PUBLIC SCHOOLS OF EDISON TOWNSHIP

OFFICE OF CURRICULUM AND INSTRUCTION

Gifted and Talented

Length of Course: Term

Elective/Required: N/A

Schools: Elementary

Eligibility: Grade 3, 4, 5

Credit Value: N/A

Date Approved:

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Gifted & Talented - Math (Grade 3)	
Unit Focus: Career Math	**Pacing:** Cycle 1 (September - December)

Unit Overview
Aligned to the New Jersey State Learning Standards, including an emphasis on the Standards for Mathematical Practice, this genre study is designed to help students gain a deep understanding of the mathematics found in various careers. Students will begin each week with an in depth analysis of a different career and have the opportunity to learn about and implement the mathematical concepts used in that profession. Money, estimation, measurement, capacity, volume, statistics, ratio, graphing and analyzing data, are some of the concepts students will investigate through inquiry-based learning tasks.

| **NJSLS - Mathematics:** | **5.OA - Operations and Algebraic Thinking:** *A. Write and interpret numerical expressions.* Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. (5.0A.A.2) *B. Analyze patterns and relationships.* 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. (5.OA.B.3) **5.NBT - Number and Operations in Base Ten:** *A. Understand the place value system.* Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. (5.NBT.A.1) Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. (5.NBT.A.2) **5.NF - Number and Operations: Fractions:** *A. Use equivalent fractions as a strategy to add and subtract fractions.* Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers. For example, recognize an incorrect result 2/5 + 1/2 = 3/7, by observing that 3/7 < 1/2. (5.NF.A.2) **5.MD - Measurement and Data:** *A. Convert like measurement units within a given measurement system.* Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems. (5.MD.A.1) *B. Represent and interpret data.* Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally. (5.MD.B.2) |

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	○ *C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*
	    ■ Recognize volume as an attribute of solid figures and understand concepts of volume measurement. a. A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and can be used to measure volume. b. A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units. (5.MD.C.3)
	    ■ Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units.(5.MD.C.4)
	    ■ Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume. a. Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.(5.MD.C.5a)
	    ■ Apply the formulas $V = l \times w \times h$ and $V = B \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems. (5.MD.C.5b)
	● **5.G - Geometry:**
	  ○ *A. Classify two-dimensional figures into categories based on their properties.*
	    ■ Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate). (5.G.A.1)

NJSLS - Standards for Mathematical Practice:	● MP1 - Make sense of problems and persevere in solving them. ● MP2 - Reason abstractly and quantitatively. ● MP4 - Model with mathematics ● MP5 - Use appropriate tools strategically.

NJSLS - Science Performance Expectations:	● **3-5-ETS1: Engineering Design**
	  ○ Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)
	  ○ 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. (3-5-ETS1-2)

NJSLS - ELA:	● 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. ● 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.

NJSLS 21st Century Life and Careers:	● **9.1: Personal Financial Literacy**
	  ○ Explain the difference between a career and a job, and identify various jobs in the community and the related earnings. (9.1.4.A.1)
	  ○ Identify potential sources of income. (9.1.4.A.2)
	  ○ Explain how income affects spending and take-home pay. (9.1.4.A.3)

NJSLS Career Ready Practices:	● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason.

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	● CRP5. Consider the environmental, social, and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence
International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 1. Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.** 　○ Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. (1a) 　○ Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. (1c) ● **ISTE Standard 4. Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.** 　○ Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a)
National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.** 　○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains. 　　■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1) 　　■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2) 　○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population. 　　■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1) 　　■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2) 　○ 1.5. Awareness of Needs. Students' families and communities understand similarities and differences with respect to the development and characteristics of advanced and typical learners and support students with gifts and talents' needs. 　　■ Educators collaborate with families in accessing resources to develop their child's talents. (1.5.1) 　○ 1.6. Cognitive and Affective Growth. Students with gifts and talents benefit from meaningful and challenging learning activities addressing their unique characteristics and needs. 　　■ Educators design interventions for students to develop cognitive and affective growth that is based on research of effective practices. (1.6.1) 　○ 1.8. Cognitive and Affective Growth. Students with gifts and talents identify future career goals that match their talents and abilities and resources needed to meet those goals (e.g., higher education opportunities, mentors, financial support). 　　■ Teachers and counselors implement a curriculum scope and sequence that contains

person/social awareness and adjustment, academic planning, and vocational and career awareness. (1.8.2)

- **NAGC Standard 3 - Curriculum Planning and Instruction: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.**

  - 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year.
    - Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1)
    - Educators design and use a comprehensive and continuous scope and sequence to develop differentiated plans for PK-12 students with gifts and talents. (3.1.2)
    - Educators design differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive, and complex content for students with gifts and talents. (3.1.4)
    - Educators use pre-assessments and pace instruction based on the learning rates of students with gifts and talents and accelerate and compact learning as appropriate. (3.1.6)
    - Educators use information and technologies, including assistive technologies, to individualize for students with gifts and talents, including those who are twice-exceptional. (3.1.7)
  - 3.4. Instructional Strategies. Students with gifts and talents become independent investigators.
    - Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1)
    - Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2)
    - Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
  - 3.5. Culturally Relevant Curriculum. Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society.
    - Educators develop and use challenging, culturally responsive curriculum to engage all students with gifts and talents. (3.5.1)

- **NAGC Standard 4 - Learning Environment: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
  - 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
    - Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
    - Educators create environments that support trust among diverse learners. (4.1.3)

Gifted & Talented - Engineering (Grade 3)	
Unit Focus: Environmental Engineering	**Pacing:** Cycle 2 (December - March)

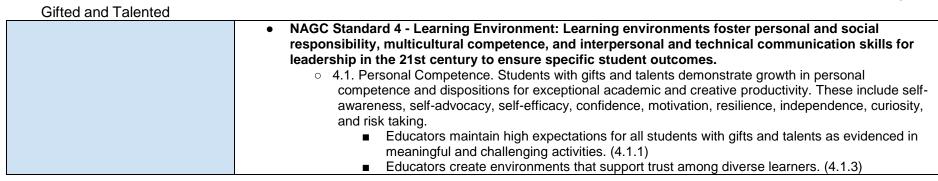| Unit Overview |
|---|
| The Engineering is Elementary (EiE) project fosters engineering and technological literacy among children. EiE has created a research-based, standards-driven, and classroom-tested curriculum that integrates engineering and technology concepts and skills with elementary science topics, while integrating social studies and language arts. Through a hands-on engineering design challenge, students work in teams to apply their knowledge of science and mathematics; use their inquiry and problem-solving skills; and tap into their creativity as they design, create, and improve possible solutions. |

NJSLS - Science Performance Expectations:	**3-5-ETS1: Engineering Design** - Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1) - 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. (3-5-ETS1-2) - 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. (3-5-ETS1-3) **3-LS4: Biological Evolution: Unity and Diversity** - Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. (3-LS4-2) - Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. (3-LS4-3) - Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. (3-LS4-4) **5-LS2: Ecosystems: Interactions, Energy, & Dynamics** - Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. (5-LS2-1)
NJSLS - Mathematics	**5.MD - Measurement and Data:** *B. Represent and interpret data.* - Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were redistributed equally. (5.MD.B.2)
NJSLS - Standards for Mathematical Practice	- MP1 - Make sense of problems and persevere in solving them. - MP2 - Reason abstractly and quantitatively. - MP4 - Model with mathematics. - MP5 - Use appropriate tools strategically.

NJSLS - ELA:	● R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text. ● 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.5.2. Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text. ● SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
NJSLS Career Ready Practices:	● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP7. Employ valid and reliable research strategies. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence.

International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 1 - Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.**
	  ○ Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. (1a)
	  ○ Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. (1c)
	● **ISTE Standard 4 -Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.**
	  ○ Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a)

National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: - Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.**
	  ○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains.
	    ■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1)
	    ■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2)
	  ○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population.
	    ■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1)

- ■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2)
  - ○ 1.5. Awareness of Needs. Students' families and communities understand similarities and differences with respect to the development and characteristics of advanced and typical learners and support students with gifts and talents' needs.
    - ■ Educators collaborate with families in accessing resources to develop their child's talents. (1.5.1)
  - ○ 1.6. Cognitive and Affective Growth. Students with gifts and talents benefit from meaningful and challenging learning activities addressing their unique characteristics and needs.
    - ■ Educators design interventions for students to develop cognitive and affective growth that is based on research of effective practices. (1.6.1)

  - ○ 1.8. Cognitive and Affective Growth. Students with gifts and talents identify future career goals that match their talents and abilities and resources needed to meet those goals (e.g., higher education opportunities, mentors, financial support).
    - ■ Teachers and counselors implement a curriculum scope and sequence that contains person/social awareness and adjustment, academic planning, and vocational and career awareness. (1.8.2)
- ● **NAGC Standard 3 - Curriculum Planning and Instruction: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.**

  - ○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year.
    - ■ Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1)
    - ■ Educators design and use a comprehensive and continuous scope and sequence to develop differentiated plans for PK-12 students with gifts and talents. (3.1.2)
    - ■ Educators design differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive, and complex content for students with gifts and talents. (3.1.4)
    - ■ Educators use pre-assessments and pace instruction based on the learning rates of students with gifts and talents and accelerate and compact learning as appropriate. (3.1.6)
    - ■ Educators use information and technologies, including assistive technologies, to individualize for students with gifts and talents, including those who are twice-exceptional. (3.1.7)
  - ○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators.
    - ■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1)
    - ■ Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2)
    - ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
  - ○ 3.5. Culturally Relevant Curriculum. Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society.
    - ■ Educators develop and use challenging, culturally responsive curriculum to engage all students with gifts and talents. (3.5.1)

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● **NAGC Standard 4 - Learning Environment: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
    ○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
        ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
        ■ Educators create environments that support trust among diverse learners. (4.1.3)

Gifted & Talented - ELA (Grade 3)	
Unit Focus: Poetry	**Pacing:** Cycle 3 (March - June)

Unit Overview
This genre study is designed to help students develop an understanding of how to analyze poetry and how to compose their own poems. Children begin the unit by studying the various aspects of poetry. Throughout the study, students learn to think like poets as they examine, analyze, and respond to published poems. Students craft their own poems, borrowing elements and structures from the poems they have studied. (Accelerated Literacy Learning, Copyright 2012-2013).

NJSLS - ELA:	- 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.3.5. Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections. - RL.3.10. 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.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. - RF.3.4.B. Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression. - SL.3.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly: - Explicitly draw on previously read text or material and other information known about the topic to explore ideas under discussion. (SL.3.1.a) - Follow agreed-upon norms for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion). (SL.3.1.b) - Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others. (SL.3.1.c) - Explain their own ideas and understanding in light of the discussion. (SL3.1.d) - RL.5.2. Determine the key details in a story, drama or poem to identify the theme and to summarize the text.
NJSLS - Standards for Mathematical Practice	- MP1 - Make sense of problems and persevere in solving them - MP2 - Reason abstractly and quantitatively.
NJSLS - Science Performance Expectation:	**3-5-ETS1 Engineering Design** - 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. (3-5-ETS1-2)
NJSLS Career Ready Practices:	- CRP4. Communicate clearly and effectively and with reason. - CRP6. Demonstrate creativity and innovation. - CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
International Society for Technology in Education (ISTE) Standards For Students:	**ISTE Standard 6 - Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.** - Students create original works or responsibly repurpose or remix digital resources into new creations. (6b)
National Association for Gifted Children (NAGC)	**NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.**

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Standards:	
	○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains. 　■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1) 　■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2) ○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population. 　■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1) 　■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2) ○ 1.5. Awareness of Needs. Students' families and communities understand similarities and differences with respect to the development and characteristics of advanced and typical learners and support students with gifts and talents' needs. 　■ Educators collaborate with families in accessing resources to develop their child's talents. (1.5.1) ○ 1.6. Cognitive and Affective Growth. Students with gifts and talents benefit from meaningful and challenging learning activities addressing their unique characteristics and needs. 　■ Educators design interventions for students to develop cognitive and affective growth that is based on research of effective practices. (1.6.1) ○ 1.8. Cognitive and Affective Growth. Students with gifts and talents identify future career goals that match their talents and abilities and resources needed to meet those goals (e.g., higher education opportunities, mentors, financial support). 　■ Teachers and counselors implement a curriculum scope and sequence that contains person/social awareness and adjustment, academic planning, and vocational and career awareness. (1.8.2) ● **NAGC Standard 3 - Curriculum Planning and Instruction: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.** ○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year. 　■ Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1) 　■ Educators design and use a comprehensive and continuous scope and sequence to develop differentiated plans for PK-12 students with gifts and talents. (3.1.2) 　■ Educators design differentiated curricula that incorporate advanced, conceptually challenging, in-depth, distinctive, and complex content for students with gifts and talents. (3.1.4) 　■ Educators use pre-assessments and pace instruction based on the learning rates of students with gifts and talents and accelerate and compact learning as appropriate. (3.1.6) 　■ Educators use information and technologies, including assistive technologies, to individualize for students with gifts and talents, including those who are twice-exceptional. (3.1.7)

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	○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators.
	  ■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1)
	  ■ Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2)
	  ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
	○ 3.5. Culturally Relevant Curriculum. Students with gifts and talents develop knowledge and skills for living and being productive in a multicultural, diverse, and global society.
	  ■ Educators develop and use challenging, culturally responsive curriculum to engage all students with gifts and talents. (3.5.1)
	● **NAGC Standard 4 - Learning Environment: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
	○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
	  ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
	  ■ Educators create environments that support trust among diverse learners. (4.1.3)

Gifted & Talented - Math (Grade 4)	
Unit Focus: Probability	**Pacing:** Cycle 1 (September - December)

Unit Overview	

Project M3's increased depth, complexity, and research-based best practices in the field of gifted education curriculum development has created a mathematical experience that is both appropriately challenging and engaging for talented math students. Aligned to the New Jersey Student Learning Standards, including an emphasis on the Standards for Mathematical Practice, Project M3 infuses mathematical discourse, problem solving, and the spirit of inquiry in a real-world context.

In this unit, students begin the exploration of probability as a measurement of a likelihood of events. Children will have an opportunity to think deeply about the big ideas of probability as they conduct experiments, gather data, and analyze results. As true mathematicians do, they will be predicting, discovering patterns, making generalization, and justifying their reasons.

NJSLS - Mathematics:	● **7.SP.C: Investigate chance processes and develop, use, and evaluate probability models.**
	  ○ Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. (7.SP.C.5)
	  ○ Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. (7.SP.C.6)
	  ○ Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. (7.SP.C.7)
	    ■ Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. *For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected.* (7.SP.C.7.a)
	  ○ Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. (7.SP.C.8)
	    ■ Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. (7.SP.C.8.a)
	    ■ Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. (7.SP.C.8.b)

NJSLS - Standards for Mathematical Practice:	● MP1 - Make sense of problems and persevere in solving them ● MP2 - Reason abstractly and quantitatively. ● Mp3- Construct viable arguments and critique the reasoning of others ● Mp4 - Model with mathematics ● Mp5 - Use appropriate tools strategically.

NJSLS - Science Performance Expectations:	● **3-5-ETS1: Engineering Design**
	  ○ Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)
	  ○ 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. (3-5-ETS1-2)
	  ○ 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. (3-5-ETS1-3)

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NJSLS - ELA:	● R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed. ● W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. ● 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. ● 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. ● SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
NJSLS Career Ready Practices:	● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP3. Attend to personal health and financial well-being. ● CRP4. Communicate clearly and effectively and with reason. ● CRP6. Demonstrate creativity and innovation. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence

International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 1 - Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.**
	   ○ Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. (1a)
	   ○ Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. (1c)
	● **ISTE Standard 3 - Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.**
	   ○ Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits. (3a)
	   ○ Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions. (3d)
	● **ISTE Standard 4 - Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.**
	   ○ Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a)
	   ○ Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks. (4b)
	   ○ Students develop, test and refine prototypes as part of a cyclical design process. (4c)
	   ○ Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. (4d)

National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure**

specific student outcomes.
- ○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains.
  - ■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1)
  - ■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2)
- ○ 1.2. Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior.
  - ■ Educators develop activities that match each student's developmental level and culture-based learning needs. (1.2.1)
- ○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population.
  - ■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1)
  - ■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2)
- ○ 1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire.
  - ■ Teachers enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them. (1.7.1)

- ● **NAGC Standard 3 - Curriculum Planning and Instruction Description: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.**
  - ○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year.
    - ■ Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1)
  - ○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators.
    - ■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1)
    - ■ Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2)
    - ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
    - ■ Educators use inquiry models to meet the needs of students with gifts and talents. (3.4.4)
- ● **NAGC Standard 4 - Learning Environments Description: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
  - ○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
    - ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
    - ■ Educators create environments that support trust among diverse learners. (4.1.3)
    - ■ Educators provide feedback that focuses on effort, on evidence of potential to meet high standards, and on mistakes as learning opportunities. (4.1.4)

	■ Educators provide examples of positive coping skills and opportunities to apply them. (4.1.5) ● **NAGC Standard 5 - Programming: Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes.** 　○ 5.1. Variety of Programming. Students with gifts and talents participate in a variety of evidence based programming options that enhance performance in cognitive and affective areas. 　　■ Educators regularly use multiple alternative approaches to accelerate learning. (5.1.1) 　　■ Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting. (5.1.2)

Gifted and Talented

Gifted & Talented - Engineering (Grade 4)	
Unit Focus: Design Engineering with LEGO MindStorms	**Pacing:** Cycle 2 (December - March)

Unit Overview
Aligned to national content and international technology standards, this unit immerses students in physical science, technology, and mathematical concepts. By leveraging a robotics engineering context, students will employ computational thinking as they collaboratively brainstorm creative solutions to problems and then develop these solutions through a process of designing, testing, and evaluating. Throughout the Engineering Design Process, emphasis is also placed on computational thinking, technical writing, oral and written communication skills, and collaboration as students progress through the unit of study.

NJSLS - Science Performance Expectations:	● **3-5-ETS1: Engineering Design**
	   ○ Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)
	   ○ 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. (3-5-ETS1-2)
	   ○ 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. (3-5-ETS1-3)
	● **HS-ETS1: Engineering Design**
	   ○ Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. (HS-ETS1-2)

NJSLS - Mathematics:	● **6.RP.A: Understand ratio concepts and use ratio reasoning to solve problems.**
	   ○ Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities. *For example, "The ratio of wings to beaks in the bird house at the zoo was 2:1, because for every 2 wings there was 1 beak." "For every vote candidate A received, candidate C received nearly three votes."* (6.RP.A.1)
	   ○ Understand the concept of a unit rate a/b associated with a ratio a:b with b ≠0, and use rate language in the context of a ratio relationship. *For example, "This recipe has a ratio of 3 cups of flour to 4 cups of sugar, so there is 3/4 cup of flour for each cup of sugar." "We paid $75 for 15 hamburgers, which is a rate of $5 per hamburger."* (6.RP.A.2)
	   ○ 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. (6.RP.A.3)
	      ■ Use ratio reasoning to convert measurement units; manipulate and transform units appropriately when multiplying or dividing quantities. (6.RP.A.d)
	● **7.RP.A Analyze proportional relationships and use them to solve real-world and mathematical problems.**
	   ○ Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.* (7.RP.A.3)

NJSLS - Standards for Mathematical Practice:	● MP1 - Make sense of problems and persevere in solving them ● Mp2 - Reason abstractly and quantitatively. ● Mp3- Construct viable arguments and critique the reasoning of others ● Mp4 - Model with mathematics ● Mp5 - Use appropriate tools strategically. ● MP6 - Attend to precision

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NJSLS-Technology:	**8.2 Technology Education, Engineering, Design and Computational Thinking - Programming** - Identify how computer programming impacts our everyday lives. (8.2.5.E.1) - Demonstrate an understanding of how a computer takes input of data, processes and stores the data through a series of commands, and outputs information. (8.2.5.E.2) - Using a simple, visual programming language, create a program using loops, events and procedures to generate specific output. (8.2.5.E.3) - Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events, procedures, memory, storage, processing, software, coding, procedure, and data). (8.2.5.E.4) - Identify the steps in the design process that would be used to solve a designated problem. (8.2.8.C.4) - Identify ways computers are used that have had an impact across the range of human activity and within different careers where they are used. (8.2.8.E.1) - Demonstrate an understanding of the problem-solving capacity of computers in our world. (8.2.12.E.1) - Use a programming language to solve problems or accomplish a task (e.g., robotic functions, website designs, applications, and games). (8.2.12.E.3)
NJSLS - ELA:	- R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed. - W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. - 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. - 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.
NJSLS Career Ready Practices:	- CRP1. Act as a responsible and contributing citizen and employee. - CRP2. Apply appropriate academic and technical skills. - CRP4. Communicate clearly and effectively and with reason. - CRP6. Demonstrate creativity and innovation. - CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. - CRP9. Model integrity, ethical leadership and effective management. - CRP11. Use technology to enhance productivity. - CRP12. Work productively in teams while using cultural global competence.
International Society for Technology in Education (ISTE) Standards For Students:	**ISTE Standard 3 - Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.** - Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits. (3a) - Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions. (3d) **ISTE Standard 4 - Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.** - Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a) - Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks. (4b) - Students develop, test and refine prototypes as part of a cyclical design process. (4c) - Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. (4d)

	● **ISTE Standard 5 - Computational Thinker: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.** ○ Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. (5a) ○ Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.(5d)
National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.** ○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains. ■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1) ■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2) ○ 1.2. Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior. ■ Educators develop activities that match each student's developmental level and culture-based learning needs. (1.2.1) ○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population. ■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1) ■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2) ○ 1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire. ■ Teachers enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them. (1.7.1) ● **NAGC Standard 3: Curriculum Planning and Instruction Description: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.** ○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year. ■ Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1) ○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators. ■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1) ■ Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2) ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3) ■ Educators use inquiry models to meet the needs of students with gifts and talents. (3.4.4) ● **NAGC Standard 4 - Learning Environments Description: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**

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○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
    ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
    ■ Educators create environments that support trust among diverse learners. (4.1.3)
    ■ Educators provide feedback that focuses on effort, on evidence of potential to meet high standards, and on mistakes as learning opportunities. (4.1.4)
    ■ Educators provide examples of positive coping skills and opportunities to apply them. (4.1.5)
● **NAGC Standard 5 - Programming: Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes.**
    ○ 5.1. Variety of Programming. Students with gifts and talents participate in a variety of evidence based programming options that enhance performance in cognitive and affective areas.
        ■ Educators regularly use multiple alternative approaches to accelerate learning. (5.1.1)
        ■ Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting. (5.1.2)

Gifted & Talented - ELA (Grade 4)	
Unit Focus: Shakespeare for Kids	**Pacing:** Cycle 3 (March - June)

Unit Overview
This author study is designed to introduce students to Shakespeare and performance art. During the unit, students will explore Shakespeare's rich language, universal stories, and examine his modern culture and linguistic influence. Building on that foundation, elements of performance will be utilized, enabling students to practice the language and to engage with the text in a creative and accessible manner.

NJSLS - ELA:	- 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. - RL.7.3. Analyze how particular elements of a story or drama interact (e.g., how setting shapes the characters or plot). - RL.7.5. Analyze how a drama's or poem's form or structure (e.g., soliloquy, sonnet) contributes to its meaning. - RL.7.9. Compare, contrast and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history. - 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.6.4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings. - RI.6.10. By the end of the year read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed. - W.6.4. Produce clear and coherent writing in which the development, organization, voice and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) - 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.6.9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

	○ A. Apply *grade 6 Reading standards* to literature (e.g., "Compare and contrast texts in different forms or genres [e.g., stories and poems; historical novels and fantasy stories] in terms of their approaches to similar themes and topics").
	● W.6.10. Write routinely over extended time frames (time for research, reflection, metacognition/self correction, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
	● 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.
	    ○ A. Come to discussions prepared, having read or studied required material; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.
	    ○ B. Follow rules for collegial discussions, set specific goals and deadlines, and define individual roles as needed.
	    ○ C. Pose and respond to specific questions with elaboration and detail by making comments that contribute to the topic, text, or issue under discussion.
	    ○ D. Review the key ideas expressed and demonstrate understanding of multiple perspectives through reflection and paraphrasing.
	● SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.
	● 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.6.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate.

NJSLS - Science Performance Expectation:	● **3-5-ETS1 Engineering Design** ○ 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. (3-5-ETS1-2)
NJSLS Career Ready Practices:	● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP4. Communicate clearly and effectively and with reason. ● CRP6. Demonstrate creativity and innovation. ● CRP9. Model integrity, ethical leadership and effective management. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence.

International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 3 - Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.**
	    ○ Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits. (3a)
	    ○ Students evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources. (3b)
	    ○ Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions. (3c)
	    ○ Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions. (3d)

	● **ISTE Standard 6 - Creative Communicator:Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.** 　○ Students choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. (6a) 　○ Students publish or present content that customizes the message and medium for their intended audiences. (6d)
National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.** 　○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains. 　　■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1) 　　■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2) 　○ 1.2. Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior. 　　■ Educators develop activities that match each student's developmental level and culture-based learning needs. (1.2.1) 　○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population. 　　■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1) 　　■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2) 　○ 1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire. 　　■ Teachers enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them. (1.7.1) ● **NAGC Standard 3 - Curriculum Planning and Instruction Description: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.** 　○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year. 　　■ Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1) 　○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators. 　　■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1) 　　■ Educators use creative-thinking strategies to meet the needs of students with gifts and

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talents. (3.4.2)
- ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
- ■ Educators use inquiry models to meet the needs of students with gifts and talents. (3.4.4)
- **NAGC Standard 4 - Learning Environments Description: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
  - ○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
    - ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
    - ■ Educators create environments that support trust among diverse learners. (4.1.3)
    - ■ Educators provide feedback that focuses on effort, on evidence of potential to meet high standards, and on mistakes as learning opportunities. (4.1.4)
    - ■ Educators provide examples of positive coping skills and opportunities to apply them. (4.1.5)
- **NAGC Standard 5 - Programming: Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes.**
  - ○ 5.1. Variety of Programming. Students with gifts and talents participate in a variety of evidence based programming options that enhance performance in cognitive and affective areas.
    - ■ Educators regularly use multiple alternative approaches to accelerate learning. (5.1.1)
    - ■ Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting. (5.1.2)

Gifted and Talented

Gifted & Talented - Math (Grade 5)

Unit Focus: Bootstrap Algebra	**Pacing:** Cycle 1 (September - December)

Unit Overview
This unit teaches algebraic and geometric concepts through computer programming. Backed by decades of research in math and computer science education, Bootstrap applies mathematical concepts and rigorous programming principles to creating a simple video game, and is aligned to the New Jersey Student Learning Standards for Mathematics.

NJSLS - Math:	**5.G.A: Graph points on the coordinate plane to solve real-world and mathematical problems.** - Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate). (5.G.A.1) - Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation. (5.G.A.2) **5.OA.A: Write and interpret numerical expressions.** - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. (5.OA.A.1) - Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. *For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.* (5.OA.A.2) **6.NS.C: Apply and extend previous understandings of numbers to the system of rational numbers.** - Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. (6.NS.C.5) - Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates. (6.NS.C.6) - Recognize opposite signs of numbers as indicating locations on opposite sides of 0 on the number line; recognize that the opposite of the opposite of a number is the number itself, e.g., $-(-3) = 3$, and that 0 is its own opposite. (6.NS.C.6.a) - Understand signs of numbers in ordered pairs as indicating locations in quadrants of the coordinate plane; recognize that when two ordered pairs differ only by signs, the locations of the points are related by reflections across one or both axes. (6.NS.C.6.b) - Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane. (6.NS.C.6.c) - Understand ordering and absolute value of rational numbers. (6.NS.C.7) - Interpret statements of inequality as statements about the relative position of two numbers on a number line diagram. *For example, interpret $-3 > -7$ as a statement that -3 is located to the right of -7 on a number line oriented from left to right.* (6.NS.C.7.a) - Write, interpret, and explain statements of order for rational numbers in real-world contexts. *For example, write $-3\ o\ C > -7\ o\ C$ to express the fact that $-3\ o\ C$ is warmer than $-7\ o\ C$.* (6.NS.C.7.b) - Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real world situation. *For example, for an account balance of -30 dollars, write $|-30| = 30$ to describe the size of the debt in dollars.* (6.NS.C.7.c)

	■ Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars.* (6.NS.C.7.d) ○ Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate. (6.NS.C.8) ● **7.EE.B: Solve real-life and mathematical problems using numerical and algebraic expressions and equations.** ○ Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. *For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation.* (7.EE.B.3) ○ Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities. (7.EE.B.4) ■ Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. *For example, the perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width?* (7.EE.B.4.a) ■ Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific rational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. *For example: As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions.* (7.EE.B.4.b) ● **8.F.A: Define, evaluate, and compare functions** ○ 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. (8.F.A.1) ○ Compare properties (e.g. rate of change, intercepts, domain and range) of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* (8.F.A.2) ○ Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function A = s2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.* (8.F.A.3) ● **8.G.B: Understand and apply the Pythagorean Theorem** ○ Explain a proof of the Pythagorean Theorem and its converse. (8.G.B.6) ○ 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.7) ○ Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. (8.G.B.8)
NJSLS - Standards for Mathematical Practice:	● MP1 - Make sense of problems and persevere in solving them. ● MP2 - Reason abstractly and quantitatively. ● MP4 - Model with mathematics. ● MP5 - Use appropriate tools strategically.
NJSLS-Technology:	● **8.2: Technology Education, Engineering, Design and Computational Thinking - Programming** ○ Identify how computer programming impacts our everyday lives. (8.2.5.E.1) ○ Demonstrate an understanding of how a computer takes input of data, processes and stores the data through a series of commands, and outputs information. (8.2.5.E.2) ○ Using a simple, visual programming language, create a program using loops, events and procedures to generate specific output. (8.2.5.E.3) ○ Use appropriate terms in conversation (e.g., algorithm, program, debug, loop, events, procedures, memory, storage, processing, software, coding, procedure, and data). (8.2.5.E.4) ○ Identify the steps in the design process that would be used to solve a designated problem. (8.2.8.C.4)

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	○ Identify ways computers are used that have had an impact across the range of human activity and within different careers where they are used. (8.2.8.E.1) ○ Develop an algorithm to solve an assigned problem using a specified set of commands and use peer review to critique the solution. (8.2.8.E.3) ○ Use appropriate terms in conversation (e.g., programming, language, data, RAM, ROM, Boolean logic terms). (8.2.8.E.4) ○ Demonstrate an understanding of the problem-solving capacity of computers in our world. (8.2.12.E.1) ○ Use a programming language to solve problems or accomplish a task (e.g., robotic functions, website designs, applications, and games). (8.2.12.E.3)
NJSLS - Science Performance Expectations:	● **3-5-ETS1: Engineering Design** ○ Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1) ○ 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. (3-5-ETS1-2) ○ 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. (3-5-ETS1-3)
NJSLS - ELA:	● 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. ● 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. ● SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
NJSLS Career Ready Practices:	● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP3. Attend to personal health and financial well-being. ● CRP4. Communicate clearly and effectively and with reason. ● CRP6. Demonstrate creativity and innovation. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership, and effective management. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence.
International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 1 - Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.** ○ Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. (1a) ○ Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. (1c) ○ Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. (1d) ● **ISTE Standard 4 - Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.** ○ Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a) ○ Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. (4d) ● **ISTE Standard 5 - Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.** ○ Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. (5c) ○ Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. (5d)

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National Association for Gifted Children (NAGC) Standards:	**NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.** 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains. - Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1) - Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2) 1.2. Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior. - Educators develop activities that match each student's developmental level and culture-based learning needs. (1.2.1) 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population. - Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1) - Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2) 1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire. - Teachers enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them. (1.7.1) **NAGC Standard 3 - Curriculum Planning and Instruction Description: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.** 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year. - Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1) 3.4. Instructional Strategies. Students with gifts and talents become independent investigators. - Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1) - Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2) - Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3) - Educators use inquiry models to meet the needs of students with gifts and talents. (3.4.4) **NAGC Standard 4 - Learning Environments Description: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.** 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking. - Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1) - Educators create environments that support trust among diverse learners. (4.1.3) - Educators provide feedback that focuses on effort, on evidence of potential to meet high standards, and on mistakes as learning opportunities. (4.1.4) - Educators provide examples of positive coping skills and opportunities to apply them. (4.1.5) **NAGC Standard 5 - Programming: Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes.** 5.1. Variety of Programming. Students with gifts and talents participate in a variety of evidence based programming options that enhance performance in cognitive and affective areas.

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	■ Educators regularly use multiple alternative approaches to accelerate learning. (5.1.1) ■ Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting. (5.1.2)

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Gifted & Talented - Engineering (Grade 5)	
Unit Focus: iRock: A History of Invention	**Pacing:** Cycle 2 (December - March)

Unit Overview
In this unit, students explore the interplay between the creative process and the inventions that have shaped human history. From the chiseled spear to the steam engine and into a future of photovoltaic glass, "iRock" looks at the way humanity's necessities have led to invention. Guided through Graham Wallas' creative process, students will culminate their study with their very own submission to the United States Patent Office!

NJSLS - Science Performance Expectations:	● **3-5-ETS1: Engineering Design** 　○ Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1) 　○ 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. (3-5-ETS1-2) 　○ 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. (3-5-ETS1-3)
NJSLS - Technology:	● **8.1 Educational Technology** 　○ Understand the need for and use of copyrights. (8.1.5.D.1) ● **8.2 Technology Education, Engineering, Design and Computational Thinking - Programming** 　○ Compare and contrast how products made in nature differ from products that are human made in how they are produced and used. (8.2.5.A.1) 　○ Investigate and present factors that influence the development and function of a product and a system. (8.2.5.A.2) 　○ Investigate and present factors that influence the development and function of products and systems, e.g., resources, criteria and constraints. (8.2.5.A.3) 　○ Compare and contrast how technologies have changed over time due to human needs and economic, political and/or cultural influences. (8.2.5.A.4) 　○ Identify how improvement in the understanding of materials science impacts technologies. (8.2.5.A.5) 　○ Research technologies that have changed due to society's changing needs and wants. (8.2.5.B.4) 　○ Explain the purpose of intellectual property law. (8.2.5.B.5) 　○ Compare and discuss how technologies have influenced history in the past century. (8.2.5.B.6) 　○ Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries and societies. (8.2.8.B.5) 　○ Compare and contrast the different types of intellectual property including copyrights, patents and trademarks. (8.2.8.B.6) 　○ Investigate a technology used in a given period of history, e.g., stone age, industrial revolution or information age, and identify their impact and how they may have changed to meet human needs and wants. (8.2.12.B.4) 　○ Work with peers to redesign an existing product for a different purpose. (8.2.5.C.7) 　○ Analyze a product and how it has changed or might change over time to meet human needs and wants. (8.2.12.C.2)
NJSLS Career Ready Practices:	● CRP1. Act as a responsible and contributing citizen and employee. ● CRP2. Apply appropriate academic and technical skills. ● CRP3. Attend to personal health and financial well-being. ● CRP4. Communicate clearly and effectively and with reason. ● CRP5. Consider the environmental, social, and economic impacts of decisions. ● CRP6. Demonstrate creativity and innovation. ● CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. ● CRP9. Model integrity, ethical leadership, and effective management. ● CRP11. Use technology to enhance productivity. ● CRP12. Work productively in teams while using cultural global competence
NJSLS - Standards for Mathematical Practice:	● MP1 - Make sense of problems and persevere in solving them ● MP2 - Reason abstractly and quantitatively.

	● MP4 - Model with mathematics ● MP5 - Use appropriate tools strategically.
NJSLS - ELA:	● R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed. ● W10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences. ● 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. ● 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.

International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 1 - Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.**
	  ○ Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. (1a)
	  ○ Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. (1c)
	  ○ Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. (1d)
	● **ISTE Standard 4 - Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.**
	  ○ Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a)
	  ○ Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. (4d)

National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.**
	  ○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains.
	    ■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1)
	    ■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2)
	  ○ 1.2. Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior.
	    ■ Educators develop activities that match each student's developmental level and culture-based learning needs. (1.2.1)
	  ○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population.
	    ■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1)
	    ■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2)
	  ○ 1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire.
	    ■ Teachers enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them. (1.7.1)
	● **NAGC Standard 3 - Curriculum Planning and Instruction Description: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional strategies to ensure specific student outcomes.**
	  ○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year.
	    ■ Educators use local, state, and national standards to align and expand curriculum and instructional plans.

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(3.1.1)
- ○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators.
  - ■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1)
  - ■ Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2)
  - ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
  - ■ Educators use inquiry models to meet the needs of students with gifts and talents. (3.4.4)
- **NAGC Standard 4 - Learning Environments Description: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
  - ○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
    - ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
    - ■ Educators create environments that support trust among diverse learners. (4.1.3)
    - ■ Educators provide feedback that focuses on effort, on evidence of potential to meet high standards, and on mistakes as learning opportunities. (4.1.4)
    - ■ Educators provide examples of positive coping skills and opportunities to apply them. (4.1.5)
- **NAGC Standard 5 - Programming: Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes.**
  - ○ 5.1. Variety of Programming. Students with gifts and talents participate in a variety of evidence based programming options that enhance performance in cognitive and affective areas.
    - ■ Educators regularly use multiple alternative approaches to accelerate learning. (5.1.1)
    - ■ Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting. (5.1.2)

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Gifted & Talented - ELA (Grade 5)

Unit Focus: Public Speaking & Debates	Pacing: Cycle 3 (March - June)

Unit Overview
This unit immerses students in the formal debate structure and empowers individuals to be more confident and proficient public speakers. Designed to promote critical literacy, children will explore relevant and authentic topics, consider each side of a debate, construct an argument grounded in evidence, and articulate a position. Along the way, students will uncover the art of public speaking and explore specific strategies to enhance their communicative abilities including voice volume and inflection, projecting confidence, audience engagement, and effective gestures and movement. The experience culminates with student teams engaging in formal debates with a variety of audiences.

NJSLS - ELA:	- 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. - RI.7.3 - Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events). - RI.8.8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced. - RI.8.9. Analyze and reflect on (e.g. practical knowledge, historical/cultural context, and background knowledge) two or more texts that provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation. - SL.8.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. - Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion. (SL.8.1.a) - Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed. (SL.8.1.b) - Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant evidence, observations, and ideas. (SL.8.1.c) - Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented. (SL.8.1.d) - SL.8.3. Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced. - SL.8.4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation. - SL.8.6. Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. - L.7.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. - Explain the function of phrases and clauses in general and their function in specific sentences. (L.7.1.a) - Choose among simple, compound, complex, and compound-complex sentences to signal differing relationships among ideas. (L.7.1.b) - Place phrases and clauses within a sentence, recognizing and correcting misplaced and dangling modifiers. (L.7.1.c)
NJSLS Career Ready Practices:	- CRP1. Act as a responsible and contributing citizen and employee. - CRP2. Apply appropriate academic and technical skills. - CRP3. Attend to personal health and financial well-being. - CRP4. Communicate clearly and effectively and with reason. - CRP7. Employ valid and reliable research strategies. - CRP8. Utilize critical thinking to make sense of problems and persevere in solving them. - CRP9. Model integrity, ethical leadership, and effective management. - CRP11. Use technology to enhance productivity. - CRP12. Work productively in teams while using cultural global competence.

Gifted and Talented

NJSLS - Standards for Mathematical Practice:	● MP1 - Make sense of problems and persevere in solving them ● MP2 - Reason abstractly and quantitatively. ● MP4 - Model with mathematics ● MP5 - Use appropriate tools strategically.
International Society for Technology in Education (ISTE) Standards For Students:	● **ISTE Standard 1 - Empowered Learner: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.** 　○ Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes. (1a) 　○ Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. (1c) 　○ Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies. (1d) ● **ISTE Standard 4 - Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.** 　○ Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. (4a) 　○ Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. (4d) ● **ISTE Standard 6 - Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals.** 　○ Students communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. (6c) 　○ Students publish or present content that customizes the message and medium for their intended audiences. (6d) ● **ISTE Standard 7 - Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.** 　○ Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal. (7c) 　○ Students explore local and global issues and use collaborative technologies to work with others to investigate solutions. (7d)
National Association for Gifted Children (NAGC) Standards:	● **NAGC Standard 1 - Learning and Development: Educators, recognizing the learning and developmental differences of students with gifts and talents, promote ongoing self-understanding, awareness of their needs, and cognitive and affective growth of these students in school, home, and community settings to ensure specific student outcomes.** 　○ 1.1. Self-Understanding. Students with gifts and talents demonstrate self-knowledge with respect to their interests, strengths, identities, and needs in socio-emotional development and in intellectual, academic, creative, leadership, and artistic domains. 　　■ Educators engage students with gifts and talents in identifying interests, strengths, and gifts. (1.1.1) 　　■ Educators assist students with gifts and talents in developing identities supportive of achievement. (1.1.2) 　○ 1.2. Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior. 　　■ Educators develop activities that match each student's developmental level and culture-based learning needs. (1.2.1) 　○ 1.3. Self-Understanding. Students with gifts and talents demonstrate understanding of and respect for similarities and differences between themselves and their peer group and others in the general population. 　　■ Educators provide a variety of research-based grouping practices for students with gifts and talents that allow them to interact with individuals of various gifts, talents, abilities, and strengths. (1.3.1) 　　■ Educators model respect for individuals with diverse abilities, strengths, and goals. (1.3.2) 　○ 1.7. Cognitive and Affective Growth. Students with gifts and talents recognize their preferred approaches to learning and expand their repertoire. 　　■ Teachers enable students to identify their preferred approaches to learning, accommodate these preferences, and expand them. (1.7.1) ● **NAGC Standard 3 - Curriculum Planning and Instruction Description: Educators apply the theory and research-based models of curriculum and instruction related to students with gifts and talents and respond to their needs by planning, selecting, adapting, and creating culturally relevant curriculum and by using a repertoire of evidence-based instructional**

strategies to ensure specific student outcomes.
- ○ 3.1. Curriculum Planning. Students with gifts and talents demonstrate growth commensurate with aptitude during the school year.
  - ■ Educators use local, state, and national standards to align and expand curriculum and instructional plans. (3.1.1)

- ○ 3.4. Instructional Strategies. Students with gifts and talents become independent investigators.
  - ■ Educators use critical-thinking strategies to meet the needs of students with gifts and talents. (3.4.1)
  - ■ Educators use creative-thinking strategies to meet the needs of students with gifts and talents. (3.4.2)
  - ■ Educators use problem-solving model strategies to meet the needs of students with gifts and talents. (3.4.3)
  - ■ Educators use inquiry models to meet the needs of students with gifts and talents. (3.4.4)
- **NAGC Standard 4 - Learning Environments Description: Learning environments foster personal and social responsibility, multicultural competence, and interpersonal and technical communication skills for leadership in the 21st century to ensure specific student outcomes.**
  - ○ 4.1. Personal Competence. Students with gifts and talents demonstrate growth in personal competence and dispositions for exceptional academic and creative productivity. These include self-awareness, self-advocacy, self-efficacy, confidence, motivation, resilience, independence, curiosity, and risk taking.
    - ■ Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities. (4.1.1)
    - ■ Educators create environments that support trust among diverse learners. (4.1.3)
    - ■ Educators provide feedback that focuses on effort, on evidence of potential to meet high standards, and on mistakes as learning opportunities. (4.1.4)
    - ■ Educators provide examples of positive coping skills and opportunities to apply them. (4.1.5)
- **NAGC Standard 5 - Programming: Educators are aware of empirical evidence regarding (a) the cognitive, creative, and affective development of learners with gifts and talents, and (b) programming that meets their concomitant needs. Educators use this expertise systematically and collaboratively to develop, implement, and effectively manage comprehensive services for students with a variety of gifts and talents to ensure specific student outcomes.**
  - ○ 5.1. Variety of Programming. Students with gifts and talents participate in a variety of evidence based programming options that enhance performance in cognitive and affective areas.
    - ■ Educators regularly use multiple alternative approaches to accelerate learning. (5.1.1)
    - ■ Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting. (5.1.2).