



ESL
SCIENCE
BUSINESS
BILINGUAL
PRESCHOOL
MATHEMATICS
LIBRARY MEDIA
SOCIAL STUDIES
WORLD LANGUAGES
GIFTED & TALENTED
TECHNOLOGY EDUCATION
ENGLISH LANGUAGE ARTS
FINE & PERFORMING ARTS
FAMILY & CONSUMER SCIENCE
HEALTH & PHYSICAL EDUCATION

RAHWAY PUBLIC SCHOOLS

CURRICULUM & INSTRUCTION

Content Area: Gifted & Talented

Course: Gifted & Talented

Grade Level: 2-6

This curriculum is part of the Educational Program of Studies of the Rahway Public Schools.

ACKNOWLEDGMENTS

**Maureen Dalessio, Program Supervisor: English Language Arts/Social Studies 7-12,
Gifted and Talented K-12**

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Dr. Tiffany A. Beer, Director of Curriculum and Instruction

Subject/Course Title:
**Gifted and Talented Program
Grades 2 - 6**

Date of Board Adoption:
August 26, 2025

RAHWAY PUBLIC SCHOOLS CURRICULUM

Gifted and Talented: Grades 2 - 6

PACING GUIDE

Grade/Unit	Title	Pacing
<u>2 - 6</u>	Enrichment Activities	40 weeks
<u>2 - Unit 1</u>	Primary Education Thinking Skills (PETS)	15 weeks
<u>2 - Unit 2</u>	Storytime STEM	15 weeks
<u>2 - Unit 3</u>	Junior Achievement: Our Community	10 weeks
<u>3 - Unit 1</u>	All About Me	10 weeks
<u>3 - Unit 2</u>	Bridges: Introduction to Structures	10 weeks
<u>3 - Unit 3</u>	Battle of the Books	10 weeks
<u>3 - Unit 4</u>	Renewable Energy	10 weeks
<u>4 - Unit 1</u>	The Physics of Toys	10 weeks
<u>4 - Unit 2</u>	Coding: CS Fundamentals Course E - Code.org	10 weeks
<u>4 - Unit 3</u>	Battle of the Books	10 weeks
<u>4 - Unit 4</u>	American Symbols and Landmarks	10 weeks
<u>5 - Unit 1</u>	Expedition to Mars	10 weeks
<u>5 - Unit 2</u>	Robotics / Coding: Ozobots	10 weeks
<u>5 - Unit 3</u>	Junior Achievement: BizTown	10 weeks
<u>5 - Unit 4</u>	Environment / Biomes	10 weeks
<u>6 - Unit 1</u>	Forensic Science	10 weeks
<u>6 - Unit 2</u>	Coding: Breakbeat Code	20 weeks
<u>6 - Unit 3</u>	Junior Achievement: BizTown	10 weeks

ACCOMMODATIONS

<p>504 Accommodations:</p> <ul style="list-style-type: none"> ● Provide scaffolded vocabulary and vocabulary lists. ● Provide extra visual and verbal cues and prompts. ● Provide adapted/alternate/excerpted versions of the text and/or modified supplementary materials. ● Provide links to audio files and utilize video clips. ● Provide graphic organizers and/or checklists. ● Provide modified rubrics. ● Provide a copy of teaching notes, especially any key terms, in advance. ● Allow additional time to complete assignments and/or assessments. ● Provide shorter writing assignments. ● Provide sentence starters. ● Utilize small group instruction. ● Utilize Think-Pair-Share structure. ● Check for understanding frequently. ● Have student restate information. ● Support auditory presentations with visuals. ● Weekly home-school communication tools (notebook, daily log, phone calls or email messages). ● Provide study sheets and teacher outlines prior to assessments. ● Quiet corner or room to calm down and relax when anxious. ● Reduction of distractions. ● Permit answers to be dictated. ● Hands-on activities. ● Use of manipulatives. ● Assign preferential seating. ● No penalty for spelling errors or sloppy handwriting. ● Follow a routine/schedule. ● Provide student with rest breaks. ● Use verbal and visual cues regarding directions and staying on task. ● Assist in maintaining agenda book. 	<p>IEP Accommodations:</p> <ul style="list-style-type: none"> ● Provide scaffolded vocabulary and vocabulary lists. ● Differentiate reading levels of texts (e.g., Newsela). ● Provide adapted/alternate/excerpted versions of the text and/or modified supplementary materials. ● Provide extra visual and verbal cues and prompts. ● Provide links to audio files and utilize video clips. ● Provide graphic organizers and/or checklists. ● Provide modified rubrics. ● Provide a copy of teaching notes, especially any key terms, in advance. ● Provide students with additional information to supplement notes. ● Modify questioning techniques and provide a reduced number of questions or items on tests. ● Allow additional time to complete assignments and/or assessments. ● Provide shorter writing assignments. ● Provide sentence starters. ● Utilize small group instruction. ● Utilize Think-Pair-Share structure. ● Check for understanding frequently. ● Have student restate information. ● Support auditory presentations with visuals. ● Provide study sheets and teacher outlines prior to assessments. ● Use of manipulatives. ● Have students work with partners or in groups for reading, presentations, assignments, and analyses. ● Assign appropriate roles in collaborative work. ● Assign preferential seating. ● Follow a routine/schedule.
<p>Gifted and Talented Accommodations:</p> <ul style="list-style-type: none"> ● Differentiate reading levels of texts (e.g., Newsela). ● Offer students additional texts with higher lexile levels. ● Provide more challenging and/or more supplemental readings and/or activities to deepen understanding. ● Allow for independent reading, research, and projects. ● Accelerate or compact the curriculum. ● Offer higher-level thinking questions for deeper analysis. ● Offer more rigorous materials/tasks/prompts. ● Increase number and complexity of sources. ● Assign group research and presentations to teach the class. ● Assign/allow for leadership roles during collaborative work and in other learning activities. 	<p>ELL Accommodations:</p> <ul style="list-style-type: none"> ● Provide extended time. ● Assign preferential seating. ● Assign peer buddy who the student can work with. ● Check for understanding frequently. ● Provide language feedback often (such as grammar errors, tenses, subject-verb agreements, etc...). ● Have student repeat directions. ● Make vocabulary words available during classwork and exams. ● Use study guides/checklists to organize information. ● Repeat directions. ● Increase one-on-one conferencing. ● Allow student to listen to an audio version of the text. ● Give directions in small, distinct steps. ● Allow copying from paper/book. ● Give student a copy of the class notes. ● Provide written and oral instructions. ● Differentiate reading levels of texts (e.g., Newsela). ● Shorten assignments.

	<ul style="list-style-type: none">● Read directions aloud to student.● Give oral clues or prompts.● Record or type assignments.● Adapt worksheets/packets.● Create alternate assignments.● Have student enter written assignments in criterion, where they can use the planning maps to help get them started and receive feedback after it is submitted.● Allow student to resubmit assignments.● Use small group instruction.● Simplify language.● Provide scaffolded vocabulary and vocabulary lists.● Demonstrate concepts possibly through the use of visuals.● Use manipulatives.● Emphasize critical information by highlighting it for the student.● Use graphic organizers.● Pre-teach or pre-view vocabulary.● Provide student with a list of prompts or sentence starters that they can use when completing a written assignment.● Provide audio versions of the textbooks.● Highlight textbooks/study guides.● Use supplementary materials.● Give assistance in note taking● Use adapted/modified textbooks.● Allow use of computer/word processor.● Allow student to answer orally, give extended time (time-and-a-half).● Allow tests to be given in a separate location (with the ESL teacher).● Allow additional time to complete assignments and/or assessments.● Read question to student to clarify.● Provide a definition or synonym for words on a test that do not impact the validity of the exam.● Modify the format of assessments.● Shorten test length or require only selected test items.● Create alternative assessments.● On an exam other than a spelling test, don't take points off for spelling errors.
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GRADES 2 - 6 ENRICHMENT ACTIVITIES UNIT OVERVIEW

Content Area: Gifted & Talented

Unit Title: General Enrichment Activities and Enhanced Exploration of Specific Topics

Target Course/Grade Level: 2-6

Unit Summary: There are many ways to “train your brain”. Throughout the G&T program year, activities are used to encourage students to think outside the box, logically, spatially, emotionally, and mathematically. Also, when appropriate, special exhibits at local museums are introduced for students to delve deeper into all aspects of the exhibit, in which the experience of the exhibit is the culmination of the unit of study. It provides an enhanced educational experience for classroom topics.

Approximate Length of Unit: 40 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

Career Readiness, Life Literacies, and Key Skills:

- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).
- 9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).
- 9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).
- 9.4.5.IML.1: Evaluate digital sources for accuracy, perspective, credibility and relevance (e.g., Social Studies Practice - Gathering and Evaluating Sources).
- 9.4.5.TL.5: Collaborate digitally to produce an artifact (e.g., 1.2.5CR1d).

Interdisciplinary Connections and Standards:

Science & Engineering:

K-2 ETS1.1, ETS1.3 – Defining simple problems and comparing design solutions

3-5 ETS1.2 – Generating & comparing multiple solutions

ELA/Technical Reading:

Cite Evidence (Based on RST.6–8.1):

Students will find and use specific details from a text to support their thinking and answers.

Summarize and Identify Main Ideas (Based on RST.6–8.2):

Students will figure out the main ideas in a science or technical text and summarize the important points in their own words.

Analyze Purpose (Based on RST.6–8.6):

Students will understand why the author wrote the text—whether to explain something, show how to do something, or describe a process.

Compare Sources (Based on RST.6–8.9):

Students will compare what they learn from reading a text to what they learn from other sources like videos, diagrams, or hands-on experiments.

Unit Understandings:

Students will understand that...

- Puzzles and games can hone logic skills.
- Logic activities should have mental and physical components.
- Cooperation in solving a problem brings different perspectives together.

Unit Essential Questions:

- How many strategies can I use to solve a problem?

Knowledge and Skills:

Students will know...

- How to properly communicate with others.
- How to solve progressively difficult problems through the use of logic.

Students will be able to...

- Solve a multitude of problems using different strategies.
- Solve problems by cooperating and communicating effectively with others.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Oral response
- Presentation of solutions to problems

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Language supports
- Choice
- Additional Times
- Flexible pairing or grouping of students
- Peer instruction
- Preferential seating
- Tiered assignments

RESOURCES

Teacher Resources:

- Grade 2 Pacing Guide
- Grade 3 Pacing Guide
- Grade 4 Pacing Guide
- Grade 5 Pacing Guide
- Grade 6 Pacing Guide
- Puzzles, Brain Teasers & Logic Games
 - https://www.barnesandnoble.com/b/books/activity-game-books/puzzles-brain-teasers-logic-games/_/N-29Z8q8Z1gjh
 - <https://www.amazon.com/Best-Sellers-Logic-Brain-Teasers/zgbs/books/4436>
- MashupMath.com
- breakoutedu.com (yearly renewal)
- <https://odysseyofthemind.com/>
- <https://www.brainzilla.com/>
- <https://www.byrdseed.tv/> (yearly renewal)
- <https://stevewyborne.com/>
- <https://www.criticalthinking.com/>

Equipment Needed:

- Tangrams
- Logic problems
- Puzzles
- Breakout EDU Escape boxes
- Sudoku
- Rubik's Cube
- Checkers/Chess/Stratego
- Cracker Barrel Peg Board Game
- Logic Story Books
- Math Logic problems
- Board Games
- Logic Games

Union County Gifted and Talented Association Convocations:

- Grade 3 - Think Tank *or* Brain Bowl
- Grade 4 - Mental Marathon
- Grade 5 - Environment *or* Coast to Coast
- Grade 6 - C.S.I.

GRADE 2 UNIT 1 OVERVIEW

Content Area: Enrichment

Unit Title: Primary Education Thinking Skills (PETS)

Target Course/Grade Level: Second Grade

Unit Summary: Primary Education Thinking Skills or PETS™ is a systematized enrichment and diagnostic thinking skills program. Lessons are presented in convergent analysis, divergent synthesis, visual/spatial thinking, and evaluation. The program aligns with the higher levels of Bloom's Taxonomy.

Approximate Length of Unit: 15 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

RL.CR.2.1: Ask and answer questions to demonstrate understanding of key details in a literary text, referring explicitly to the text as the basis for the answers.

RL.IT.2.3: Describe how characters in a story respond to major events and challenges using key details within the text.

RL.MF.2.6: With prompting and support, use information gained from the illustrations and words in a print or digital text to demonstrate understanding of its characters, setting, or plot.

RL.CT.2.8: Compare and contrast two or more versions of the same story by different authors or from different cultures.

RI.CI.2.2: Recount a text in oral and written form and determine the main topic in a multi-paragraph informational text, focusing on specific paragraphs.

RI.IT.2.3: Describe the connection between a series of historical events, scientific ideas or concepts, or steps in a sequence within a text.

RI.TS.2.4: Describe the overall structure of a text and effectively use various text features (e.g., graphs, charts, images, captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information.

RI.PP.2.5: Identify the main purpose of a text, including what the author seeks to explore, answer, explain, or describe.

RI.MF.2.6: Explain how specific illustrations and images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

RI.AA.2.7: Describe and identify the logical connections of how reasons support specific points the author makes in a text.

RF.2.3: Know and apply grade-level phonics and word analysis skills in decoding, including long vowels, common prefixes, and irregularly spelled words.

RF.2.4: Read with sufficient accuracy and fluency to support comprehension: read grade-level text with appropriate accuracy, rate, expression, and self-correction.

W.SE.2.6: Prioritize information provided by different sources on the same topic while gathering ideas and planning to write about a topic.

W.RW.2.7: Engage in both short and extended writing tasks regularly, including collaborative and independent writing across disciplines.

SL.PE.2.1: Engage effectively in collaborative discussions with diverse partners on grade-level topics and texts in small and larger groups; follow agreed-upon norms, listen to others, build on their ideas, ask follow-up questions, and provide clarifications.

Mathematics:

2.OA.A.1: Use addition/subtraction within 100 to solve one- and two-step word problems with unknowns in all positions

2.OA.B.2: Fluently add/subtract within 20 using mental strategies; know sums of one-digit numbers

2.NBT.A.1: Understand hundreds/tens/ones places in three-digit numbers

2.NBT.B.5: Fluently add/subtract within 100 using place value and properties of operations

2.NBT.B.7: Add/subtract within 1000 using models and relate to written methods

2.NBT.B.9: Explain why addition/subtraction strategies work using place value and properties

2.MD.A.*: Use standard units (inches/cm) to measure length; relate to addition/subtraction word problems

2.G.*: Describe and analyze shapes; understand 3-D shapes and their attributes

MP.1–8: Includes reasoning, constructing arguments, modeling, precision—integrated across all math content

Career Readiness, Life Literacies, and Key Skills:

9.1.2.CR.1: Recognize ways to volunteer in the classroom, school, and community.

9.1.2.CR.2: List ways to give back (donations, volunteering, starting a business).

9.1.2.FI.1: Differentiate various forms of money (coins, bills, checks, debit/credit cards).

9.1.2.FP.1: Explain how emotions influence spending or saving.

9.1.2.FP.2: Distinguish between financial wants and needs.

9.1.2.FP.3: Identify factors that influence spending/saving (e.g., ads, family, culture).

9.1.2.PB.1: Identify ways to save and places to do so within their community.

9.1.2.PB.2: Explain why someone would choose to save money.

9.1.2.RM.1: Describe how to protect valuable items from damage or loss.

9.2.2.CAP.1 (aka 9.1.2.CAP.1): List different types of jobs and describe associated skills.

9.2.2.CAP.2 (9.1.2.CAP.2): Explain why employers are willing to pay individuals.

9.2.2.CAP.3: Define entrepreneurship and social entrepreneurship.

9.2.2.CAP.4: List potential rewards and risks of starting a business.

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives.

9.4.2.CI.2: Show originality and inventiveness in their work.

9.4.2.CT.1: Gather information about an issue (e.g., climate change), then brainstorm solutions collaboratively.

9.4.2.CT.2: Identify possible approaches and resources to carry out a plan.

9.4.2.CT.3: Use different types of thinking (e.g., inductive, deductive) to solve problems.

Interdisciplinary Connections and Standards:

Social Studies:

6.1.2.CivicsCM.1: Describe roles and responsibilities of community and local government leaders.

6.1.2.CivicsCM.3: Explain how individuals work together to make decisions in the local community.

6.1.2.CivicsCM.4: Explain how rules and laws impact our daily lives.

6.1.2.Geo.GI.2: Use maps, globes, and other tools to describe the physical features and cultural characteristics of places.

6.1.2.Geo.SV.1: Identify cultural and environmental characteristics of different regions.

6.1.2.HistoryCC.3: Make inferences about how events of the past affect today's world.

6.1.2.HistorySE.1: Use evidence to make inferences about how groups lived in the past.

Science:

- 2-PS1-1: Plan and conduct investigations to describe and classify materials by their observable properties.
- 2-PS1-2: Analyze how the properties of materials determine their use.
- 2-PS1-4: Construct an argument with evidence that some changes caused by heating or cooling can be reversed.
- 2-LS2-1: Plan and conduct an investigation to determine if plants need sunlight and water to grow.
- 2-LS4-1: Make observations of plants and animals to compare the diversity of life in different habitats.
- K–2–ETS1–1: Ask questions, make observations, and gather information about a situation people want to change.
- K–2–ETS1–2: Develop a simple sketch or model to illustrate how the shape of an object helps it function.
- K–2–ETS1–3: Analyze data from tests to compare the strengths and weaknesses of solutions.

Visual and Performing Arts:

- 1.2.2.Cr1a: Explore and invent art-making techniques and approaches.
- 1.2.2.Cr2b: Identify and classify uses of everyday objects through drawings, diagrams, and sculpture.
- 1.2.2.Re7a: Classify and describe images based on expressive properties.
- 1.3A.2.Cr1a: Collaborate with peers to conceptualize characters in a guided drama.
- 1.3A.2.Pr6a: Contribute to group decision making in presenting drama or theatre work.

Computer Science & Design Thinking:

- 8.1.2.CS.1: Select and use applications effectively and explain the purpose of the tool.
- 8.1.2.CS.2: Identify how software and hardware work together as a system.
- 8.1.2.DA.1: Collect and present data using various tools.
- 8.1.2.AP.3: Create programs with sequences, events, loops, and conditionals.
- 8.2.2.ED.1: Communicate design ideas through drawings and models.
- 8.2.2.ED.3: Select and use appropriate tools and materials to solve a problem.

Comprehensive Health and Physical Education:

- 2.1.2.PGD.1: Explore how children grow and develop.
- 2.1.2.SSH.1: Discuss ways to express feelings respectfully.
- 2.1.2.SSH.4: Determine kind behaviors toward self and others.
- 2.1.2.EH.1: Explain how identifying emotions can help in making responsible decisions.
- 2.1.2.EH.2: Identify ways to cope with stressful situations.

Unit Understandings:

Students will understand that...

- Thinking can be intentional, and different types of problems require different types of thinking.
- Convergent thinking by learning to analyze information, recognize patterns, and solve problems with one correct answer (e.g., Sybil the Scientist).
- Divergent thinking by generating multiple ideas, exploring possibilities, and thinking creatively (e.g., Isabel the Inventor).
- Visual/spatial reasoning by organizing and interpreting visual information to solve problems (e.g., Max the Magician).
- Evaluative thinking by making judgments, comparing options, and justifying opinions or decisions (e.g., Yolanda the Judge).
- Recognize that all types of thinking are valuable and can be used together to solve complex problems.
- Through the PETS™ characters and lessons, students begin to self-monitor and select appropriate thinking strategies based on the task.

Unit Essential Questions:

- What are the different ways we can think to solve a problem?

- How do we know which type of thinking to use for different situations?
- Why is it important to look at problems from more than one point of view?
- How can thinking carefully help us make better decisions?
- What makes a solution creative or unique?
- How do we use what we see and imagine to help us solve problems?
- Why is it important to explain and support our ideas with reasons?
- How can we learn from others who think differently from we do?

Knowledge and Skills:

Students will know...

- The definitions and purposes of different types of thinking:
 - Convergent Thinking: Narrowing ideas to find the best solution.
 - Divergent Thinking: Expanding ideas to explore many possibilities.
 - Visual/Spatial Thinking: Using mental imagery to solve visual or spatial problems.
 - Evaluative Thinking: Judging and justifying ideas or solutions based on evidence.
- The PETS™ characters and the thinking skills they represent.
- That there is more than one way to approach a problem.
- Using different thinking strategies can improve problem-solving.
- Effective thinkers ask questions, look for patterns, and support their ideas with reasons.

Students will be able to...

- Analyze information to identify patterns, relationships, and details (convergent).
- Generate multiple creative ideas and solutions (divergent).
- Visualize shapes, spaces, and positions to solve puzzles and challenges (visual/spatial).
- Compare and evaluate different ideas or solutions and explain reasoning (evaluative).
- Explain thinking using “how” and “why” language.
- Collaborate and communicate with peers using various thinking strategies.
- Reflect on their thinking process and choose strategies that work best for different types of problems.

<i>EVIDENCE OF LEARNING</i>

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher Observation
- Exit Tickets
- Group Discussion
- Problem-Solving Challenges
- Creative Thinking Projects
- Mystery Solving
- Visual/Spatial Puzzles

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Language supports
- Choice
- Additional Times
- Flexible pairing or grouping of students
- Peer instruction
- Preferential seating
- Tiered assignments

RESOURCES

Teacher Resources:

- Grade 2 G&T Pacing Guide
- Primary Education Thinking Skills – Virtual PETS™ 2 Curriculum
- PETS Website

Equipment Needed:

- Newline Board
- Chromebooks

GRADE 2 UNIT 2 OVERVIEW

Content Area: Enrichment

Unit Title: Storytime STEM

Target Course/Grade Level: Second Grade

Unit Summary: In this STEM unit, students explore the fundamentals of the engineering design process through children's literature. Each lesson begins with a picture book that presents a problem or challenge. Students then brainstorm, plan, build, test, and improve their own solutions, connecting story elements to real-world engineering challenges. This integrated literacy and STEM experience encourages critical thinking, creativity, and collaboration.

Approximate Length of Unit: 15 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

Science: Engineering and Design:

K-2-ETS1-1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool.

K-2-ETS1-2 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. (Found in 2nd-grade scope & sequence documents, e.g., Engineering Design Process unit)

K-2-ETS1-3 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.

Career Readiness, Life Literacies, and Key Skills:

9.2.2.CAP.1: Make a list of different types of jobs and describe the skills associated with each job.

9.2.2.CAP.3: Define entrepreneurship and social entrepreneurship.

9.2.2.CAP.4: List the steps to setting and achieving a goal.

9.4.2.CI.1: Demonstrate openness to new ideas and perspectives.

9.4.2.CI.2: Demonstrate originality and inventiveness in work.

9.4.2.CT.1: Identify possible approaches and resources to execute a plan.

9.4.2.CT.2: Identify a problem and brainstorm ways to solve it.

9.4.2.TL.2: Create a document using a word processing application.

9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital products.

9.4.2.IML.1: Identify a simple search term to find information.

Interdisciplinary Connections and Standards:

English Language Arts:

RL.2.1 – Ask and answer questions (who, what, when, where, why, and how) to demonstrate understanding of key details in a text.

RL.2.3 – Describe how characters in a story respond to major events and challenges.

RL.2.5 – Describe the overall structure of a story, including how the beginning introduces the story and the ending concludes the action.

RL.2.7 – Use information gained from the illustrations and words in a print or digital text to demonstrate understanding.

RI.2.3 – Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures.

W.2.2 – Write informative/explanatory texts that introduce a topic, use facts and definitions, and provide a concluding statement.

W.2.8 – Recall information from experiences or gather information from provided sources to answer a question.

SL.2.1 – Participate in collaborative conversations about grade 2 topics and texts.

SL.2.4 – Tell a story or recount an experience with appropriate facts and details, speaking clearly.

Visual and Performing Arts:

1.5.2.Cr1a – Explore and discover multiple ideas for media arts creation.

1.5.2.Cr2a – Through experimentation, build skills and knowledge of materials and tools through creating works of art.

1.5.2.Pr4a – Analyze visual components in media art and how they support meaning.

Unit Understandings:

Students will understand that...

- Engineers identify problems and create solutions through a design process.
- Stories can inspire real-world innovation and problem-solving.
- Collaboration and iteration are essential parts of engineering.
- Designs can be improved based on testing and feedback.

Unit Essential Questions:

- What do engineers do?
- How can stories inspire us to solve problems?
- How do we create, test, and improve our ideas?
- Why is it important to work with others when solving problems?

Knowledge and Skills:

Students will know...

- The steps of the engineering design process: Ask, Imagine, Plan, Create, Test, Improve
- That engineers solve problems by designing and building
- How story elements can relate to engineering challenges

Students will be able to...

- Identify a problem in a story and brainstorm possible solutions
- Collaborate with peers to design and build a model or structure
- Test their designs and make improvements
- Communicate their design ideas and reasoning

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher Observation
- Student Discussion
- Peer Collaboration
- Engineering Journals
- Completed Engineering Challenges

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Language supports
- Choice
- Additional Times
- Flexible pairing or grouping of students
- Peer instruction
- Preferential seating
- Tiered assignments

RESOURCES

Teacher Resources:

- Grade 2 G&T Pacing Guide
- Storytime STEM Packs: Engineering Design Storytime 5-Pack

Equipment Needed:

- Newline Board
- Chromebooks
- Supplies included in each Storytime STEM pack

GRADE 2 UNIT 3 OVERVIEW

Content Area: Enrichment

Unit Title: Junior Achievement: Our Community

Target Course/Grade Level: Second Grade

Unit Summary: In this unit, students are immersed in the daily life of their community the people who work there, the money decisions they make, the flow of the community's economy, and the importance of being an involved and responsible community member. They are introduced to the types of skills and knowledge necessary to be a worker in the community: the experience of working as a team in a pizza shop, buying and selling of goods and services in exchange for money, getting paid and paying taxes, exercising their civic duty to make decisions for the good of the community, and using digital tools.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

Social Studies:

- 6.1.2.CivicsPI.1–6: Describing roles and responsibilities of community/local government leaders and understanding how rules are made with community participation (e.g., classroom “government”)
- 6.1.2.CivicsPD (Participation & Deliberation): Discussing ideas and voting to make group decisions aligns with teamwork and democratic civic engagement
- 6.1.2.CivicsPR.4: Explaining how adults (teachers, leaders) make fair and respectful rules
- 6.1.2.CivicsCM.1–3: Describing why individuals should assume civic responsibilities, collaborate effectively, and demonstrate fairness/respect in a community
- 6.1.2.EconET.1: Differentiating between needs and wants—central to money decisions
- 6.1.2.EconEM.2–3: Identifying local goods/services, understanding historical vs. modern exchange (barter, money), and running the pizza shop simulation
- 6.1.2.EconNE.2: Recognizing government-provided goods/services (e.g., fire departments, parks)
- 9.1.2.FP.1–3 (Financial Literacy—CRLS): Exploring emotions in spending vs. saving, distinguishing wants vs. needs, and understanding influences on financial decisions
- 6.1.Geo: While not a primary focus, students learn about community types—urban, suburban, rural—and map usage
- 6.1.2.GeoHE.3–4 (identifying human/environment relationships)
- 6.1.2.GeoGI.2 (using digital tools for cultural/geography understanding)
- 6.1.2.HistoryCC.3: Connecting past events/innovations to current life

6.1.2.HistoryUP.1–2, HistorySE.2–3: Using varied sources (e.g., interviews, primary docs) to understand different historical perspectives

6.1.2.HistoryCA.1: Arguing how communities change over time

Career Readiness, Life Literacies, and Key Skills:

C9.1.2.CR.1–2: Recognizing classroom/community volunteering, giving back, starting initiatives

8.1.2.ED.3, 8.2.2.ITH.1: Using digital/design tools to build products, and identifying products meeting human needs/wants

8.1.2.DA.1: Collecting/presenting data visually—through bar graphs for community preferences and job analysis

Interdisciplinary Connections and Standards:

English Language Arts:

RI.2.10, L.2.4.A: Comprehending informational texts and using context for vocabulary in community topics

Mathematics:

2.MD.D.10: Using pictograph/bar graphs to interpret simple data, like community preference graphs

Unit Understandings:

Students will understand that...

- A community is made up of many different jobs and roles that help it function effectively.
- People use money to buy and sell goods and services, and they make choices based on needs and wants.
- Individuals work to earn money and may have to pay taxes that support community services.
- Teamwork and collaboration are essential skills in many workplaces and help businesses succeed.
- Civic engagement, such as voting and making group decisions, is important for maintaining a healthy and fair community.
- Workers and consumers increasingly use digital tools to support the economy and enhance communication and productivity.

Unit Essential Questions:

- What is a community, and what makes it work well?
- Why do people have jobs, and how do those jobs help the community?
- How do people earn and use money in a community?
- What are goods and services, and why do people trade money for them?
- Why do we pay taxes, and how do they help the community?
- How can working together help us reach our goals?
- What does it mean to be a responsible member of a community?
- How do we use voting and decision-making to improve our community?
- How do digital tools help people work and communicate in a community?

Knowledge and Skills:

Students will know...

- A community is made up of people who live and work together.
- Jobs provide income and support the needs of the community.
- Goods are things people buy, and services are actions people pay for.
- Money is used to exchange goods and services.
- Taxes are collected to pay for public services (e.g., schools, fire departments).
- Teamwork and collaboration are necessary for many jobs.
- Voting is a civic responsibility and helps groups make fair decisions.

- Digital tools can be used to work, solve problems, and communicate.

Students will be able to...

- Identify and describe various community jobs and their roles.
- Distinguish between goods and services.
- Demonstrate an understanding of earning, saving, and spending money.
- Explain why taxes are collected and what they support.
- Work cooperatively in groups to solve problems or complete tasks (e.g., running a pizza shop).
- Make group decisions through discussion and voting.
- Use digital tools to complete tasks or communicate ideas.
- Reflect on the importance of being responsible, respectful, and active community members.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher Observation
- Student Discussion
- Student Journals
- Money Math Scenarios
- Job Poster
- Community Job Sort
- Team Donut Production

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Language supports
- Choice
- Additional Times
- Flexible pairing or grouping of students
- Peer instruction
- Preferential seating
- Tiered assignments

RESOURCES

Teacher Resources:

- Grade 2 G&T Pacing Guide
- Junior Achievement: Our Community Teacher’s Guide
- Home Activities

Equipment Needed:

- Newline Board
- Chromebooks

GRADE 3 UNIT 1 OVERVIEW

Content Area: Gifted & Talented

Unit Title: All About Me

Target Course/Grade Level: Third Grade

Unit Summary: In this unit, students will build self-esteem and self-awareness, learn about their peers, develop friendships, develop oral communication skills, and build a sense of community with their gifted and talented peers.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- L.RF.3.4. Read with sufficient accuracy and fluency to support comprehension.
- L.WF.3.2. Demonstrate command of the conventions of encoding and spelling.
- L.WF.3.3. Demonstrate command of the conventions of writing including those listed under grade two foundational skills.
- L.KL.3.1. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- RL.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of a literary text, referring explicitly to textual evidence as the basis for the answers.
- RI.CR.3.1. Ask and answer questions and make relevant connections to demonstrate understanding of an informational text, referring explicitly to textual evidence as the basis for the answers.
- RL.CI.3.2. Recount in oral and written form key details from a text and explain how they support the theme (in literary texts, e.g., fables, folktales, and myths from diverse cultures).
- RI.CI.3.2. Recount in oral and written form the key details from a multi-paragraph informational text and explain how they support the main idea.
- RI.IT.3.3. Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
- RL.PP.3.5. Distinguish their own point of view from that of the narrator or those of the characters.
- RI.PP.3.5. Distinguish their own point of view from that of the author of a text.
- RI.MF.3.6. Use information gained from text features (e.g., illustrations, maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
- RI.CT.3.8. Compare and contrast the elements of informational texts regarding the most important points and key

details presented in two texts on the same topic.

W.IW.3.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

W.NW.3.3. Write narratives to develop real or imagined experiences or events with basic story elements.

W.WP.3.4. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.

W.RW.3.7. Engage in independent and task-based writing for both short and extended periods of time, producing written work routinely.

SL.PE.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.

SL.II.3.2. Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

SL.ES.3.3. Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

SL.PI.3.4. Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

SL.UM.3.5. Use multimedia to demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.

SL.AS.3.6. Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Social Studies:

6.1.2.CivicsCM.3: Explain how diversity, tolerance, fairness, and respect for others can contribute to individuals feeling accepted.

6.1.5.CivicsPD.3: Explain how and why it is important that people from diverse cultures collaborate to find solutions to community, state, national, and global challenges.

Career Readiness, Life Literacies, and Key Skills:

9.2.5.CAP.2: Identify how you might like to earn an income.

9.4.2.CT.2: Identify possible approaches and resources to execute a plan

Interdisciplinary Connections and Standards:

English Language Arts:

RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.

RST.6-8.2. Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

RST.6-8.6. Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.

RST.6-8.9. Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

Unit Understandings:

Students will understand that...

- I am unique; there is no one who looks, feels, thinks, and acts exactly like I do.
- I am part of a family and a classroom community.
- My classroom is a community. All of the people in my class are important and unique.
- I can help make my classroom a fun, safe, and exciting place.

Unit Essential Questions:

- Who am I, and who are the people in my life?
- What makes me important and unique?

Knowledge and Skills:

Students will know...

- By recognizing characteristics that make them unique, students develop a sense of self-worth. discovering their strengths, goals, likes, and personal interests is a fun way for students to tell you about themselves. (AAH, HG, LGBTQ, AAPI)
- Recognizing others in the class who have similar interests becomes a starting point for fostering relationships. (AAH, HG, LGBTQ, AAPI)

Students will be able to...

- Recall and relate personal information about themselves. (AAH, HG, LGBTQ, AAPI)
- Answer specific questions about themselves. (AAH, HG, LGBTQ, AAPI)
- Interview family members to gather information. (AAH, HG, LGBTQ, AAPI)
- Share adjectives to describe themselves. (AAH, HG, LGBTQ, AAPI)
- Complete a paragraph providing a topic sentence, details, and a conclusion.
- Create a document in newsletter format, following the format of a template.
- Complete a presentation.
- Build a classroom community by learning about their peers. (AAH, HG, LGBTQ, AAPI)
- Practice speaking and listening during presentations.
- Describe themselves using writing and visuals. (AAH, HG, LGBTQ, AAPI)
- Identify and share their interests, family, culture, and goals. (AAH, HG, LGBTQ, AAPI)

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- A completed Google Slides or Canva presentation
- All About Me presentation rubric
- Speaking skills
- Listening skills
- Self reflections: “What did I learn about a classmate?”, “What did I learn about myself?”

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Language supports
- Choice
- Additional Times
- Flexible pairing or grouping of students
- Peer instruction
- Preferential seating
- Tiered assignments

RESOURCES

Teacher Resources:

- Grade 3 G&T Pacing Guide
- Scholastic Read All About Me Instant Motivational Personal Poster (School Specialty #1296363)
- *Just Ask* by Sonia Sotomayor
- *A Family Is a Family Is a Family* by Sara O'Leary (AAH, HG, LGBTQ, AAPI)

Equipment Needed:

- Scholastic Read All About Me Instant Motivational Personal Poster
- Chromebooks
- Presentation application (Google Slides or Canva)
- Newline Board

GRADE 3 UNIT 2 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Bridges: Introduction to Structures

Target Course/Grade Level: Third Grade

Unit Summary: Students will be introduced to the history, function, structural design, geometry, and strength of bridges. They will discover that bridge construction, although based on simple scientific concepts, often requires complex engineering solutions. They will have the opportunity to acquire skills using a hands-on, inquiry-based approach to information and concepts. Working cooperatively, they are encouraged to interact with each other as they build, investigate, problem solve, discuss, and evaluate scientific and design principles in action.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- RI.3.1 – ask and answer questions during research/inquiry on bridge history and materials
- RI.3.3 – explain connections between ideas (How does geometry help a bridge support weight?)
- SL.3.1–SL.3.3 – in-group discussions: pose questions, share ideas, use evidence when evaluating structures
- W.3.2 – write informative texts (journals, reports) describing bridge types, forces, and design process
- W.3.7–W.3.8 – conduct short research projects, recall and report information from read-alouds and web sources

Mathematics:

- 3.MD.A.1–3 – measure mass/length of materials, tell/plot time during build phases
- 3.MD.B.4 – generate measurement data, build bar graphs showing number of failed vs. successful models
- 3.G.A.1–3 – identify and analysis of shapes and their attributes in triangle truss, rectangular deck, etc.
- 3.OA.A.3 – solve contextual multiplication/division problems (“If each beam supports 3 lbs, how many beams for 15 lbs?”)

Career Readiness, Life Literacies, and Key Skills:

- 9.2.B.4 – Use critical thinking, planning, and organizational strategies in problem-solving (engineering the bridge)
- 9.2.D.1 – Practice teamwork and responsibility in group tasks (building in pairs/groups, rotating roles)
- 9.4.5.CT.1 – Break down complex problems into manageable parts (load distribution, material properties)
- 9.4.5.CT.4 – Assess the impact of decisions (choosing the right material affects bridge stability)

9.4.5.CT.5 – Pay attention to detail in projects and tests

Interdisciplinary Connections and Standards:

Social Studies:

6.1.4.CivicsPD.2 – Investigate why structures (like bridges) are important for community and civic life

6.1.4.GeoHE.1 – How physical geography (rivers, valleys) drives bridge placement

6.1.4.GeoHE.2 – Impact of human modifications like bridges on the environment and society

Science:

3-PS2-1/2 – Plan and carry out investigations related to forces and motion (push, pull, tension, compression)

3-PS2-4 – Define a simple design problem (bridge must hold x pounds) with criteria and constraints

3-5-ETS1-1/2/3 – Engineering Design: ask questions, develop models, test, collect data, refine designs

Unit Understandings:

Students will understand that...

- Bridges are important in transportation and infrastructure.
- There are various types of bridges, and they each have similar and different characteristics.
- There are basic engineering concepts involved in building bridges.
- There are several forces involved in structures.
- The physical properties of materials and their application are integral in the design and construction of bridges.

Unit Essential Questions:

- What do bridges do?
- Are all bridges the same?
- What materials do bridges need, and why are they important?
- What are the different types of bridges, and how do they function?
- How do engineers design and build bridges?

Knowledge and Skills:

Students will know...

- The definition of a bridge.
- The different types of bridges.
- The features of a bridge.

Students will be able to...

- Investigate different bridge designs and demonstrate their understanding of how they work.
- Describe and understand the forces that act on structures.
- Describe how structures are made stable and how they are able to support loads.
- Demonstrate and describe how structures can fail when loaded and investigate techniques for reinforcing and strengthening them.
- Consider, describe, and explain some of the physical properties of materials and their application in the design and construction of bridges.
- Demonstrate their understanding of the design, engineering, and construction processes used in bridge building.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Student building activities
- Student discussion
- Student journals
- End of unit assessment

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 3 G&T Pacing Guide
- K’Nex Education Teacher’s Guide - Bridges: Introduction to Structures

Equipment Needed:

- K’Nex Education’s Bridges: Introduction to Structures Kit (1 kit per 2 students)
- Chromebooks
- Newline Board

GRADE 3 UNIT 3 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Battle of the Books

Target Course/Grade Level: Third Grade

Unit Summary: Battle of the Books is a reading motivation program. The goals of the program are to encourage reading for pleasure, broaden reading interests, and recognize students who enjoy reading. Titles of the official Reading Lists are chosen annually, according to the Criteria for Book Selection. Student teams of four to five read the books over a period of months, discuss them, quiz each other on the contents, and then compete in these teams to correctly answer questions based on the books. The questions used all begin with, “In what book...”, so answers will always be a title and an author. The state-wide program involves a cooperative effort by many individuals and local groups. It is popular with students and has provided new opportunities for academic competition. BATTLE OF THE BOOKS has also proven to be effective in its specified purpose: to stimulate an interest in reading.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

RL.3.1: “Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.”

RL.3.2: “Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message/theme, lesson, or moral and explain how it is revealed through key details in the text.”

RL.3.3: “Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.”

RL.3.4: “Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.”

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.3.6: “Distinguish their own point of view from that of the narrator or those of the characters.”

RL.3.7: “Explain how specific aspects of a text’s illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).”

RL.3.9: “Compare and contrast the themes, settings, and plots of stories written by the same author about the same or similar characters (e.g., in books from a series).”

RL.3.10: “By the end of the year, read and comprehend literature, including stories, dramas, and poems, at the high end of the grades 2–3 text complexity band independently and proficiently.”

RI.3.1: “Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.”

RI.3.2: “Determine the main idea of a text; recount the key details and explain how they support the main idea.”

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

RI.3.4: “Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.”

RI.3.5: “Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.”

RI.3.6: “Distinguish their own point of view from that of the author of a text.”

RI.3.7: “Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding (e.g., where, when, why, and how key events occur).”

RI.3.8: “Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, first/second/third in a sequence).”

RI.3.9: “Compare and contrast the most important points and key details presented in two texts on the same topic.”

RI.3.10: “By the end of the year, read and comprehend informational texts, including history/social studies, science, and technical texts, at the high end of the grades 2–3 text complexity band independently and proficiently.”

RF.3.3 (Foundational): Decode multisyllabic words and phonics patterns—supports fluency during reading and recall.

SL.3.1: “Engage effectively in a range of collaborative discussions...”

SL.3.2: “Determine the main ideas and supporting details of a text read aloud...”

SL.3.3: “Ask and answer questions about information from a speaker...”

SL.3.4: “Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details...”

W.3.6: “With guidance and support from adults, use technology to produce writing as well as to interact and collaborate with others.”

Career Readiness, Life Literacies, and Key Skills:

9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one’s thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

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

Interdisciplinary Connections and Standards:

Science:

3-5 ETS1-1 (Engineering Design): Establishing criteria and constraints for “Memory Jogger” organizers, reading schedules, and team roles mirrors the STEAM approach.

Social Studies:

RST.6–8.1, 6–8.2: Students cite textual evidence and summarize key ideas from books.

RST.6–8.6: Analyze author’s purpose in writing a narrative or crafting questions.

RST.6–8.9: Compare information across different sources, e.g., book vs. media summaries.

Unit Understandings:

Students will understand that...

- Reading helps us connect to new perspectives and experiences. (AAH, HG, LGBTQ, AAPI)
- Comprehending and remembering what we read requires active engagement.
- Collaboration and teamwork enhance learning and problem-solving.

- Healthy competition can be a fun and motivating way to reinforce learning.
- Every book offers themes and lessons that connect to real life. (AAH, HG, LGBTQ, AAPI)

Unit Essential Questions:

- How do good readers remember and make sense of what they read?
- What makes a story memorable?
- How can reading books help us understand people who are different from us? (AAH, HG, LGBTQ, AAPI)
- What can stories teach us about real-life problems, relationships, or challenges? (AAH, HG, LGBTQ, AAPI)
- What messages or lessons do authors want us to take away from their stories? (AAH, HG, LGBTQ, AAPI)
- What does effective teamwork look like, and why is it important in a group project?
- How can we respectfully disagree or share different opinions in a group?
- How can competition motivate us to do our best while still being kind and respectful?
- What do we learn from participating—even if we don't "win"?

Knowledge and Skills:

Students will know...

- The specific details of the books to which they have been assigned or chosen.
- A strategy they can follow to best compete in the Battle of the Books.

Students will be able to...

- Participate in independent and group reading.
- Develop comprehension and recall skills
- Be exposed to a variety of genres and authors.
- Collaborate to compete in a healthy competition

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly "understand"?

- "Memory Jogger" graphic organizer completed for each book read
- Teacher observation of collaboration
- Completion of the assigned reading
- Individual and team participation in the Battle of the Books Competition
- End of unit jeopardy assessment

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed

- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 3 G&T Pacing Guide
- NJASL Battle of the Books Handbook REV2021
- New Jersey Battle of the Books Grades 3-4 book list - Mackin

Equipment Needed:

- Multiple copies of each book
- Certificates
- Prizes for participants
- Medals for the top three teams

GRADE 3 UNIT 4 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Investigating Solar Energy

Target Course/Grade Level: Third Grade

Unit Summary: In this unit, students will learn how renewable energy can be harnessed and used to provide power for an array of purposes on Earth as they use science, technology, and engineering content in the classroom. Through experimental construction, the children will also design and build different projects that will demonstrate how the use of three of the major sources of renewable energy: wind, water, and solar energy, creates movement, force, and heat.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

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.3.2: “Recount stories, including fables, folktales, and myths from diverse cultures; determine the central message/theme, lesson, or moral and explain how it is revealed through key details in the text.”

RL.3.3: “Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.”

RL.3.4: “Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language.”

RL.3.5: “Explain how specific aspects of a text’s illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).”

RL.3.9: “Compare, contrast and reflect on the central message/theme, settings, and plots of stories written by the same author about the same or similar characters.”

RL.3.10: “By the end of the year, read and comprehend literature... at the high end of the grades 2–3 text complexity band independently and proficiently.”

RI.3.1: “Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.”

RI.3.2: “Determine the main idea of a text; recount the key details and explain how they support the main idea.”

RI.3.3: “Describe the relationship between a series of scientific ideas or steps... using language that pertains to time, sequence, and cause/effect.”

RI.3.4: “Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.”

RI.3.5: “Use text features and search tools (e.g., key words, sidebars, hyperlinks) to locate information relevant to a given topic efficiently.”

RI.3.6: “Distinguish their own point of view from that of the author of a text.”

RI.3.7: “Use information gained from text features (illustrations, maps, photographs) and words in a text to demonstrate understanding... (e.g., where, when, why, and how key events occur).”

RI.3.8: “Describe the logical connection between particular sentences and paragraphs in a text (e.g., comparison, cause/effect, sequence).”

RI.3.10: “By the end of the year, read and comprehend literary nonfiction at grade-level complexity or above.”

RF.3.3: “Know and apply grade-level phonics and word analysis skills in decoding and encoding words. Identify and know the meaning of the most common prefixes and derivational suffixes.”

RF.3.4: “Read with sufficient accuracy and fluency to support comprehension.”

W.AW.3.1 (Opinion Writing): Introduce a topic/opinion clearly; support with facts, definitions, concrete details or text evidence; provide a conclusion.

W.IW.3.2 (Informative/Explanatory Writing): Introduce topic clearly; develop with facts/definitions/concrete details/text evidence; include text features; link ideas with transitions; conclude.

W.NW.3.3 (Narrative Writing): Write a story with techniques, descriptive details, temporal words, and provide closure.

W.WP.3.4 (Writing Process): With guidance, plan, revise, and edit; identify audience/purpose; include headings, multimedia when helpful.

SL.3.1.D: “Explain their own ideas and understanding in light of the discussion.”

SL.3.2: “Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.”

SL.3.4: “Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant descriptive details, speaking clearly at an understandable pace.”

SL.3.6: “Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.”

L.3.1 & L.3.2: “Demonstrate command of the conventions of standard English grammar and usage... capitalization, punctuation, spelling; use commas and quotation marks in dialogue.”

L.3.6: “Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases... basic to a particular topic (e.g., wildlife, conservation, endangered).”

Mathematics:

3.OA.A.1–3.OA.A.2: Interpret products and quotients of whole numbers.

3.OA.A.3: Solve word problems with multiplication and division within 100.

3.OA.B.5–3.OA.B.6: Apply properties of operations and understand division as an unknown factor.

3.OA.C.7: Fluently multiply and divide within 100.

3.OA.C.8: Solve two-step problems using the four operations; use equations and explain reasoning.

3.MD.A.1: Tell and write time to the nearest minute; measure time intervals; solve time-space problems.

3.MD.B.3: Create scaled picture/bar graphs; analyze and compare quantities.

3.MD.C.5–3.MD.C.7: Understand area, measure with unit squares, and relate area to multiplication/addition.

3.MD.D.8: Solve real-world perimeter problems.

3.G.A.1–3.G.A.2: Describe and partition shapes; understand attributes, equal areas, and fractional parts.

3.MP.1–3.MP.8: Emphasize problem-solving, reasoning, modeling, tools, precision, structure, and perseverance.

Career Readiness, Life Literacies, and Key Skills:

9.1.2.CR.1: Recognize ways to volunteer in the classroom, school and community.

9.4 Life Literacies and Key Skills. This standard outline key literacies and technical skills such as critical thinking, global and cultural awareness, and technology literacy* that are critical for students to develop to live and work in an interconnected global economy.

Interdisciplinary Connections and Standards:

Science:

- 3-PS2-1: Explain how energy (wind, water, solar) can be transferred or transformed.
- 3-PS3-1: Investigate how energy can change forms (light → thermal → mechanical → electrical).
- K–2-ETS1-1: Share traits with engineering design: defining problems, planning and experimenting.
- 3-PS2-1: Plan and conduct investigations to show how balanced/unbalanced forces affect motion.
- 3-PS2-2: Observe or measure object motion patterns to predict future movement.
- 3-PS2-3: Ask questions about electric or magnetic forces between objects not in contact.
- 3-PS3-1: Make observations that energy transfers via light, heat, and electric currents.

Social Studies:

NJ 6–8 Social Studies Standards (adapted for grade 3)

Civic Impact & Global Awareness: Recognize local/global renewable energy efforts.

Understand how communities make energy decisions and the effects on the environment.

Unit Understandings:

Students will understand that...

- The sun provides the Earth with energy that can be harnessed by different methods to power an array of things.

Unit Essential Questions:

- What is renewable energy, and how does it differ from non-renewable energy?
- What is energy, and why do we need it?
- What are some different types of energy we use every day?
- How do different types of renewable energy sources (solar, wind, hydro, geothermal, biomass) work?
- How can wind and water help make electricity?
- How can we collect and measure renewable energy?
- How can using renewable energy help take care of our Earth?
- What can we do at school or at home to save energy?

Knowledge and Skills:

Students will know...

- What energy is and why it's important for homes, schools, and transportation.
- Different sources of energy.
- What renewable energy means and how it helps the Earth.
- How the sun, wind, and water can be used to make electricity.
- Why it's important to save energy and protect the environment.
- Simple ways to save energy at home and at school.

Students will be able to...

- Construct 3-D models from 2-D designs.
- Use simple tools.
- Collect and record data.
- Make and test predictions.
- Communicate findings.
- Explain how energy is used.
- Use models to examine physical science concepts such as force, motion, simple machines, leverage, mechanical advantage, work, energy, and efficiency.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Science journal
- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets
- Hands-on experiments

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 3 G&T Pacing Guide
- K’NEX Education Teacher’s Guide Renewable Energy

Equipment Needed:

- K’Nex Education’s Renewable Energy kits (1 per 2 students)
- Chromebooks
- Newline Board

GRADE 4 UNIT 1 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Physics of Toys

Target Course/Grade Level: Grade 4

Unit Summary: In this unit, students will learn about Newton's three laws of motion. They will be able to define and apply the three laws of motion to the functionality of an array of objects that move. Students will be able to produce a research project that outlines who Sir Issac Newton was and how his theory of the three laws of motion applies to the physics of toys.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

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

RI.4.3 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text.

RI.4.4 Determine the meaning of general academic and domain-specific words or phrases in a text relevant to a Grade 4 topic or subject area.

RI.4.7 Interpret information presented visually, orally, or quantitatively and explain how it contributes to an understanding of the text.

W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.

W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources.

SL.4.1 Engage effectively in a range of collaborative discussions with diverse partners on Grade 4 topics and texts.

SL.4.4 Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant details.

Career Readiness, Life Literacies, and Key Skills:

9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

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

Interdisciplinary Connections and Standards:

Social Studies:

6.1.5.HistoryCC.13 Describe how individuals made contributions to society through the creation or discovery of new inventions or ideas.

Computer Science:

8.1.5.IC.1 Identify computing technologies that have changed the world, and express how those changes impact society.

Mathematics:

4.MD.A.1 Know relative sizes of measurement units within one system of units. Express measurements in a larger unit in terms of a smaller unit.

4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money.

4.MD.A.3 Apply the area and perimeter formulas for rectangles in real world and mathematical problems.

4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems with remainders.

Unit Understandings:

Students will understand that...

- There are three laws of motion, and each law demonstrates how things move on Earth.
- The three laws of motion are based on the research conducted by Sir Isaac Newton.
- Many toys move, bounce, spin, or balance due to forces, motion, and energy, helping us explore how physics works in everyday life.
- Toys remain still or move depending on the balance of forces acting on them.
- They can construct different objects that demonstrate Newton's three laws of motion

Unit Essential Questions:

- What are Newton's three laws of motion?
- How do Newton's three laws of motion demonstrate how objects move?
- How can we change a toy's design to change how it moves?

Knowledge and Skills:

Students will know...

- Observe and describe how different toys move.
- Identify and explain the forces acting on a toy.
- Compare how different surfaces or toy designs affect motion (e.g., through friction).
- Use scientific vocabulary (force, motion, gravity, friction, energy, speed, balance) to explain observations.
- How each law of motion impacts movement on Earth.
- What the law of inertia means, and how to demonstrate its meaning.
- What the law of action and reaction states, and how to demonstrate its meaning.
- What the formula F (Force) - M (Mass) \times A (Acceleration) means, and how to demonstrate its meaning.

Students will be able to...

- Produce a research project that reflects what they learned throughout the unit of study.
- Design and construct experimental objects/structures that demonstrate Newton's laws of motion.
- Analyze toys of physics and identify ways in which each object demonstrates one or more of Newton's laws of motion.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets
- Hands-on experiments
- Toy research and presentation

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 4 G&T Pacing Guide
- BrainPop: Isaac Newton
- BrainPop: Newton’s Law of Motion
- BrainPop: Forces
- YouTube: The Science of Disney Imagineering: Newton’s Three Laws of Motion
- Who Was Isaac Newton by Janet Pascal
- Ducksters
- PBS Learning Media

Equipment Needed:

- Newline Board
- Chromebooks
- Balloons
- Plastic straws
- Masking tape
- Medium binder clips

- Yarn/string
- Marble rollercoaster (large track)
- An array of physics toys
 - hand boiler (vertical and horizontal)
 - balancing bird
 - rail twirler
 - Euler's disk
 - drinking bird
 - rattleback
 - yo-yo
 - slinky
 - clackers/Newton's yo-yo
 - wind gyro
 - figit spinner
 - popper
 - boinks
 - spinning top
 - Newton's Cradle
 - bouncing ball
 - gyro wheel
 - rainbow twirler

GRADE 4 UNIT 2 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Coding: CS Fundamentals Course E - Code.org

Target Course/Grade Level: Fourth Grade

Unit Summary: The course begins with an introduction to the Sprite Lab programming tool. Students will learn to make fun, interactive projects that reinforce what they'll learn about online safety. Following these lessons, students will engage in more complex coding. Students will learn about nested loops, functions, and conditionals. By the end of the course, students will combine these concepts to solve challenging puzzles. The course ends with an open-ended project where students create a game or drawing.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

NJSLSA.SL1 / RI.4.1 Engage effectively in a range of collaborative discussions and cite textual evidence to support responses.

W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

SL.4.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details.

Mathematics:

4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted.

MP.1 Make sense of problems and persevere in solving them.

MP.5 Use appropriate tools strategically.

Career Readiness, Life Literacies, and Key Skills:

9.4.5.CI.1 Use appropriate communication technologies to collaborate with individuals with diverse perspectives.

9.4.5.CI.2 Use a variety of brainstorming techniques to identify alternatives or solve a problem.

9.4.5.CT.2 Identify a problem and list the types of individuals and resources needed to solve it.

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

9.4.5.DC.1 Explain the need for and use of copyrights.

9.4.5.DC.2 Provide attribution according to intellectual property rights guidelines using public domain or creative

commons media.

9.4.5.DC.3 Distinguish between digital images that are real and those that have been digitally altered.

9.4.5.DC.4 Model safe, legal, and ethical behavior when using online or offline technology.

9.4.5.IML.1 Evaluate digital sources for accuracy, perspective, credibility, and relevance.

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

Interdisciplinary Connections and Standards:

Visual & Performing Arts:

1.2.5.Cr1a Brainstorm and explore multiple approaches to solve a creative problem.

1.2.5.Cr3a Revise and refine original works through feedback and self-reflection.

Computer Science & Design Thinking (NJSL-CS):

8.1.5.CS.1 Model how computer hardware and software work together as a system to accomplish tasks.

8.1.5.CS.2 Model how computer software and hardware are used to communicate with others.

8.1.5.NI.2 Describe how internal and external cyber threats can impact individuals and the public.

8.1.5.NI.3 Explain what passwords are and why we use them, and use strong passwords to protect devices and information from unauthorized access.

8.1.5.NI.4 Explain how information is protected using various security measures (e.g., physical and digital).

8.1.5.IC.1 Identify computing technologies that have changed the world, and express how those technologies influence, and are influenced by, cultural practices.

8.1.5.IC.2 Identify possible bias and unethical practices in the design of existing technologies.

8.1.5.IC.3 Discuss the impact of access to technologies on individuals, groups, and communities.

8.1.5.AP.1 Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

8.1.5.AP.2 Create programs that use clearly named variables to store and modify data.

8.1.5.AP.3 Create programs that include sequences, events, loops, and conditionals.

8.1.5.AP.4 Break down tasks into smaller, manageable steps to debug errors in algorithms or programs.

8.1.5.AP.5 Modify, remix, or incorporate portions of an existing program into one's own work, to develop something new or add more advanced features.

8.1.5.AP.6 Develop programs using an iterative process (e.g., design, implement, test, and review).

8.1.5.DA.1 Collect, organize, and display data in order to highlight relationships or support a claim.

Unit Understandings:

Students will understand that...

- Online tools are empowering for kids, and they also come with big responsibilities.
- Sharing online comes with some risks.
- The wide range of careers that involve computer science and artificial intelligence.
- There are challenges and benefits of respecting ownership and copyright.
- Sprite Lab is a Blockly programming environment where you can create interactive projects.

Unit Essential Questions:

- How can we use computer programming to create interactive stories, games, or art?
- What are the important rules for staying safe and respectful online?
- How do computers follow instructions, and why does the order of those instructions matter?
- What are loops, conditionals, and functions, and how do they help us solve problems in coding?
- How can breaking a big problem into smaller parts help us build better programs?
- What makes a game or animation fun and engaging for others to use?
- How can we use what we've learned to build something new and original?

Knowledge and Skills:

Students will know...

- Basic programming concepts such as events, commands, and sequences.
- How to use the Sprite Lab environment to create animations, games, and interactive projects.
- Online safety principles including privacy, respectful behavior, and recognizing trustworthy sources.
- The use of loops to repeat actions and save time in coding.
- The role of conditional statements (if/else) to make decisions in programs.
- How to use functions to group code and avoid repetition.
- Debugging strategies to identify and fix errors in code.
- The importance of user experience when designing interactive projects.
- How to collaborate, give and receive feedback, and revise code to improve projects.

Students will be able to...

- Navigate and use Sprite Lab tools to add, move, and animate sprites.
- Create basic programs that respond to user input or sprite interactions.
- Apply online safety rules when using technology or engaging in digital activities.
- Use loops and nested loops to control repetition in programs.
- Write conditional statements to create choices and interactive behavior in a program.
- Define and call functions to organize code and simplify tasks.
- Decompose complex challenges into smaller, manageable parts when solving puzzles.
- Debug programs by identifying and correcting mistakes in logic or syntax.
- Design and build an original project (game, animation, or drawing) that applies learned programming concepts.
- Reflect on and present their work to peers, explaining how they solved problems or made creative choices.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets
- Checkpoints During Projects
- Debugging Challenges
- End of Course Project

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time

- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 4 G&T Pacing Guide
- Code.org: CS Fundamentals: Course E
- BrainPop
- Quizizz
- Edpuzzle

Equipment Needed:

- Newline Board
- Chromebooks

GRADE 4 UNIT 3 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Battle of the Books

Target Course/Grade Level: Grade 4

Unit Summary: Battle of the Books is a reading motivation program. The goals of the program are to encourage reading for pleasure, broaden reading interests, and recognize students who enjoy reading. Titles of the official Reading Lists are chosen annually, according to the Criteria for Book Selection. Student teams of four to five read the books over a period of months, discuss them, quiz each other on the contents, and then compete in these teams to correctly answer questions based on the books. The questions used all begin with, “In what book...”, so answers will always be a title and an author. The state-wide program involves a cooperative effort by many individuals and local groups. It is popular with students and has provided new opportunities for academic competition. BATTLE OF THE BOOKS has also proven to be effective in its specified purpose: to stimulate an interest in reading.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- RL.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- RL.4.2: Determine a theme of a story, drama, or poem from details in the text; summarize the text.
- RL.4.3: Describe in depth a character, setting, or event in a story or drama, drawing on specific details in the text.
- RL.4.4: Determine the meaning of words and phrases as they are used in a text, including those that allude to significant characters found in mythology.
- RL.4.6: Compare and contrast the point of view from which different stories are narrated, including the difference between first- and third-person narrations.
- RL.4.9: Compare and contrast the treatment of similar themes and topics (e.g., opposition of good and evil) and patterns of events (e.g., the quest) in stories, myths, and traditional literature from different cultures.
- RL.4.10: By the end of the year, read and comprehend literature, including stories, dramas, and poetry, in the grades 4–5 text complexity band proficiently, with scaffolding as needed at the high end of the range.
- RI.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences.

RI.4.2: Determine the main idea of a text and explain how it is supported by key details; summarize the text.

RI.4.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text.

Speaking and Listening (SL):

SL.4.1: Engage effectively in a range of collaborative discussions with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.

SL.4.2: Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

SL.4.3: Identify the reasons and evidence a speaker provides to support particular points.

SL.4.4: Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes.

Language (L):

L.4.4: Determine or clarify the meaning of unknown and multiple-meaning words and phrases.

L.4.6: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases.

Career Readiness, Life Literacies, and Key Skills:

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

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

9.4.5.CT.2: Identify a problem and list the types of individuals and resources that might be helpful in solving it.

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

9.4.5.TL.1: Compare the common uses of digital tools and technologies in different fields.

9.4.5.IML.3: Use a variety of sources to answer a question and evaluate the sources for accuracy.

Interdisciplinary Connections and Standards:

Social Studies:

6.1.5.CivicsCM.3: Explain how diversity, tolerance, fairness, and respect for others can contribute to individuals feeling accepted.

Visual and Performing Arts:

1.5.5.Cn11a: Explain how a person's background, interests, and values influence personal responses to music, stories, or performances.

Unit Understandings:

Students will understand that...

- Reading helps us connect to new perspectives and experiences. (AAH, HG, LGBTQ, AAPI)
- Comprehending and remembering what we read requires active engagement.
- Collaboration and teamwork enhance learning and problem-solving.
- Healthy competition can be a fun and motivating way to reinforce learning.
- Every book offers themes and lessons that connect to real life. (AAH, HG, LGBTQ, AAPI)

Unit Essential Questions:

- How do good readers remember and make sense of what they read?
- What makes a story memorable?
- How can reading books help us understand people who are different from us? (AAH, HG, LGBTQ, AAPI)
- What can stories teach us about real-life problems, relationships, or challenges? (AAH, HG, LGBTQ, AAPI)

- What messages or lessons do authors want us to take away from their stories?(AAH, HG, LGBTQ, AAPI)
- What does effective teamwork look like, and why is it important in a group project?
- How can we respectfully disagree or share different opinions in a group?
- How can competition motivate us to do our best while still being kind and respectful?
- What do we learn from participating—even if we don't “win”?

Knowledge and Skills:

Students will know...

- Students will know...
- The specific details of the books to which they have been assigned or chosen.
- A strategy they can follow to best compete in the Battle of the Books.

Students will be able to...

- Participate in independent and group reading.
- Develop comprehension and recall skills
- Be exposed to a variety of genres and authors.
- Collaborate to compete in a healthy competition

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- “Memory Jogger” graphic organizer completed for each book read
- Teacher observation of collaboration
- Completion of the assigned reading
- Individual and team participation in the Battle of the Books Competition
- End of unit jeopardy assessment

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 4 G&T Pacing Guide
- NJASL Battle of the Books Handbook REV2021
- New Jersey Battle of the Books Grades 3-4 book list - Mackin

Equipment Needed:

- Multiple copies of each book
- Certificates
- Prizes for participants
- Medals for the top three teams

GRADE 4 UNIT 4 OVERVIEW

Content Area: Gifted and Talented

Unit Title: American Symbols and Landmarks

Target Course/Grade Level: Fourth Grade

Unit Summary: Students will learn about American Symbols and Landmarks through a project that will require them to research 10 symbols or landmarks and create a presentation. In addition, students will create a landmark or symbol to represent a part of our American History that has been underrepresented in our communities.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- RI.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences.
- RI.4.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text.
- RI.4.7: Interpret information presented visually, orally, or quantitatively and explain how the information contributes to an understanding of the text.
- W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.4.7: Conduct short research projects that build knowledge through investigation of different aspects of a topic.
- W.4.8: Recall relevant information from experiences or gather relevant information from print and digital sources.
- SL.4.1: Engage effectively in a range of collaborative discussions.
- SL.4.4: Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant details.

Career Readiness, Life Literacies, and Key Skills:

- 9.4.4.CI.1: Demonstrate openness to new ideas and perspectives.
- 9.4.4.CI.2: Identify and gather information that is needed to solve a problem.
- 9.4.4.IML.3: Use a variety of sources to access and apply information to solve problems.
- 9.4.4.IML.6: Identify the role of media in influencing and informing the public.
- 9.4.4.TL.2: Create a simple digital artifact to share information.
- 9.4.4.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital products.

Interdisciplinary Connections and Standards:

Social Studies:

6.1.4.CivicsPI.3: Explain how the United States functions as a representative democracy and describe the roles of elected representatives and how individuals participate in the political process.

6.1.4.CivicsCM.4: Explain the roles of individuals, including students, parents, community members, and government officials, in a variety of situations.

6.1.4.CivicsPR.1: Explain how rules and laws created by a community, state, and national government protect the rights of people, help resolve conflicts, and promote the common good.

6.1.4.HistoryCC.6: Use multiple sources to make evidence-based inferences or predictions about the past.

6.1.4.HistoryCC.7: Explain how historical symbols, monuments, and holidays reflect the shared values, principles, and beliefs of the American identity.

6.1.4.HistoryUP.6: Compare the contributions of different groups, including Indigenous peoples, African Americans, and women, to the development of American culture.

6.1.4.HistorySE.2: Explain how various cultural groups have dealt with the conflict between maintaining traditional beliefs and practices and adopting new ones.

Unit Understandings:

Students will understand that...

- There is a purpose and importance of symbols and landmarks to our collective history. (AAH, HG, LGBTQ, AAPI)

Unit Essential Questions:

- What are symbols and landmarks?
- What do American symbols and landmarks tell us about our country's history, values, and identity? (AAH, HG, LGBTQ, AAPI)
- Why are certain people, places, and events chosen to be remembered and represented in our communities? (AAH, HG, LGBTQ, AAPI)
- How can we honor important parts of American history that are often overlooked? (AAH, HG, LGBTQ, AAPI)
- How do symbols and landmarks help us understand the diverse stories that make up American history? (AAH, HG, LGBTQ, AAPI)
- What makes a place or object important enough to become a symbol or landmark? (AAH, HG, LGBTQ, AAPI)

Knowledge and Skills:

Students will know...

- The historical significance of key American symbols and landmarks (e.g., the Statue of Liberty, Mount Rushmore, the U.S. Capitol, the Liberty Bell). (AAH, HG, LGBTQ, AAPI)
- The location of the symbols and landmarks in the United States.
- Symbols and landmarks represent ideas, events, or people important to American history and culture. (AAH, HG, LGBTQ, AAPI)
- That not all parts of American history are equally represented in our public symbols and landmarks. (AAH, HG, LGBTQ, AAPI)
- Creating symbols and landmarks can be a way to honor and remember underrepresented communities or events. (AAH, HG, LGBTQ, AAPI)

Students will be able to...

- Research historical information using books, websites, and other reliable sources.

- Summarize key facts about 10 American symbols or landmarks, including their origin, location, and meaning. (AAH, HG, LGBTQ, AAPI)
- Organize information clearly in a visual or oral presentation (e.g., Google Slides, posters, oral reports).
- Analyze the purpose and message behind different symbols and landmarks. (AAH, HG, LGBTQ, AAPI)
- Design a symbol or landmark that represents a missing or overlooked part of American history. (AAH, HG, LGBTQ, AAPI)
- Collaborate with peers to discuss underrepresented histories in their communities. (AAH, HG, LGBTQ, AAPI)

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Symbol/Landmark Research Notes Check
- Quick Writes or Exit Tickets
- Peer Discussion
- Draft Design Sketch and Written Rationale
- Presentation on 10 Symbols or Landmarks - Rubric
- Original Symbol or Landmark Project - Rubric

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 4 G&T Pacing Guide

Websites:

- National Park Service – Teaching with Historic Places
- National Park Service - National Historic Landmarks Program
- Smithsonian Learning Lab
- Library of Congress
- American History for Kids - Symbols and Monuments

- A to Z Kids Stuff - Symbols of the USA
- Area Vibes - A Guide to Famous American Landmarks for Kids!
- BrainPop, Jr. – US Symbols
- Visit the USA - 11 Not-To-Be-Missed Iconic USA Landmarks

Books: Follett Titlewave

- U.S. landmarks, monuments, and symbols (Travel to...) by Kurkov, Lisa
- Visiting U.S. Symbols Book Set [10-item set] Hardcover (library binding) — Rourke Educational Media
- U.S. Landmarks Book Set [8-item set] by Culliford, Amy

Equipment Needed:

- Newline Board
- Chromebooks

GRADE 5 UNIT 1 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Expedition to Mars

Target Course/Grade Level: Fifth Grade

Unit Summary: In this simulated space mission to Mars and Phobos in the year 2076, students will gain knowledge about Mars and the challenges of space exploration.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- L.RF.5.4. Read with sufficient accuracy and fluency to support comprehension.
- L.KL.5.1. Use knowledge of language and its conventions when writing, speaking, reading, or listening.
- L.VL.5.2. Determine or clarify the meaning of unknown and multiple-meaning academic and domain-specific words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.
- RI.CR.5.1. Quote accurately from an informational text when explaining what the text says explicitly and make relevant connections when drawing inferences from the text.
- RI.CI.5.2. Determine the central idea of an informational text and explain how it is supported by key details; summarize the text.
- RI.IT.5.3. Analyze the impact of two or more individuals and events throughout the course of a text, explaining the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific evidence in the text.
- RI.MF.5.6. Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, timelines, animations, or interactive elements on web pages) and explain how the information contributes to an understanding of the text in which it appears.
- W.IW.5.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.WR.5.5. Establish a central idea about a topic, investigation, issue or event and use several sources to support the proposed central idea.
- W.SE.5.6. Gather relevant information from multiple valid and reliable print and digital sources; summarize or paraphrase information in notes and finished work, making note of any similarities and differences among ideas presented; and provide a list of sources.

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

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

SL.ES.5.3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence.

SL.PI.5.4. Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.

Mathematics:

5.M A. Convert like measurement units within a given measurement system

5.DL A. Understand and analyze data visualizations

5.G A. Graph points on the coordinate plane to solve real-world and mathematical problems

Career Readiness, Life Literacies, and Key Skills:

9.2.5.CAP.x: Evaluate interests, identify careers (e.g., astronaut, engineer, biologist), and understand qualifications for STEM professions.

9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic of curiosity (e.g., 8.2.5.ED.2, 1.5.5.CR1a).

9.4.5.CI.4: Research the development process of a product and identify the role of failure as a part of the creative process (e.g., W.4.7, 8.2.5.ED.6).

9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process (e.g., 2.1.5.EH.4, 4-ESS3-1, 6.3.5.CivicsPD.2).

9.4.5.CT.2: Identify a problem and list the types of individuals and resources (e.g., school, community agencies, governmental, online) that can aid in solving the problem (e.g., 2.1.5.CHSS.1, 4-ESS3-1).

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

9.4.5.CT.4: Apply critical thinking and problem-solving strategies to different types of problems such as personal, academic, community and global (e.g., 6.1.5.CivicsCM.3).

Interdisciplinary Connections and Standards:

Science:

5.LS2.A Use observations to describe patterns of what plants and animals (including humans) need to survive.

5.ESS2.A Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

5.LS2.A Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

5.ESS2.A Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.

5.ESS3.C Communicate solutions that will reduce the impact of climate change and humans on the land, water, air, and/or other living things in the local environment.

5.PS2.B Use observations of the sun, moon, and stars to describe patterns that can be predicted.

Unit Understandings:

Students will understand that...

- There are key characteristics of Mars and its moon Phobos, including their physical features, atmospheres, and potential for supporting human life.
- The scientific and technological challenges involved in long-duration space travel including life support, communication delays, navigation, and the psychological and physical effects on astronauts.

- Science, technology, engineering, and mathematics work together to make space exploration possible, including the design and operation of spacecraft, rovers, and habitats.
- There is an importance of collaboration, problem-solving, and critical thinking by participating in simulated mission roles (e.g., engineer, biologist, mission commander).
- Exploring Mars and its moon Phobos contributes to human knowledge and may play a role in the future of humanity and planetary science.
- It is important to know how to use the scientific method to design and conduct experiments related to Mars exploration (e.g., testing materials for habitats, growing food, analyzing soil samples).

Unit Essential Questions:

- What makes Mars and Phobos unique, and why are they important to explore?
- What challenges must humans overcome to live and work on Mars or its moon, Phobos?
- How do science and engineering work together to solve problems in space exploration?
- What can a simulated space mission teach us about teamwork, communication, and problem-solving?
- Why do humans explore space, and how might missions to Mars and Phobos shape our future?
- How can we design technology and systems to support human survival on another planet?
- What does a successful space mission look like, and how do we prepare for the unexpected?

Knowledge and Skills:

Students will know...

- Key features of Mars and Phobos (terrain, atmosphere, gravity, temperature).
- Differences and similarities between Earth, Mars, and Phobos.
- The history and goals of Mars exploration. (AAH, LGBTQ, AAPI)
- Technologies used in space missions (rovers, habitats, life support systems).
- The role of NASA and international space agencies.
- Challenges of human space travel (radiation, food, oxygen, waste, etc.).
- How scientists test materials and systems for space use.
- Importance of data collection and analysis in space science.
- How to identify a problem, brainstorm solutions, build models, and test designs.
- Understanding different mission roles.
- The importance of communication and teamwork during complex missions.

Students will be able to...

- Gather and synthesize information from text, videos, and simulations.
- Complete tasks by actively listening and following directions.
- Analyze problems related to space survival and propose logical solutions.
- Work in groups to carry out mission tasks and solve challenges.
- Use clear communication to share ideas, data, and results.
- Design and construct models using given materials.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher Observation
- Exit Tickets and Reflections
- Group Discussions and Role Debriefs
- Mini Challenges, Tasks, and Design Checks
- Successful Mission completion at Buehler Challenger and Science Center

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

<i>RESOURCES</i>

Teacher Resources:

- Grade 5 G&T Pacing Guide
- Expedition Mars Teacher’s Guide
- NASA
- BrainPOP - Mars
- BrainPOP - Space Flight
- EdPuzzle
- A Rover's Story by Jasmine Warga
- Curiosity: The Story of a Mars Rover by Markus Motum
- Hello, Opportunity: The Story of Our Friend on Mars by Shaelyn McDaniel
- Welcome to Mars: Making a Home on the Red Planet by Buzz Aldrin
- Good Night Oppy - 2022 Documentary Amazon Prime Video

Equipment Needed:

- Newline Board
- Chromebooks
- Activity Supplies:
 - plain white paper
 - large index cards
 - medium index cards
 - scissors
 - paper clips
 - box of toothpicks
 - post-it notes
 - sandwich bags
 - 11 oz bags of Chuckles Spice Drops or similar items (e.g., gummy bears, marshmallows, Lego pieces)
 - hand lenses

- diffraction-grating paper
- scotch tape
- Single-hole paper punch
- flour
- cocoa powder
- aluminum pie pans or trays
- metric rulers
- meter sticks
- pebbles
- newspapers/plastic table cloth/plastic tarp

GRADE 5 UNIT 2 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Robotics: Ozobots

Target Course/Grade Level: Fifth Grade

Unit Summary: Ozobot is a robotic platform that empowers coding and STEAM education. Students will create and utilize code to foster the creative experience and motivate students to keep learning and exploring.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- RI.5.3: Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text.
- RI.5.7: Draw on information from multiple print or digital sources to locate an answer or solve a problem quickly or to clarify information.
- W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
- W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources.
- SL.5.1: Engage effectively in a range of collaborative discussions.
- SL.5.4: Report on a topic or text, tell a story, or recount an experience in an organized manner.
- SL.5.5: Include multimedia components and visual displays in presentations to enhance development of main ideas or themes.

Mathematics:

- 5.MD.B.2: Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions to solve problems involving information presented in line plots. (If data collection is part of robot testing)
- 5.OA.A.1: Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. (Connected to logic in coding)
- 5.OA.B.3: Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. (Linked to conditional logic or sequences in code)

Career Readiness, Life Literacies, and Key Skills:

- 9.2.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
- 9.2.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
- 9.2.5.CAP.6: Compare the characteristics of a successful entrepreneur with those of an employee.
- 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives.
- 9.4.5.CI.3: Participate in a brainstorming session with individuals with diverse perspectives to expand one's thinking about a topic.
- 9.4.5.CT.2: Identify a problem and list the types of individuals and resources that could be helpful in solving the problem.
- 9.4.5.CT.3: Describe how digital tools and technology may be used to solve problems.
- 9.4.5.TL.3: Identify and describe how digital tools are used for problem solving.
- 9.4.5.IML.2: Create a visual representation to organize information about a problem or issue.

Interdisciplinary Connections and Standards:**Science:**

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

Social Studies:

- 6.1.5.CivicsPD.1: Develop an argument about the influence of technology on the development of a society.

Unit Understandings:

Students will understand that...

- Coding is a set of instructions used to control the actions of robots like Ozobots.
- Robots can be programmed to complete tasks, navigate challenges, or even act out narratives.
- Coding is not just logical—it can be a creative way to express ideas, emotions, and design.
- Mistakes are a natural part of coding and can lead to discoveries through iteration.
- Teamwork and collaboration can lead to more successful coding projects and stronger problem-solving skills.
- Robotics and coding empower them to be inventors, engineers, and storytellers.

Unit Essential Questions:

- How does code control a robot like Ozobot?
- How can we use Ozobots to solve real-world problems or create stories?
- What do we do when our code doesn't work as expected?
- How does working with others help us improve our designs?
- Why is creativity important when using technology?

Knowledge and Skills:

Students will know...

- Basic coding concepts (e.g., includes loops, sequences, and conditionals).
- Ozobots use sensors to follow lines, recognize color sequences, and respond to programmed commands.
- Designing, testing, and revising code is part of every successful project.
- Coding combines science, technology, engineering, art, and math.

- Team members must share ideas, give feedback, and divide tasks to complete projects effectively.

Students will be able to...

- Use color markers to create paths with command sequences.
- Use OzoBlockly to drag and drop blocks to program behavior.
- Sketch and plan an Ozobot path or challenge.
- Design creative stories, maps, or mazes for the robot to navigate.
- Test and debug programs.
- Use logic and creativity to design solutions and artistic expressions.
- Work with peers to brainstorm, solve problems, and complete group challenges.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets
- Performance-based tasks
- Checkpoints during projects
- Quick checks and mini quizzes
- Debugging challenges
- End of course project - Color Code a Roller Coaster Adventure

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 5 G&T Pacing Guide
- Ozobot 5th Grade Pacing Guide

- Ozobot.com ([AAH](#), [HG](#), [LGBTQ](#), [AAPI](#) - various lessons represent these areas)

Equipment Needed:

- Newline Board
- Chromebooks
- Ozobots
- plain white paper
- broad-tip markers - red, blue, green, and black

GRADE 5 UNIT 3 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Junior Achievement BizTown

Target Course/Grade Level: Fifth Grade

Unit Summary: JA BizTown® combines in-class learning with a day-long visit to a simulated town. This popular learning experience enables elementary school students to operate banks, manage restaurants, write checks, and participate in voting for mayor. Students can connect the dots between what they learn in school and the real world.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- RI.5.1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences.
- RI.5.3: Explain the relationships between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text.
- RI.5.7: Draw on information from multiple print or digital sources to locate an answer quickly or to solve a problem efficiently.
- RH.5-8.1: Cite specific textual evidence to support analysis of primary and secondary sources.
- W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information.
- W.5.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- WHST.5-8.2: Write informative/explanatory texts, including narration of historical events and technical processes.
- W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources.
- W.5.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

Mathematics:

- 5.NBT.B.7: Add, subtract, multiply, and divide decimals to hundredths.
- 5.MD.B.2: Make a line plot to display a data set of measurements in fractions of a unit and use operations to solve problems.
- 5.NF.A.2: Solve word problems involving addition and subtraction of fractions.
- 5.NF.B.6: Solve real world problems involving multiplication of fractions and mixed numbers.
- 5.OA.A.1: Use parentheses and evaluate expressions—useful in budgeting simulations.

Career Readiness, Life Literacies, and Key Skills:

9.1 Personal Financial Literacy

9.1.5.FP.1: Demonstrate an understanding of the concepts of credit, savings, spending, and charitable giving.

9.1.5.FP.2: Identify ways to earn and save money.

9.1.5.FP.3: Analyze choices about earning, spending, saving, and charitable contributions.

9.1.5.EG.1: Explain how money is used as a medium of exchange.

9.1.5.EG.2: Identify the role of an individual in the broader economy.

9.1.5.EG.3: Explain the role of money, income, spending, and investment in the economy.

9.1.5.EG.4: Explain how education and training influence future opportunities and earnings.

9.1.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.

9.1.5.CAP.2: Identify how you might like to earn an income.

9.1.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.

9.1.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and education.

9.1.5.CAP.5: Identify various resources to explore career choices.

9.1.5.RMI.1: Identify risks that individuals and households may face.

9.1.5.RMI.2: Justify the concept of "insurance".

9.1.5.PB.1: Develop a personal budget based on given income and expenses.

9.4 Life Literacies and Key Skills

9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives.

9.4.5.CI.2: Investigate a variety of problems in the community and brainstorm ways to solve them.

9.4.5.CI.3: Participate in a brainstorming session to identify potential solutions to an issue.

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

9.4.5.CT.2: Identify a problem and list the types of individuals and resources that could aid in solving it.

9.4.5.IML.6: Use a variety of sources to identify the strengths and limitations of digital media.

9.4.5.TL.3: Format a document using a word processing application to enhance clarity and add visual interest.

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

9.4.5.GCA.1: Analyze how culture shapes individual and community perspectives.

Interdisciplinary Connections and Standards:

Social Studies:

6.1.5.CivicsPI.1: Describe ways in which citizens participate in government (e.g., voting, attending town meetings).

6.1.5.CivicsPR.4: Explain how policies are developed to address public problems.

6.1.5.CivicsDP.1: Describe the roles of elected officials in the state and federal governments.

6.1.5.EconET.1: Identify positive and negative incentives that influence the decisions people make.

6.1.5.EconEM.1: Explain why individuals and businesses specialize and trade.

6.1.5.EconEM.2: Describe how supply and demand influence price and output of products.

6.1.5.EconNM.3: Describe how consumers and businesses interact in a market economy.

6.1.5.EconNM.5: Explain the role of money, income, and taxes in society.

6.1.5.GeoPP.4: Investigate how people contribute to their communities and the responsibilities of citizens.

6.3.5.CivicsPD.1: Develop and implement an action plan to address a problem impacting local or global communities.

Unit Understandings:

Students will understand that...

- there are the fundamental concepts of financial literacy, including earning, saving, spending, and managing money.
- there are the responsibilities of citizenship, the role of businesses in a community, and how individuals contribute to an economy.
- through classroom lessons and participation in a simulated town experience, students will develop career readiness skills, practice decision-making, and apply problem-solving strategies in real-world scenarios.

Unit Essential Questions:

- What makes a community work successfully?
- How do people earn, spend, save, and manage money wisely?
- What roles do citizens, workers, and businesses play in a local economy? (AAH, HG, LGBTQ, AAPI)
- How do personal choices affect financial well-being and community outcomes? (AAH, HG, LGBTQ, AAPI)
- What skills and responsibilities are important for success in the workplace?
- How can I contribute to my community as a responsible and informed citizen?

Knowledge and Skills:

Students will know...

- The basic functions of a community economy, including goods, services, and resources.
- The roles and responsibilities of citizens, consumers, workers, and business owners.
- Key financial literacy concepts such as income, expenses, savings, budgeting, credit, and taxes.
- How banks, businesses, and government entities interact within a community.
- The purpose and structure of a paycheck and the role of financial institutions.
- Basic career readiness concepts, including teamwork, job responsibilities, and leadership.

Students will be able to...

- Discuss the roles they play as citizens, employees, and consumers in their community and relate those roles to the market economy. (AAH, HG, LGBTQ, AAPI)
- Discuss the importance of citizen rights and responsibilities in a community, including being an informed voter. (AAH, HG, LGBTQ, AAPI)
- Demonstrate a basic understanding of the free enterprise system and its historic foundation.
- Foster money management skills through practical experiences of economic concepts and banking practices.
- Develop an understanding of foundational business practices and responsibilities.
- Display the soft skills essential for successful participation in the world of work and career building.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets and journals
- Performance-based tasks
- Check writing practice
- Bank account ledgers

- Quick checks and mini quizzes
- Successful trip outcome at JA BizTown, Edison, NJ

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 5 G&T Pacing Guide
- Junior Achievement BizTown Teacher's Guide
- Junior Achievement BizTown Teacher Homepage
- BrainPOP
 - Budgets
 - Banking
 - Credit Cards
 - Comparing Prices

Equipment Needed:

- Newline Board
- Chromebooks
- Student Workbooks provided by Junior Achievement
- Student Checkbooks provided by Junior Achievement

GRADE 5 UNIT 4 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Environment, Biomes, and Ecosystems

Target Course/Grade Level: Fifth Grade

Unit Summary: In this unit, students will explore the major ecosystems that make up Earth's environment. They will investigate how living and nonliving things interact with each ecosystem to form complex ecosystems that support life. They will learn about food chains and webs, biodiversity, climate influences, and how ecosystems respond to change.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- RI.5.1 – Quote accurately from a text when explaining what the text says explicitly and when drawing inferences.
- RI.5.3 – Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a scientific text.
- RI.5.7 – Draw on information from multiple print or digital sources to locate an answer to a question or solve a problem.
- W.5.2 – Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- W.5.7 – Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
- W.5.8 – Recall relevant information from experiences or gather relevant information from print and digital sources.

Mathematics:

- 5.MD.B.2 – Make a line plot to display a data set of measurements; use operations to solve problems involving information presented in line plots.

Career Readiness, Life Literacies, and Key Skills:

- 9.4.5.CI.1 – Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions.
- 9.4.5.CT.3 – Describe how digital tools and technology may be used to solve problems.
- 9.4.5.GCA.1 – Analyze how culture shapes individual and community perspectives about environmental issues.

9.4.5.IML.2 – Create a visual representation to organize information about a problem or issue.

9.4.5.TL.3 – Evaluate the strengths and limitations of various technologies and their suitability for solving real-world problems.

Interdisciplinary Connections and Standards:

Science:

5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.

5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

ESS3.C – Human Impacts on Earth Systems - Human activities in agriculture, industry, and everyday life have major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments.

ETS1.A – Defining and Delimiting Engineering Problems - Asking questions, defining problems and considering constraints and criteria.

Social Studies:

6.1.5.GeoSV.1 – Use maps and models to describe spatial patterns of Earth's features.

6.3.5.CivicsPD.1 – Develop an argument and present evidence about how rules or laws are made and changed in response to problems.

Unit Understandings:

Students will understand that...

- Earth is made up of diverse ecosystems, each with unique climates, organisms, and physical features.
- Ecosystems include both living and nonliving components that interact and depend on one another.
- The major ecosystems—such as forests, deserts, grasslands, tundras, freshwater, and marine—each support different kinds of life based on their environmental conditions.
- All organisms have roles in an ecosystem, including producers, consumers, and decomposers, which are essential for the transfer of energy.
- Food chains and food webs show how energy flows through ecosystems and how all organisms are connected.
- Biodiversity is important for a healthy and stable ecosystem.
- Ecosystems can be affected by natural events and human activities, which can lead to changes in population, resources, and the overall health of the environment.
- Protecting ecosystems and understanding human impact is essential for the sustainability of life on Earth.

Unit Essential Questions:

- What are the major ecosystems on Earth, and how are they different from one another?
- How do living and nonliving things interact within an ecosystem?
- What roles do producers, consumers, and decomposers play in an ecosystem?
- How does energy flow through food chains and food webs?
- How do natural events and human activities impact ecosystems?
- What can we do to protect and preserve Earth's ecosystems for future generations?

Knowledge and Skills:

Students will know...

- The characteristics and locations of Earth’s major ecosystems: forests, deserts, grasslands, tundra, freshwater, and marine.
- The difference between living and nonliving components of an ecosystem.
- The roles of organisms as producers, consumers, and decomposers.
- How food chains and food webs demonstrate energy flow within ecosystems.
- The concept of biodiversity and its importance to ecosystem stability.
- How ecosystems can change due to natural causes (like storms, droughts, fires) and human actions (like pollution, deforestation, and climate change).
- Ways humans can protect and restore ecosystems.

Students will be able to...

- Identify and compare the features of major ecosystems.
- Classify organisms by their role in an ecosystem.
- Construct and interpret food chains and food webs.
- Analyze the impact of environmental changes on ecosystems.
- Use maps and data to identify ecosystems.
- Communicate findings through written reports, models, and presentations.
- Propose solutions for protecting and conserving ecosystems.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets and journals
- Ecosystem Research Project
- Exit Tickets
- Food Web Diagram
- Model Creation
- Performance at the Union County Gifted and Talented Association’s Environment Convocation

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 5 G&T Pacing Guide

Websites:

- Generation Genius
- United States Environmental Protection Agency - Ecosystems
- Elementary School Science - Ecology: How We Get Along - A Look at Ecosystems
- Project Learning Tree - Introducing Ecosystems to Elementary Students
- Teacher Pay Teachers - Ecosystems Lesson Plans
- EdPuzzle
- BrainPOP
 - Ecosystems
 - Food Chains
 - Land Biomes

Suggested Books: Follett Titlewave

- Ecosystems Inside Out Book Set
- Ecosystems of the World Book Set
- Biomes Of The Earth Book Set
- Be the Change for the Environment (Be the Change!) by Megan Kopp

Equipment Needed:

- Newline Board
- Chromebooks

GRADE 6 UNIT 1 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Forensic Science

Target Course/Grade Level: Sixth Grade

Unit Summary: In this unit, students will explore the world of criminal investigations. They will learn how investigators collect and analyze different types of evidence to solve crimes. They will research key concepts such as fingerprints, DNA, witness statements, and more. Through hands-on activities and critical thinking, students will apply what they learned by participating in the Union County Gifted and Talented Association's C.S.I. Convocation.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

Science:

MS-PS1-2 Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

MS-PS1-3 Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution.

MS-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints.

MS-LS1-1 Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

MS-LS1-8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

Career Readiness, Life Literacies, and Key Skills:

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

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

9.4.8.IML.3 Create a plan to organize and utilize data to support a claim or conclusion.

9.4.8.TL.4 Synthesize and publish information about a local or global issue or event (e.g., climate change) using a variety of digital tools and resources to demonstrate understanding.

9.4.8.CI.1 Assess data gathered on varying perspectives on causes of climate change (or any other complex issue) to determine how critical thinking can be used to navigate complex challenges.

9.4.8.GCA.1 Model how to navigate cultural differences with sensitivity and respect.

Interdisciplinary Connections and Standards:

Visual & Performing Arts:

Use visual representations and dramatizations (e.g., crime scene sketches, reenactments) to support analysis and presentations.

Mathematics:

6.SP.4: Display numerical data in plots on a number line, including dot plots, histograms, and box plots.

6.SP.5: Summarize numerical data sets in relation to the context.

Social Studies:

Use chronological thinking and cause-effect reasoning during case analysis and criminal investigations.

Unit Understandings:

Students will understand that...

- Criminal investigations rely on careful observation, critical thinking, and the scientific analysis of evidence.
- Different types of evidence—such as fingerprints, DNA, fibers, and eyewitness accounts—play a key role in solving crimes.
- Investigators must follow logical steps and use problem-solving strategies to piece together what happened.
- The accuracy, reliability, and interpretation of evidence can influence the outcome of an investigation.
- Teamwork and communication are essential skills when working through complex problems like crime scene investigations.

Unit Essential Questions:

- How do investigators use evidence to solve crimes?
- What are the different types of evidence, and how are they collected and analyzed?
- Why is it important to think critically and objectively during an investigation? (AAH, HG, LGBTQ, AAPI)
- How can scientific methods help uncover the truth in a criminal case?
- How do teamwork and communication impact the success of an investigation?
- What makes some evidence more reliable or useful than others?

Knowledge and Skills:

Students will know...

- Understand the basic steps of a criminal investigation.
- Identify and describe different types of evidence.
- Know how investigators collect, preserve, and analyze evidence.
- Recognize the importance of observation and inference in forensic science.
- Understand how scientific reasoning is used to conclude.
- Learn key forensic terms such as suspect, motive, alibi, evidence, hypothesis, etc.

Students will be able to...

- Observe details and record findings accurately.
- Analyze fingerprints, footprints, fibers, and other forms of evidence.
- Conduct basic experiments or simulations to test forensic methods.
- Work collaboratively to investigate and solve a mock crime scene.
- Use critical thinking to make logical connections between clues.
- Communicate findings clearly through written reports or presentations.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Case file reports
- Student response sheets and journals
- Exit Tickets
- Create a crime scene
- Performance at the Union County Gifted and Talented Association’s C.S.I. Convocation

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 6 G&T Pacing Guide
- Kemtec: Elementary Crime Solving Teacher’s Guide
 - A Theft at the Mall
 - A Theft at the Hospital
- BrainPOP
 - Fingerprints

- EdPuzzle
- The Case of the Kidnapped Cookies - Kit

Equipment Needed:

- Newline Board
- Chromebooks
- Kemtec: Elementary Crime Solving Kit
- The Case of the Kidnapped Cookies Kit
- microscopes (40X & 100X magnification)
- ink pads
- permanent marker
- water
- scissors
- lighter/matches
- student goggles
- test tubes (glass)
- hot water kettle
- beaker (for holding test tubes in hot water)
- hot pads
- lemon juice
- window cleaner (with ammonia)
- baking soda
- vinegar

GRADE 6 UNIT 2 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Coding: BreakBeat Code

Target Course/Grade Level: Sixth Grade

Unit Summary: In this unit, students explore the exciting intersection of music production and computer science. Using browser-based coding platforms like EarSketch or similar music coding tools, students learn the fundamentals of programming while creating their own unique beats and musical compositions. The unit introduces basic coding concepts such as sequencing, loops, variables, and functions in a creative, culturally relevant context that connects with students' interests in music.

Approximate Length of Unit: 20 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

Computer Science:

- 8.1.8.CS.2: Design a system that combines hardware and software components to process data.
- 8.1.8.CS.3: Identify and fix errors using a systematic process (debugging).
- 8.1.8.NI.2: Model the role of protocols in transmitting data across networks and the internet.
- 8.2.8.ED.2: Identify constraints and trade-offs in the design process.
- 8.2.8.ED.4: Investigate a malfunctioning system and select tools and methods for corrective action.
- 8.2.8.NT.2: Examine how technology impacts the natural world.
- 8.1.8.AP.1: Compare and refine multiple algorithms for the same task.
- 8.1.8.AP.3: Design and develop modular programs using functions.
- 8.1.8.AP.4: Evaluate and debug code to ensure it works as intended.
- 8.1.8.AP.5: Create programs that use variables to store and modify data.
- 8.1.8.AP.6: Develop programs using loops to improve efficiency.
- 8.1.8.DA.1: Organize and transform data using computational tools.
- 8.1.8.DA.2: Collect data using computational tools and techniques.
- 8.1.8.DA.3: Analyze and display data using various tools.

Visual & Performing Arts:

- 1.3C.12nov.Cn11a: Demonstrate understanding of relationships between music and the other arts, other disciplines, varied contexts, and daily life.
- 1.3C.12nov.Cr1a: Generate musical ideas (such as rhythms, melodies, and accompaniment patterns) within a

given tonality and/or meter.

1.3C.12nov.Cr2a: Select and develop musical ideas for defined purposes and contexts.

1.3C.12nov.Cr3a: Evaluate, refine, and document revisions to music, applying teacher-provided criteria and feedback.

1.3C.12nov.Pr4a: Demonstrate and explain how musical concepts are used in performing.

Career Readiness, Life Literacies, and Key Skills:

9.4.8.CI.1: Assess data gathered on varying perspectives on causes of climate change (e.g., cross-cultural, gender-specific, generational), and determine how the data can best be used to design multiple potential solutions.

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

9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term impacts.

9.4.8.DC.1: Analyze the resourcefulness of individuals or societies in addressing global problems.

9.4.8.DC.2: Provide appropriate citation and attribution elements when creating media content.

9.4.8.TL.3: Select appropriate tools to organize and present information digitally.

9.4.8.TL.4: Synthesize and publish information using appropriate digital tools.

9.4.8.IML.1: Critically curate multiple resources for a specific purpose.

Interdisciplinary Connections and Standards:

English Language Arts:

NJSLSA.SL1: Prepare for and participate effectively in a range of conversations and collaborations.

NJSLSA.W4: Produce clear and coherent writing appropriate to task, purpose, and audience.

NJSLSA.W6: Use technology to produce and publish writing.

Math:

6.EE.B.6: Use variables to represent numbers and write expressions.

6.SP.B.5: Summarize numerical data sets in relation to context.

Technology Literacy:

8.2.8.ITH.2: Compare how technologies have changed over time and predict future developments.

Unit Understandings:

Students will understand that...

- Code can be used to create original music and express creativity.
- Programming involves sequencing, repetition, and problem solving.
- Digital tools can empower students to produce and share music globally.
- Collaboration and feedback are key elements in both coding and music production.

Unit Essential Questions:

- How can coding be used as a form of creative expression?
- What are the connections between music and programming?
- How do loops, functions, and variables enhance music production?
- How can we use technology to share our voices and culture? (AAH, LGBTQ, AAPI)

Knowledge and Skills:

Students will know...

- Understand coding concepts such as loops, sequencing, variables, and functions.
- Learn to use a digital music coding platform (e.g., EarSketch).
- Compose original beats and tracks using code.
- Debug and improve their code to achieve the desired musical results.

- Collaborate with peers and give constructive feedback.
- Present and reflect on their final musical compositions.

Students will be able to...

- Break problems into steps (decomposition).
- Recognize patterns in code and music.
- Apply logic and reasoning to create loops and functions.
- Write basic code using a music programming platform (e.g., Python in EarSketch).
- Use loops, variables, and functions to build musical sequences.
- Debug and troubleshoot code.
- Select and arrange beats, sounds, and instruments.
- Understand tempo, rhythm, and song structure.
- Edit and layer tracks for a complete composition.
- Design original music that reflects personal style or cultural influences. (AAH, LGBTQ, AAPI)
- Use code as a tool for storytelling and mood creation. (AAH, LGBTQ, AAPI)
- Work with peers to remix or build on shared projects.
- Give and receive constructive feedback.
- Present finished projects to an audience.
- Evaluate the effectiveness of both code and music.
- Revise drafts to improve musical and technical quality.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- **Code Composition Project:** Students create an original piece of music using code that demonstrates the use of key programming concepts.
- Teacher observation
- Student oral feedback
- Class discussion
- Student Coding
- Participation in the BreakBeat Code Hackathon

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 6 G&T Pacing Guide
- BreakBeat Code Online Curriculum

Equipment Needed:

- Newline Board
- Chromebooks

GRADE 6 UNIT 3 OVERVIEW

Content Area: Gifted and Talented

Unit Title: Junior Achievement BizTown

Target Course/Grade Level: Sixth Grade

Unit Summary: JA BizTown® combines in-class learning with a day-long visit to a simulated town. This popular learning experience enables elementary school students to operate banks, manage restaurants, write checks, and participate in voting for mayor. Students can connect the dots between what they learn in school and the real world.

Approximate Length of Unit: 10 weeks

LEARNING TARGETS

NJ Student Learning Standards:

G&T Program-Specific Standards (From NJ DOE & NAGC)

From NJ Statute/N.J.A.C. 6A:8-3.1:

- 1.1–1.7 Self-understanding & socio-emotional growth
- 2.1–2.6 Identification & program evaluation
- 3.1–3.6 Curriculum planning & talent development
- 4.1–4.5 Competencies: self, social, leadership, communication
- 5.1–5.7 Variety of programming, coordination, pathways, policy
- 6.1–6.4 Educator qualifications, professional development

English Language Arts:

- L.KL.6.2 Use academic and domain-specific vocabulary; vary sentence patterns; maintain consistent tone/style
- L.VL.6.3 Determine meanings of unknown/multiple-meaning and technical words from context; use Greek/Latin roots; consult reference materials; verify meanings
- L.VI.6.4 Interpret figures of speech and idioms, understand word relationships (e.g., synonyms, antonyms, analogies), analyze word choice effects, and distinguish connotation differences
- RL.CR.6.1/RI.CR.6.1 – Cite textual evidence to support explicit understanding and inferences in both literary and informational texts
- RI.CI.6.2 – Determine central ideas in informational text and summarize
- RI.TS.6.4 – Use text features and structures (cause-effect, headings, captions) to locate/integrate information
- NJLSA.R7 – Integrate content across media, including visual and quantitative
- RL/RI.R8 – Evaluate arguments and reasoning in a text

Mathematics:

6.RP.A.1–A.3:

Understand ratios, unit rates (e.g., price per item), percent calculations, and proportional reasoning—critical for budgeting and business pricing in BizTown.

6.NS.A.1: Divide fractions by fractions—e.g., portioning supplies or food items.

6.NS.B: Calculate with multi-digit decimals (income, expenses, banking transactions).

6.NS.C: Apply rational numbers, including negatives (overdrafts, debt), coordinate grids (simple mapping in town).

- 6.EE.A.1–A.4: Write and evaluate expressions with variables and exponents—e.g., formulas for cost, discounts, or tax. 6.EE.B.5–B.6: Represent real-world constraints using equations and inequalities (e.g., staying within a budget).
- 6.G.A.1: Compute area of shapes—useful if students design floor plans or calculate space in their BizTown shops. 6.G.A.3–A.4: Use coordinate grids to map locations; calculate surface area for packaging design.
- 6.SP.A.1–A.3: Formulate statistical questions (e.g., average sales), analyze distributions, and understand measures of center and variation.
- 6.SP.B.4–B.5: Use dot plots, histograms, and box plots—e.g., to present sales data or survey results.

Career Readiness, Life Literacies, and Key Skills:

Financial Literacy:

- 9.1.5.FP.1: Demonstrate an understanding of the concepts of credit, savings, spending, and charitable giving.
- 9.1.5.FP.2: Identify ways to earn and save money.
- 9.1.5.FP.3: Analyze choices about earning, spending, saving, and charitable contributions.
- 9.1.5.EG.1: Explain how money is used as a medium of exchange.
- 9.1.5.EG.2: Identify the role of an individual in the broader economy.
- 9.1.5.EG.3: Explain the role of money, income, spending, and investment in the economy.
- 9.1.5.EG.4: Explain how education and training influence future opportunities and earnings.
- 9.1.5.CAP.1: Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
- 9.1.5.CAP.2: Identify how you might like to earn an income.
- 9.1.5.CAP.3: Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
- 9.1.5.CAP.4: Explain the reasons why some jobs and careers require specific training, skills, and education.
- 9.1.5.CAP.5: Identify various resources to explore career choices.
- 9.1.5.RMI.1: Identify risks that individuals and households may face.
- 9.1.5.RMI.2: Justify the concept of "insurance".
- 9.1.5.PB.1: Develop a personal budget based on given income and expenses.

Life Literacies:

- 9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives.
- 9.4.5.CI.2: Investigate a variety of problems in the community and brainstorm ways to solve them.
- 9.4.5.CI.3: Participate in a brainstorming session to identify potential solutions to an issue.
- 9.4.5.CT.1: Identify and gather relevant data that will aid in the problem-solving process.
- 9.4.5.CT.2: Identify a problem and list the types of individuals and resources that could aid in solving it.
- 9.4.5.IML.6: Use a variety of sources to identify the strengths and limitations of digital media.
- 9.4.5.TL.3: Format a document using a word processing application to enhance clarity and add visual interest.
- 9.4.5.TL.5: Collaborate digitally to produce an artifact.
- 9.4.5.GCA.1: Analyze how culture shapes individual and community perspectives.

Interdisciplinary Connections and Standards:

Reading Informational/Technical Texts:

- RST.6-8.1–3: Cite evidence, summarize, follow multistep texts
- RST.6-8.4–6: Understand domain-specific vocabulary and structure
- RH.6-8.1–3: Analyze primary/secondary sources—live voter materials, civic documents
- RH.6-8.4–6: Support with vocabulary and structure

Unit Understandings:

Students will understand that...

- there are the fundamental concepts of financial literacy, including earning, saving, spending, and managing money.
- there are the responsibilities of citizenship, the role of businesses in a community, and how individuals contribute to an economy. (AAH, LGBTQ, AAPI)

- through classroom lessons and participation in a simulated town experience, students will develop career readiness skills, practice decision-making, and apply problem-solving strategies in real-world scenarios.

Unit Essential Questions:

- What makes a community work successfully?
- How do people earn, spend, save, and manage money wisely?
- What roles do citizens, workers, and businesses play in a local economy? (AAH, LGBTQ, AAPI)
- How do personal choices affect financial well-being and community outcomes? (AAH, LGBTQ, AAPI)
- What skills and responsibilities are important for success in the workplace?
- How can I contribute to my community as a responsible and informed citizen?

Knowledge and Skills:

Students will know...

- The basic functions of a community economy, including goods, services, and resources.
- The roles and responsibilities of citizens, consumers, workers, and business owners.
- Key financial literacy concepts such as income, expenses, savings, budgeting, credit, and taxes.
- How banks, businesses, and government entities interact within a community.
- The purpose and structure of a paycheck and the role of financial institutions.
- Basic career readiness concepts, including teamwork, job responsibilities, and leadership.

Students will be able to...

- Discuss the roles they play as citizens, employees, and consumers in their community and relate those roles to the market economy. (AAH, LGBTQ, AAPI)
- Discuss the importance of citizen rights and responsibilities in a community, including being an informed voter. (AAH, LGBTQ, AAPI)
- Demonstrate a basic understanding of the free enterprise system and its historic foundation.
- Foster money management skills through practical experiences of economic concepts and banking practices.
- Develop an understanding of foundational business practices and responsibilities.
- Display the soft skills essential for successful participation in the world of work and career building.

EVIDENCE OF LEARNING

Assessment:

What evidence will be collected and deemed acceptable to show that students truly “understand”?

- Teacher observation
- Student oral feedback
- Class discussion
- Student response sheets and journals
- Performance-based tasks
- Check writing practice

- Bank account ledgers
- Quick checks and mini quizzes
- Successful trip outcome at JA BizTown, Edison, NJ

Learning Activities:

What differentiated learning experiences and instruction will enable all students to achieve the desired results?

- Flexible pairing or grouping of students
- Develop group roles and rotate them when needed
- Tiered tasks
- Allowing additional time
- Language supports
- Choice

RESOURCES

Teacher Resources:

- Grade 6 G&T Pacing Guide
- Junior Achievement BizTown Teacher's Guide
- Junior Achievement BizTown Teacher Homepage
- BrainPOP
 - Budgets
 - Banking
 - Credit Cards
 - Comparing Prices

Equipment Needed:

- Newline Board
- Chromebooks
- Student Workbooks provided by Junior Achievement
- Student Checkbooks provided by Junior Achievement