Read with sufficient accuracy and fluency to support comprehension.

- A. Read grade-level text with purpose and understanding.
- B. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.
- C. Use context to confirm or self-correct word recognition and understanding, rereading as necessary.
- NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- W.4.1. Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
- W.4.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.4.3. Write narratives to develop real or imagined experiences or events using narrative technique, descriptive details, and clear event sequences.
- W.4.7. Conduct short research projects that build knowledge through investigation of different aspects of a topic.
- W.4.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
- NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
- SL.4.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
- SL.4.4. Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
- L.4.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L.4.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- L.4.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- L.4.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 4 reading and content, choosing flexibly from a range of strategies.
- L.4.5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

Students should understand and be able to do by the end of **grade 5**:

- 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.5.7. Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
- RI.5.9 Integrate and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) information from several texts on the same topic in order to write or speak about the subject knowledgeably.
- RI.5.10. By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
- RF.5.3. Know and apply grade-level phonics and word analysis skills in decoding and encoding words.
- RF.5.4. Read with sufficient accuracy and fluency to support comprehension.
- NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
- NJSLSA.W3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- NJSLSA. W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
- NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.
- NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- NJSLSA.W9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- W.5.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different perspectives of a topic.

W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.SL2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.

NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

NJSLSA.SL6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

SL.5.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

SL.5.2. Summarize a written text read aloud or information presented in diverse media and formats (e.g., visually, quantitatively, and orally).

SL.5.5. Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

SL.5.6. Adapt speech to a variety of contexts and tasks, using formal English when appropriate to task and situation.

L.5.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

L.5.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

L.5.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

L.5.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.

L.5.6. Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., however, although, nevertheless, similarly, moreover, in addition).

Students should understand and be able to do by the end of grade 6:

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.6.2. Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

RL.6.3. Describe how a particular story's or drama's plot unfolds in a series of episodes as well as how the characters respond or change as the plot moves toward a resolution.

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.

- RL.6.5. Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
- RL.6.6. Explain how an author develops the point of view of the narrator or speaker in a text.
- RL.6.7. Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they "see" and "hear" when reading the text to what they perceive when they listen or watch.
- RL.6.10. By the end of the year read and comprehend literature, including stories, dramas, and poems at grade level text-complexity or above, scaffolding as needed.
- W.6.2. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.
- W.6.3. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.
- W.6.4. Produce clear and coherent writing in which the development, organization, voice and style are appropriate to task, purpose, and audience.
- W.6.5. With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
- W.6.6. Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.
- W.6.7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.
- W.6.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.
- SL.6.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly
- SL.6.4. Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate speaking behaviors (e.g., eye contact, adequate volume, and clear pronunciation).
- SL.6.5. Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information. SL.6.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.
- L.6.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
- L.6.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
- L.6.3. Use knowledge of language and its conventions when writing, speaking, reading, or listening.

# New Jersey Student Learning Standards: Mathematics

# Operations & Algebraic Thinking

Generate and analyze patterns.

4.OA.C.5- Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.

5.OA.B.3 - Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane.

#### Measurement & Data

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

- 4.MD.A.1- Know relative sizes of measurement units within one system of units including km, m, cm. mm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two column table.
- 4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

#### **Ratios & Proportional Relationships**

Understand ratio concepts and use ratio reasoning to solve problems.

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

6.RP.A.2 - Understand the concept of a unit rate a/b associated with a ratio a:b with  $b \neq 0$ , and use rate language in the context of a ratio relationship.

6.RP.A.3 - Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

#### **Expressions & Equations**

Apply and extend previous understandings of arithmetic to algebraic expressions. 6.EE.A.2 -Write, read, and evaluate expressions in which letters stand for numbers.

Career Readiness, Life Literacies, and Key Skills Practices

Career Readiness, Life Literacies, and Key Skills Practices describe the habits of the mind that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. These practices should be taught and reinforced in all content areas with increasingly higher levels of complexity and expectation as a student advances through a program of study.

Practice	Description
Act as a responsible and contributing community members and employee.	Students understand the obligations and responsibilities of being a member of a community, and they demonstrate this understanding every day through their interactions with others. They are conscientious of the impacts of their decisions on others and the environment around them. They think about the near-term and long-term consequences of their actions and seek to act in ways that contribute to the betterment of their teams, families, community and workplace. They are reliable and consistent in going beyond the minimum expectation and in participating in activities that serve the greater good.
Attend to financial well-being.	Students take regular action to contribute to their personal financial well-being, understanding that personal financial security provides the peace of mind required to contribute more fully to their own career success.
Consider the environmental, social and economic impacts of decisions.	Students understand the interrelated nature of their actions and regularly make decisions that positively impact and/or mitigate negative impact on other people, organization, and the environment. They are aware of and utilize new technologies, understandings, procedures, materials, and regulations affecting the nature of their work as it relates to the impact on the social condition, the environment and the profitability of the organization.
Demonstrate creativity and innovation.	Students regularly think of ideas that solve problems in new and different ways, and they contribute those ideas in a useful and productive manner to improve their organization. They can consider unconventional ideas and suggestions as solutions to issues, tasks or problems, and they discern which ideas and suggestions will add greatest value. They seek new methods, practices, and ideas from a variety of sources and seek to apply those ideas to their own workplace. They take action on their ideas and understand how to bring innovation to an organization.
Utilize critical thinking to make sense of problems and persevere in solving them.	Students readily recognize problems in the workplace, understand the nature of the problem, and devise effective plans to solve the problem. They are aware of problems when they occur and take action quickly to address the problem; they thoughtfully investigate the root cause of the problem prior to introducing solutions. They carefully consider the options to solve the problem. Once a solution is agreed upon, they follow through to ensure the problem is solved, whether through their own actions or the actions of others.

Practice	Description
Model integrity, ethical leadership and effective management.	Students consistently act in ways that align personal and community-held ideals and principles while employing strategies to positively influence others in the workplace. They have a clear understanding of integrity and act on this understanding in every decision. They use a variety of means to positively impact the directions and actions of a team or organization, and they apply insights into human behavior to change others' action, attitudes and/or beliefs. They recognize the near-term and long-term effects that management's actions and attitudes can have on productivity, morals and organizational culture.
Plan education and career paths aligned to personal goals.	Students take personal ownership of their own education and career goals, and they regularly act on a plan to attain these goals. They understand their own career interests, preferences, goals, and requirements. They have perspective regarding the pathways available to them and the time, effort, experience and other requirements to pursue each, including a path of entrepreneurship. They recognize the value of each step in the education and experiential process, and they recognize that nearly all career paths require ongoing education and experience. They seek counselors, mentors, and other experts to assist in the planning and execution of career and personal goals.
Use technology to enhance productivity increase collaboration and communicate effectively.	Students find and maximize the productive value of existing and new technology to accomplish workplace tasks and solve workplace problems. They are flexible and adaptive in acquiring new technology. They are proficient with ubiquitous technology applications. They understand the inherent risks-personal and organizational-of technology applications, and they take actions to prevent or mitigate these risks.
Work productively in teams while using cultural/global competence.	Students positively contribute to every team, whether formal or informal. They apply an awareness of cultural difference to avoid barriers to productive and positive interaction. They find ways to increase the engagement and contribution of all team members. They plan and facilitate effective team meetings.

#### Standard 9

By the end of Grade 5, students:

Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.

9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions.

9.4.5.CI.2: Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address

the issue.

Curiosity and a willingness to try new ideas (intellectual risk-taking) contributes to the development of creativity and innovation skills.

9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity.

9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process.

The ability to solve problems effectively begins with gathering data, seeking resources, and applying critical thinking skills.

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process.

9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem.

9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global.

Different digital tools have different purposes.

9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images, graphics, or symbols.

Collaborating digitally as a team can often develop a better artifact than an individual working alone.

9.4.5.TL.5: Collaborate digitally to produce an artifact.

#### By the end of Grade 8, students:

Gathering and evaluating knowledge and information from a variety of sources, including global perspectives, fosters creativity and innovative thinking.

9.4.8.CI.2: Repurpose an existing resource in an innovative way (e.g., 8.2.8.NT.3). Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).

Communication skills and responsible behavior in addition to education, experience, certifications, and skills are all factors that affect employment and income.

9.2.8.CAP.17: Prepare a sample resume and cover letter as part of an application process. Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.

9.4.8.CI.3: Examine challenges that may exist in the adoption of new ideas.

9.2.8.CAP.20: Identify the items to consider when estimating the cost of funding a business.

Gathering and evaluating knowledge and information from a variety of sources, including global perspectives, fosters creativity and innovative thinking.

9.4.8.CI.2: Repurpose an existing resource in an innovative way.

Multiple solutions often exist to solve a problem.

9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option.

An essential aspect of problem solving is being able to self-reflect on why possible solutions for solving problems were or were not successful.

9.4.8.CT.3: Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.

Some digital tools are appropriate for gathering, organizing, analyzing, and presenting information, while other types of digital tools are appropriate for creating text, visualizations, models, and communicating with others.

9.4.8.TL.3: Select appropriate tools to organize and present information digitally Digital tools allow for remote collaboration and rapid sharing of ideas unrestricted by geographic location or time.

9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

#### 3. Proficiency Levels

Students in grades four, five and six are identified as "Gifted and Talented." Differentiating Instruction for Students with Special Needs: Students with Disabilities, English Language Learners, and Gifted & Talented Students

Differentiating instruction is a flexible process that includes the planning and design of instruction, how that instruction is delivered, and how student progress is measured. Teachers recognize that students can learn in multiple ways as they celebrate students' prior knowledge. By providing appropriately challenging learning, teachers can maximize success for all students. Examples of Strategies and Practices that Support Students with Disabilities and Students with 504 plans

- Use of visual and multi-sensory formats
- Use of assisted technology
- Use of prompts
- Modification of content and student products
- Testing accommodations
- Authentic assessments

#### Gifted & Talented Students

- Adjusting the pace of lessons
- Curriculum compacting
- Inquiry-based instruction
- Independent study
- Higher-order thinking skills
- Interest-based content
- Student-driven
- Real-world problems and scenarios

#### English Language Learners

- Pre-teaching of vocabulary and concepts
- Visual learning, including graphic organizers
- Use of cognates to increase comprehension
- Teacher modeling
- Pairing students with beginning English language skills with students who have more advanced English language skills
- Scaffolding
- word wall
- sentence frames
- think-pair-share
- cooperative learning groups
- teacher think-alouds

#### 4. Methods of Assessment

Participation
Completed products and performance
Teacher observation
Rubrics (student-made, teacher-made, published)
Sample collections/portfolios
Computer Programs, Multimedia Presentations and Web Pages

## 5. Grouping

Small group pull out for students identified as "Gifted and Talented" according to the Rutherford School District Gifted and Talented Policy (INSTRUCTION 2417 revised June 22, 1998.)

## 6. Articulation/Scope & Sequence

Mid-September to End-May (two period sessions per week)

#### 7. Resources

a. References

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Smutny, J., Walker, S., and Meckstroth, E.. *Teaching Young Gifted Children in the Regular Classroom.* Free Spirit. Minneapolis, MN, 1997.

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T.S. Dennison and Co., Inc. Minneapolis, MN, 1991.

United States Patent Model Foundation. *Invent America!* United State patent Model Foundation. Alexandria, VA, 2000.

Valentino, C.. Challenge Boxes. Dale Seymour Publications. CA, 1983.

Walker, P. and Wood, E.. Crime Scene Investigations. The Center for Applied Research in Education. West Nyack, NY, 1999.

# b. Technology calculators iMacs and available software Internet cameras camcorders tape recorder

c. Supplies/Materials tangrams and templates *Planko* tessellation pieces/templates marbles a variety of art project supplies/paper graph paper

balsa wood in a variety of sizes chart tablets props for dramatizing recyclable items for inventing related videos

#### d. Texts

e. Supplemental Reading
Bullimore, T.. Baker Street Whodunits. Sterling. New York, 2001.
Galbraith, J.. The Gifted Kids Survival Guide. Free Spirit. Minneapolis, MN, 1984.
Kurchan, R.. Mesmerizing Math Puzzles. Sterling. New York, 2000.
Shannon, G.. More Stories to Solve. Harper Trophy. New York, 1991.
Wise, B.. Whodunit Math Puzzles. Sterling. New York, 2001.

#### 8. Methodologies

A multifaceted approach is used to disseminate the curriculum. Methods include but are not limited to:
Differentiation
Independent study
Small group instruction
Cooperative learning
Shared Inquiry
Problem-based learning

# 9. Suggested Activities (include but are not limited to:)

a variety of mental puzzles, ie. Rubics Cube tangram activities polyhedron constructing tessellation designing kaleidoscope activities improvisations, ie. charades dramatizations creative writing mystery solving creative problem solving interpretive drawings creative art/craft projects divergent thinking of usual items invention activities science-based experiments/investigations

thematic studies of matter, economy, Greek Mythology, the video production process, bridge construction and other areas of student interest field trips related to topics of study

10. Interdisciplinary Connections

The Discovery Curriculum areas of divergent thinking, convergent thinking, visual/spatial perception, interpretive thinking, and problem solving are integrated with language arts, math, and the content areas.

11. Professional Development

As per the PIP/100 hours statement: the teacher will continue to improve expertise through participation of professional development opportunities. Specialized professional development is offered for teachers of Enrichment and Gifted and Talented through the following organizations: Bergen County Consortium of Teachers of the Gifted (BCCTG) and New Jersey Association for Gifted Children (NJAGC).

#### 12. Curriculum Maps (see attached)

XII. Grade 4 - Curriculum Map/Pacing Guide

Unit Topic	Time Allocated	Differentiating Instruction for Students with Disabilities, Students at Risk, Students with 504 plans, English Language Learners, & Gifted & Talented Students	Standards	Assessments
Our Environmental Impact	10 weeks	For Support:	R14.1	Formative Assessment:
Carbon Footprint		Group work	RI4.3	<ul> <li>Use of technology</li> </ul>
Renewable vs.		Extended Time	RI4.7	Group discussion
Non-renewable resources		Limit completion length	W4.2	<ul> <li>Think-Pair-Share</li> </ul>
<ul> <li>Natural Resources/</li> </ul>		Allow seating	W4.4	
Alternate Energy Choice		Preference i.e. bouncy chairs	W4.6	Summative Assessment:
Project			W4.7	<ul> <li>Final creative Resource</li> </ul>
Great Pacific Garbage		For Enhancement:	W4.8	assignment
Patch		<ul> <li>More complex choice project</li> </ul>		Final Recycle project
<ul> <li>Recycled Projects (Maze</li> </ul>		or extra projects		
Game, marble run, Litter		Work independently		
Critters, etc.)				
Chain Reactions	10 weeks	For Support:	RL4.1	Formative Assessment:
<ul> <li>Understand the</li> </ul>		Read aloud	RL4.2	Monitoring of student work
relationship between all		Group work	RL4.3	Think-Pair-Share
living things and the		Extended Time	RF4.3	Group Discussion
environment		Handouts and Graphic	W4.2	<ul> <li>Chapter Questions</li> </ul>
<ul> <li>Food Chains/Web</li> </ul>		Organizers	W4.4	
Who Really Killed Cock		Use of technology (speech to	W4.6	
Robin novel study		text)	W4.7	Summative Assessment:
Who Really Killed Cock			W4.8	<ul> <li>Final novel project</li> </ul>
Robin Final Project		For Enhancement:	5-PS3-1	
			5-LS2-1	

		<ul> <li>Enhanced expectations for assignments during reading and final project</li> <li>Individual work</li> <li>Advanced pace of assignments</li> </ul>		
Endangered Animals  Animal Adaptations and Biomes  Overpopulation  Endangered Animal project  Animal Origami	5 weeks	For Support:  Group work  Extended Time Graphic Organizers  Technology  Resources given	W4.4 RI4.1 RI4.7 SL4.1 SL4.4 SL4.5 SL4.5 SL4.6 5-PS3-1	Formative Assessment:  Monitoring of student work  Think-Pair-Share  Group discussion  Summative Assessment:  Final animal project and explanation  Origami Creations
		<ul> <li>For Enhancement:</li> <li>Enhanced expectations on animal project involving research, creativity, etc.)</li> <li>Independent Work</li> </ul>		
<ul> <li>Logic and Spatial Reasoning</li> <li>Matrix Logic Review</li> <li>"Great Chocolate Caper,"</li> <li>"Mystery River" or similar</li> <li>Problem Based Learning</li> </ul>	5 weeks	For Support:  Group work  Frequent Breaks  Allow desired seating  Dictating Responses	R14.7	Formative Assessment:  Monitoring of student work  Summaries of development at end of each stage of problem
		<ul> <li>For Enhancement:</li> <li>More complex Logic challenges</li> <li>Creation of own logic puzzle</li> <li>Limit group number</li> </ul>		Summative Assessment: • Final presentation of PBL report

XII. Grade 5 - Curriculum Map/Pacing Guide

Unit Topic	Time Allocated	Differentiating Instruction for Students with Disabilities,	Standards	Assessments
		Students at Risk, Students with 504 Plans,		
		English Language		
		Learners, & Giffed & Talented Students		
Return to the Moon	8 weeks	For Support:	5-ESS3-1	Formative Assessment:
Bring me to your leader		Scaffolding of materials	MS-ESS1-1.2.3	Strategic
(goal setting) and character		and assignments	RI5.1	Questioning
traits		Guidance from teacher	RI5.3	Monitoring Student
<ul> <li>Space flight STS 51L and</li> </ul>		and peers	RI5.6	Work
astronauts that lost their		Group work	RI5.9	
lives		Templates of plane	SL5.1	Summative Assessment:
Creative writing		<ul> <li>Use of technology</li> </ul>	SL5.2	<ul> <li>Creation of a final</li> </ul>
<ul> <li>Race to Space; and why we</li> </ul>		(speech to text)	SL5.4	mission patch and
still try and get there		Information posted on	SL5.5	creative writing
<ul> <li>Understanding the Moon</li> </ul>		google classroom for	9.4.5.CT.1	piece
<ul> <li>Listening skills: oral</li> </ul>		independent review	9.4.5.TL.3	
directions			9.2.8.CAP.17	
Mission Patch creation		For Enhancement:		
		<ul> <li>Enhanced expectations</li> </ul>		
		for written and final		
		assignments		
Space: The final frontier	9 weeks	For Support:	MS-ETS1.1.2.3.4.	Formative Assessment:
Space Problem Based		Use flexible grouping	W5.9	<ul> <li>Use of technology</li> </ul>
Learning Simulation		Use student choice in	SL5.2	Group discussion
<ul> <li>Guided Imagery</li> </ul>		grouping	SL5.4	<ul> <li>Think-Pair-Share</li> </ul>
Cooperative work		Extended Time	SL5.5	1.000

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<ul><li>Creative thinking</li><li>Building</li></ul>		<ul> <li>Limit completion length</li> <li>Allow seating</li> <li>preference i.e. bouncy</li> </ul>	9.4.5.CT.1 9.4.5.TL.3 MS-ESS1-2	Summative Assessment: • Final PBL
		<ul> <li>Give clear expectations of goals for the class period</li> <li>Use of cues</li> <li>Give immediate positive reinforcement and feedback</li> </ul>		completed
		For Enhancement:  Smaller group  Less time  Enhanced expectations for completion		
Things that FLY	8 weeks	For Support:	MS-ESS1-2	Formative Assessment:  Monitoring of
Acckets and the study of aerodynamics		<ul><li>Neau alouu</li><li>Group work</li></ul>	5-7-1.31-1.2.3 5-PS2-1.	student work
Gliders		<ul> <li>Extended Time</li> </ul>	W.5.8	<ul> <li>Think-Pair-Share</li> </ul>
		<ul> <li>Handouts and Graphic</li> </ul>	W.5.9	Group Discussion
		Organizers  Adomt the way instruction	SL5.1 S1 5 4	Chapter Questions
		is delivered to the learner-		
		use multiple teaching		Summative Assessment:
		styles to teach a new		<ul> <li>Final rocket</li> </ul>
		concept		assembly and
		Provide an overview of		engineering journal
		lesson at beginning		<ul> <li>Final glider assembly and</li> </ul>
		For Enhancement:		reflection

		<ul> <li>Enhanced expectations for assignments during reading and final project</li> <li>Individual work</li> <li>Advanced pace of assignments</li> </ul>		
Scamper     Research to gain greater understanding of topic     Develop plan     Work cooperatively     Use technology to research, design and write report     Create presentation	8 weeks	For Support:  Use student choice in grouping Assign peer helpers to check in on one another Use preferential seating Allow free time (to think, be apart from partner, etc.) Provide opportunities for movement Vary activities both in and out of desk/table Allow extra time Allow use of charts and calculators	W5.2 W5.4 W.5.7 W.5.8 W.5.9 5-PS1-3 RI.5.7	Formative Assessment:  Formal and informal teacher observations Discussions Teacher questioning and student oral responses Performance assessments Lesson assignments and records Completed projects Completed projects Class presentations Self-assessments
A LA				- MANAGEMENT - MAN

XII. Grade 6 - Curriculum Map/Pacing Guide

Assessments	Formative Assessment:  • Strategic Questioning • Analyze Student Work  Summative Assessment: • Creation of a final  Detective project
Standards	9.4.8.TL.2 9.4.8.CT.2 NJSLS: SL6.1 SL.6.3
Differentiating Instruction for Students with Disabilities, Students at Risk, Students with 504 plans, English Language Learners, & Giffed & Talented Students	For Support:  Scaffolding of materials and assignments Re-teaching and review Extra Process Time Modeling For Enhancement: Supplemental materials as needed or requested
Time Allocated	4 weeks
Unit Topic	Everyday life  Relationship between everyday skills and detective skills- working together, critical thinking, perseverance, etc. Test observation skills with memory games Questioning and inquiry skills Discovering identities of well known people through deductive reasoning

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Detective Skills in	8 weeks	For Support:	NJSLS:	Formative Assessment:
Literature		<ul> <li>Groupwork</li> </ul>	RL.6.1.	<ul> <li>Discussion of stories</li> </ul>
• Literature-"The		<ul> <li>Extended Time</li> </ul>	RL.6.3.	<ul> <li>Think-Pair-Share</li> </ul>
Speckled Band"		<ul> <li>Limit completion</li> </ul>	RL.6.4.	Peer Editing
and/or other		length	RL.6.5.	
Sherlock Holmes		Allow seating	RL.6.7.	
story like		<ul> <li>preference i.e.</li> </ul>	SL.6.1.	Summative Assessment:
"Dancing men"		bouncy chairs	SL.6.2.	<ul> <li>Final creative writing</li> </ul>
• 5 minute		•	SL.6.3	assignment
mysteries		For Enhancement:	SL.6.4.	
Elements of a		<ul> <li>Enhanced</li> </ul>	W6.1	
Mystery		expectations for	W6.2	
Writing Your own		written	W.6.4	
Mystery		assignment	W6.6	
			W.6.7	
			W.6.8	
			W.6.9	Little
Codes and Ciphers	3 weeks	For Support:	NJSLS:	Formative Assessment:
Understanding		Group work	6.SP.A.3	Monitoring of student
substitution and		Extended Time	MP1	work
transposition		<ul> <li>Modeling and</li> </ul>	MP2	Think-Pair-Share
ciphers		visual aids	MP5	
Learning the			SL.6.1.	
history behind		For Enhancement:	SL.6.2.	Summative Assessment:
ciphers and codes		Enhanced	SL.6.4.	Final cipher message
Critical thinking		expectations for	RST.6.4	creation and solution
using convergent		coding		•
and visual		assignment		
thinking to decode		Individual work		
messages	- Lineau and a second		- NATION OF THE PROPERTY OF TH	LLIGHT TO THE PARTY OF THE PART
History's Mysteries	4 weeks	For Support:	NJSJS:	Formative Assessment:
Case study and		Group work	RI.6.1.	<ul> <li>Monitoring of student</li> </ul>
presentation of		Extended Time	RI.6.3	work
			RI.6.7.	Think-Pair-Share

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theories as well	A COLOR DE LA COLO	Graphic	RI.6.8	Summative Assessment:
as evidence		Organizers	RI.6.9	<ul> <li>Final case study</li> </ul>
Stories with		<ul> <li>Resources given</li> </ul>	W6.1	creation and
Holes			W6.2	explanation of theory
Mysteries in			W.6.4	
History (World		For Enhancement:	W6.6	
History)		Primary and	W.6.7	
		secondary sources	W.6.8	
		required	W.6.9	
		-	SL.6.1.	
			SL.6.2.	
			SL.6.4.	
			L.6.1	
			L6.2	
			L.6.3	
			RH.6.1	
			RH.6.2	
			RH6.7	
Mystery PBL	8 weeks	For Support:	9.4.8.TL.3	Formative Assessment:
Students work in		Group work	9.4.8.CI.3	Monitoring of student
cooperative		Technology	NJSLS:	work
groups to solve a		Graphic	SL.6.4	Summaries of
problem based		Organizers	MS-LS1-5.	development at end of
learning mystery		Allow desired	W6.1	each stage
such as "Mystery		seating	W6.2	
Disease" or		Dictating	RST6.1	
"Mystery River"		Responses	RST.6.2	
			MP1	
			MP2	Summative Assessment:
		For Enhancement:	MP3	Final presentation of
		Presentation of	MP7	PBL report
		work	MP8	
		Limited time		
		Smaller Groups	LA MARKAMATINE T	

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Thinking Things	6 weeks	For Support:	NJSLS:	Formative Assessment:
Through: Deductive,		<ul> <li>Group work</li> </ul>	MP1	<ul> <li>Monitoring of student</li> </ul>
Creative and		<ul> <li>Provide pattern</li> </ul>	MP2	work
Critical Thinking		<ul> <li>Allow desired</li> </ul>	MP3	<ul> <li>Summaries of</li> </ul>
<ul> <li>Challenge Math</li> </ul>		seating	MP4	development at end of
<ul> <li>Creative Boxes</li> </ul>		<ul> <li>Frequent Breaks</li> </ul>	MP5	each stage
<ul> <li>Logic and False</li> </ul>		<ul> <li>Blocks to</li> </ul>	MP6	Group discussion
Logic Puzzles		visualize	MP7	Questioning
• Escape		<ul> <li>Calculators can</li> </ul>	MP8	Self-Assessment
Room/Breakout		pe nsed	R1	
Edu		<ul> <li>Extended Time</li> </ul>	R2	
<ul> <li>Entrepreneurial</li> </ul>		<ul> <li>Limit completion</li> </ul>	R3	Summative Assessment:
Competition		items	9.4.8.TL.2	<ul> <li>Final math projects</li> </ul>
		Allow guidance	9.4.8.CI.3	Final Creative Boxes
			9.2.8.CAP.20	<ul> <li>Answers to Logic</li> </ul>
		For Enhancement:	9.4.8.CT.2	Problems
		<ul> <li>Higher level</li> </ul>	9.4.8.TL.3	<ul> <li>Completion of</li> </ul>
		questions		Breakout
		Limited time		EDU/Creation of final
		Independent work		escape room project
		More complex		Creation of project
		challenges		
		Limit group		
		number		