READINGTON TOWNSHIP SCHOOL DISTRICT

Gifted Program

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Philosophy

The Readington Township School District is committed to an educational program that develops critical thinkers and independent, lifelong learners. Each individual possesses a variety of intelligences, as well as a unique learning style, temperament, and pattern of growth and development. Students of all ages need to learn at their instructional level with pace and depth of content matching and challenging their abilities. The Readington Township School District recognizes the unique value, needs, talents, abilities, and intelligences of the individual student and thereby provides enriching and challenging experiences for all students.

To implement this philosophy, we provide a Gifted & Talented Program for students.

The Readington Township School District views students, staff, parents, and community members as partners. Each member of the partnership shares responsibility to ensure access to learning opportunities so that each student's potential may be maximized.

Gifted and Talented

The Readington Township School District has adopted the New Jersey State Department of Education's definition of giftedness as a guide for developing programs. Recognizing that a small portion of students are atypical, exceptional learners who require specialized learning experiences, the Readington Township Schools will provide opportunities to appropriately address the needs of these students. Gifted and talented children are those whose learning characteristics and educational needs require qualitatively differentiated educational experiences and services.

The basic purpose of a gifted education program is to assist gifted students in becoming self-directed learners who achieve excellence and reach their greatest potential. Therefore, the Readington Township program for gifted students should broaden and improve learning experiences while fostering the individual socio-affective needs of each student. This is achieved through the development of decision-making, problem solving, creativity, collaboration, critical and divergent thinking skills.

The Readington Township **Gifted & Talented** program will

- Utilize multiple criteria to identify truly exceptional/gifted students.
- Offer classroom teacher training in how to differentiate for gifted students.
- Engage small groups of students in intensive learning experiences that supplement classroom instruction and their unique learner needs.
- Support student responsibility, accountability, and eagerness for learning.
- Engage students in higher-order and critical thinking.
- Provide opportunities for leadership and self-directed learning.
- Engage students in shared inquiry.
- Enhance students' social, communication and presentation skills.

- Provide multiple opportunities for collaboration.
- Provide opportunities for in-depth investigations.

New Jersey State Department of Education Gifted and Talented Requirements

On June 1, 2005, the State Board of Education readopted with amendments N.J.A.C. 6A: 8, Standards and Assessment for Student Achievement, which includes more specific requirements for gifted and talented programs.

The regulations define gifted and talented students as:
Those students who possess or demonstrate high levels of ability, in one or more content areas, when compared to their chronological peers in the local district and who require modification of their educational program if they are to achieve in accordance with their capabilities.

Key Points

- All public schools must have a board-approved gifted and talented program.
- Students are to be compared with their peers in the local school district.
- District boards of education shall make provisions for an ongoing K-12 identification process for gifted and talented students that includes multiple measures, including but not limited to, achievement test scores, grades, student performance or products, intelligence testing, parent, student and/or teacher recommendation, and other appropriate measures.
- The regulations do not establish state-level criteria for giftedness (such as an IQ score or grade point average). Specific tests are not required to be used to identify gifted and talented students.
- Local school districts should ensure that the identification methodology used is developmentally appropriate, non-discriminatory, and related to the programs and services offered (e.g., use math achievement to identify students for a math program).
- N.J.A.C. 6A: 8-3.1(a)5 ii requires local district boards of education to provide appropriate K-12 educational services for gifted and talented students. Therefore, the identification process and appropriate educational challenges must begin in kindergarten.
- The rules require district boards of education to develop appropriate curricular and instructional modifications for gifted students. Programs must address appropriate content, process, products, and learning environment.
- District boards of education shall take into consideration the *PreK-Grade 12 Gifted Program Standards of the National Association for Gifted Children* (NAGC) in developing programs for gifted and talented students. The NAGC standards establish requisite and exemplary gifted program standards and can be accessed at NAGC Standard.
- Each curriculum framework developed by the department provides general as well as content-specific information on gifted education (e.g., terminology, examples of appropriate practices). The frameworks can be accessed at

http://www.nj.gov/education/archive/frameworks/ or at http://www.nj.gov/education/aps/cccs.

- Local school districts will continue to be monitored as part of the regular school district evaluation process. Board-approved policies and procedures must be made available.

Identification of Candidates for the Gifted and Talented Program

The K-8 Gifted and Talented programs in Readington Township Schools are needs-based. These programs are intended for those students who exhibit intellectual and/or academic abilities requiring additional and appropriate educational challenges and opportunities to meet those needs. The criteria for admission to the Gifted & Talented Program include a variety of data points, which may vary depending on a student's grade level. A combination of standardized test scores, student work samples, classroom grades, and teacher input are considered when determining eligibility.

Chronology of Required Documentation

1. Throughout the year, teachers should collect and archive all exceptional student work samples as possible supporting evidence for recommendations to the G&T program.
2. In March, parents and faculty members are invited to recommend individuals to be nominated for the G&T program. Parents may initiate the referral process by completing and submitting a Parent Nomination form.
3. After a nomination is received, G&T teachers will collect data regarding students' intellect, academic enthusiasm, and creativity.
4. In the spring, students nominated will be invited to take a district selected assessment instrument. Additional pieces of information may be collected.
5. G&T teachers will establish a district committee, will meet to discuss each nominee and will decide on eligibility using the criteria described above.
6. Parents and teachers will be notified of each student's eligibility.

Modification Procedures

Each student identified for inclusion in the Gifted and Talented program will be reviewed on an ongoing basis for the continuing appropriateness of his/her gifted program through review of student performance.

The GT program is a needs based academic program. Should students score less than 32 points on their unit progress report, students will be placed on probation and families will be contacted. The probationary period will last for one GT unit and families can expect regular updates regarding student progress. The student has the next unit to show growth in the required areas. If this does not occur, the student may be withdrawn from the program through a committee decision after conferencing with the gifted teacher, classroom teacher, parent, and where appropriate, the student.

Program Overview

Grades 2-5: Students will receive a thematic pull-out program on a regular basis. Within themes, all students will have an opportunity to 1) conduct guided and independent research; 2) work collaboratively with peers; 3) solve challenging problems; 4) prepare and present to an audience; and 5) explore and debate essential questions.

Grades 6-8: The middle school program for gifted and talented students has an interdisciplinary academic focus, extending and adding dimensionality to the conventional curriculum, emphasizing higher level thinking. There is a quickening of instructional pace and a broadening and deepening of curricular scope through 21st century themes of Global Awareness and Innovation, along with Economic, Business, Entrepreneurial, Civic, Health, and Environmental Literacies.

Innovation and sustainability serve as integrating contexts in grades 6-8, allowing students to link knowledge, inquiry, and action through inquiry-based learning and action research. Open-ended assignments include the development of student-driven products related to real-world applications or problem-solving. Students interact with role models, community resources, mentors or professionals in the field to explore advanced content as they work to address and find solutions to social, economic, and environmental challenges in the local and global community.

Our aim is to support students in becoming critical thinkers, collaborative communicators, and creative contributors, recognizing that all models, mental and physical, are working hypotheses to be rigorously built, tested and refined. To support this end, higher-order thinking and hands-on skills are interwoven into learning. These may include:

Higher-order Thinking Skills:

- Anticipatory
    - Futures thinking (utopian, dystopian, possible, probable, desirable)
- Emergent
    - Lateral thinking
    - Creative thinking
    - Design thinking
    - Regenerative thinking
- Complex
    - Critical thinking
    - Systems thinking
- Mindful
    - Metacognition
    - Questioning

- Reflective thinking
- Transference

Hands-on Skills (strategic use and creation of technologies for project prototyping):

- Building, making, 3D modeling, mapping, video production, coding, physical computing (robotics, microcontrollers, etc.)

Program Components

As per the New Jersey Student Learning Standards, the classroom teacher will differentiate instruction to address the needs of the gifted student in the regular classroom.

The gifted teacher may provide for the differentiated needs of gifted and talented students in small groups by

a. Presenting content material that is related to broad-based issues, themes, or problems.
b. Integrating multiple disciplines and essential questions into the study area.
c. Allowing for in-depth learning of a topic selected by the student within thematic units.
d. Developing the student's independent and self-directed study and research skills.
e. Integrating higher level thinking skills into the curriculum.
f. Focusing on open-ended tasks and solving challenging problems.
g. Providing opportunities for collaboration during different aspects of the learning process.
h. Providing opportunities to present to authentic audiences.
i. Encouraging self-reflection and evaluation.

The following thematic curricula will serve as a planning guide for G&T teachers. Because student groups vary with regard to interest and motivation, teachers need to be flexible in providing for their needs. Three to four units of study per grade level will be selected each year.

Gifted and Talented Units of Instruction

	Grade 2	**Grade 3**
Unit	1	1
THEME	**Where did all the bees go?**	**Growth Mindset**

Essential Question(s)	Are bees important to our lives? Why are bees disappearing? What can I do to help?	Does mindset matter? What makes a growth mindset? Can you change your mindset, and should you?
Unit Overview	Children will play the role of scientists to investigate the role of bees in our ecosystem. Children will learn about the role bees play in pollination and honey production. Through newscasts and media reports, children will learn about the declining bee population. The students will then work collaboratively to investigate possible reasons for the decline, along with potential implications to humans. Based on their deductions, children will develop a plan to help boost bee populations in our area. Ideas may include designing a pollinator garden, planting species that are attractive to bees, or creating informative materials such as poster, fliers, blogs, or letters to inform the community of how they can help bee numbers to recover. Non-fiction reading, opinion, and explanatory writing, and presentation skills will be infused throughout the unit.	Students will participate in a self-awareness exercise to determine their current mindset. Through multimedia presentations, students will learn the meaning of a growth mindset and a fixed mindset. Students will investigate the key indicators of each mindset, and reflect upon themselves. Students will compare and contrast their observations of mindset and discuss its impact on their learning. Students will work collaboratively to determine key strategies used by people with a growth mindset. They will then deduce whether or not it is possible to develop a growth mindset. Students will choose one aspect of their mindset that they would like to change, and determine a plan to achieve their goal. Students will work collaboratively to create a classroom proclamation and display outlining their goals and strategies. As a keystone project, students will work collaboratively to create a lesson to teach other third graders about mindset. Children will reflect on the most important facts and how they think classmates will learn best. They will then work collaboratively to create a mini lesson in the format of their choosing (possibly creating a multimedia presentation, a game, a rap song, or an art project). Children will teach students in their homeroom class about the importance of growth mindset and how to develop it. Students will work with their teacher to

		create a rubric with which to evaluate their product.
Assessment	Students will demonstrate an understanding of the concepts learned through student-created projects. Student work will be evaluated by a teacher-developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.	Students will demonstrate an understanding of the concepts learned through discussion, plan development, proclamation, and display. Student work will be evaluated by a teacher/student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.
Links	Bee overview Why are bees beneficial? Pollination Why are bees disappearing? What happens to us if bees disappear? Honeybee Conservancy	Mindset Matter Quiz Cartoon - Perseverance and Problem solving Power of Yet Growth Mindset
Unit	2	2
THEME	**Survivor**	**The Four C's of Education**
Essential Question(s)	What do humans need in order to survive? Are creativity and perseverance survival tools?	Why are creativity, critical thinking, communication, and collaboration important? How can I own my learning? Am I teaching the robot or is the robot teaching me?
Unit Overview	Using the book Swiss Family Robinson (A Stepping Stone Book - adapted by Daisy Alberto), students will be introduced to a survival adventure scenario. Students will listen to the story as a read aloud, and consider the predicament that the family finds themselves in when they are shipwrecked on the island. Students will work collaboratively to	Students will explore the importance of creativity, critical thinking, communication, and collaboration in the classroom. Using the MakerSpace concept, students will be presented with a variety of tasks or challenges that they must complete. Challenges will range from simplistic concepts such as building a bridge, to more complex concepts such as coding a robot to complete a given

	create a list of things the family will need to do in order to survive. Students will create a map of the island showing features important to their survival. As the book progresses, students will be challenged to solve problems that the family face through brainstorming and STEM activities in the classroom. Problems may include building a shelter, collecting safe drinking water, building a catapult for defense, make a raft, etc. Throughout the unit, students will keep a journal of their adventure. Journal will include students reflections of how creativity and perseverance impacted their ability to solve the problems. Students will also consider whether this may also be true in the classroom. Problem-solving skills, creativity, critical thinking, descriptive writing, and collaboration will be infused throughout the unit.	task. Concepts of basic construction, engineering principles, electrical circuitry, and coding will be infused throughout the unit. As a keystone project, students will work collaboratively to develop a series of projects all based around a central theme (e.g., nursery rhymes, flight, transportation, superheroes, etc.). Students will decide on a problem to be solved, deliberate on materials that should be made available to solve it, and develop directions that should be provided. Students will create kits with all necessary materials and guidelines to follow in solving their problem. Students will work with their teacher to create a rubric with which to guide their progress. Completed student projects will be used as part of schoolwide enrichment activities on National MakerSpace day. Student projects will be evaluated by a teacher and/or student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.
Assessment	Students will demonstrate an understanding of the concepts learned through discussion, journal entries, and STEM activities. Student work will be evaluated by a teacher/student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.	Students will demonstrate an understanding of the concepts learned through a project of their choice. Student work will be evaluated by a teacher/student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.
Unit	3	3
THEME	**In the Author's Shoes**	**Values and Morals in Storytelling**

Essential Question(s)	How can I incorporate the characteristics from Van Allsburg's work into my own writing? Why is it important to analyze literature?	What characteristics of fables are important in effective storytelling? What role does symbolism play in traditional literature? How can literature be used to preserve the values and morals of cultures?
Unit Overview	Children will compare and contrast texts by Chris Van Allsburg. (Texts are written at the 5th grade level). They will identify the most important motifs and characteristics that define Van Allsburg's work. They will discuss and analyze the characters and message of each story. Next, the children will dissect the stories and then apply the same techniques used in these books to create a game and story in the tradition of Jumanji and Zathura. Additionally, students will have opportunities to respond to some of Van Allsburg's other work, by analyzing and evaluating the story, and extending the theme by writing a sequel, an alternate ending, or book review.	Students will compare a myriad of fables from various cultures. They will learn the characteristics of a fable and choose one to perform. Children will delve into the concept of personification, and analyze the symbolic meaning and characteristics inherent in traditional fables. They will evaluate the morals and reflect on their meaning. Students will apply what they have learned by writing and publishing their own fable and share it with the group. The group will critique each other's work using criteria that they have developed during the theme.
Assessment	Students will demonstrate an understanding of the concepts learned through the creation of a game and story in the tradition of Jumanji and Zathura. Student work will be evaluated by teacher-developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.	Students will demonstrate an understanding of the concepts learned by writing and publishing their own fable. Student work will be evaluated by a teacher and/or student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.
Unit	4	4

THEME	Continents and Cultures	Ancient Civilizations And Modern Culture
Essential Question(s)	What are the foundations of any culture that make it prosperous? Why is it important to understand other cultures and their symbols?	What elements of Ancient Egyptian culture do we recognize in our own society? How do artifacts tell us about ancient civilizations? What artifacts from our culture will tell our story? How can I identify and compare characteristics that define a culture?
Unit Overview	Children will investigate continents and cultures. They will make inquiries into languages, traditions, and symbolic buildings around the world and compare them to our own. Students will learn key elements of digital citizenship through a collaborative project to research information about a symbolic building in the US. Children will apply this working knowledge of the world in a project of their choosing. For example, a student may choose to study a group of indigenous people and write a story from a child of that culture's point of view. Another student may compare and contrast a symbol in one culture (i.e., the Eiffel Tower) to an important symbol in our culture, such as the Statue of Liberty. A student may choose to learn some simple phrases of another language and teach them to the rest of the class. As a culminating project, students will connect and share information about their famous building with other students around the world through the iearn Famous	Students will study early civilizations in comparison with modern civilizations. Students will learn how archaeologists use artifacts to theorize about ancient civilizations. They will then apply this knowledge to surmise artifacts from our culture that may be important in telling the story of our civilization in the future. Students will use the Magic Treehouse "Ancient Egypt" study guide to explore components of culture. They will then compare these to another culture of their choosing. They will create a multimedia presentation describing a culture that they have designed and created based on what they have discovered throughout the unit.

	Building Project (link below)	
Assessment	Students will demonstrate an understanding of the concepts learned through a student-created project of their choosing. Student work will be evaluated by a teacher-developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.	Students will demonstrate understanding by completing a future archeologists journal. The journal will detail artifacts from our civilization and possible interpretations as to what they tell about our culture. Students will also demonstrate mastery of the concepts learned by creating a multimedia presentation describing a culture that they have created. Student presentation will be evaluated by a teacher and/or student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.
Links	iearn - Famous Buildings Around the World	
Unit	5	5
THEME	**Self Exploration**	**Exploring Ourselves as Learners- Individualized Research Project**
Essential Question(s)	How do I define myself? Why do I need to focus in on detail in order to see the "big picture"? What are some strengths that I can contribute to a team?	Why is it important to understand myself as a learner? What are some ways I can learn and communicate about a topic that I am interested in? How does self-reflection make my work more meaningful? Why is digital citizenship important?
Unit Overview	Children will explore themselves and learn about each other while building vocabulary and literacy skills. Students will evaluate their strengths and areas of improvement and set goals for themselves for the year. They will learn to focus in on	Students will participate in team building activities and self awareness exercises. They will investigate their learning modalities, interests, strengths, and areas in need of improvement. Students will learn research skills and formulate a research question to explore

	specific details in order to see the "big picture". They will also compare and contrast their individual skills and define themselves in different aspects. They will then analyze their potential contribution to our "team" and to our community.	based on their own personal interest or passion. Children will then design a project that they will be responsible for and apply what they have learned about the research process and their chosen topic. They will work with their teacher to create a rubric with which to guide their progress and evaluate their product. Students may choose to do a research paper, a newscast, a magazine article, web page, or any form of multimedia presentation. Students will learn strategies for effective public speaking. Concepts of digital citizenship will be infused throughout the unit. Students will then reflect on their learning process and achievement and set goals for themselves for the future.
Assessment	Students will demonstrate an understanding of the concepts learned through student-created projects. Student work will be evaluated by teacher-developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.	Students will demonstrate an understanding of the concepts learned through a research project of their choice. Student work will be evaluated by a teacher/student developed rubric, student self-reflection, and peer critique. Feedback will be given through a student teacher conference.
Unit	6	6
THEME	**Scientific Discoveries**	**Cooperation and Social Change**
Essential Question(s)	How can we learn about history from mother nature? What is the process for collecting, recording and evaluating scientific data? How can I apply scientific ideas in a creative way?	What can world citizens do to improve the conditions of humanity and society? Can one person really make a difference in the world? Why is it important to work collaboratively to achieve a common goal?

Unit Overview	Students will explore trees and seeds. They will read the Secret Life of Trees and discover how to "read the rings" of a tree. They will apply this knowledge to analyze a sample of a tree of their own. They will learn to make scientific observations as they examine various fruits and vegetables. They will record, compare/contrast and synthesize their scientific findings. Next, students will design a seed packet for an imaginary plant that they have created. Children will include all the information necessary and instructions on how to successfully grow their plant. They will create an ad to market their "new discovery" to the public which will identify who this new plant will benefit and how it will impact the community.	Students will be investigating slavery, Harriet Tubman, The Underground Railroad. Through research, WebQuests, interactive simulations, star mapping, and musical interpretations, the children will explore the significance of cooperation amongst slaves and abolitionists. Students will work collaboratively to create a "Freedom Quilt", a map disguised within a quilt using secret symbols that the students will research. Throughout the unit, students will make journal entries reflecting on the ideas of leadership, cooperation, and social change through written responses.
Assessment	Students will demonstrate an understanding of the concepts learned through a series of student-created projects (seed packet design, advertisement, written explanation of scientific observations, etc.). Student work will be evaluated by teacher-developed rubric, student self-reflection, and peer critique. Feedback will be given through student/teacher conferences.	Students will demonstrate an understanding of the concepts learned through a series of student-created projects (star maps, illustration of song lyrics, journal entries, etc.) and the creation of a "Freedom Quilt". Student work will be evaluated by a teacher and/or student developed rubric, student self-reflection, and peer critique. Feedback will be given through student/teacher conferences.

	Grade 4	**Grade 5**
Unit	1	1
Theme	**Collaboration Conundrum**	**Brain Power**
Essential Question(s)	How can optical illusions make me a better student? What's the problem with a collaborative challenge, the challenge or the collaboration? Which skills are important to successfully complete a group challenge? What are my strengths in collaborative work, and how can I use them to help others? What are my areas for growth in collaborative work, and how can I enhance them?	How does the human brain work? If human brains all work in the the same way, does that mean we all learn in the same way? How should schools teach so that students learn? Can a bad memory become a good one?
Unit Overview	Students will begin by testing their powers of observation by looking at an optical illusion. Students will share their observations and discuss what is 'wrong' with the image. Teacher will use discussion to foster interaction between the students, model good communication skills, and spark a discussion about in-depth observation, going beyond the obvious, individual interpretation, and having the courage to be ourselves. Throughout the unit, these concepts will be reinforced by starting each lesson with a different optical illusion. Students will be divided into groups and given a challenge which must be completed collaboratively, within a	Students will work collaboratively to create a KWL in the shape of a brain to document their current knowledge and curiosities about the human brain and how it works. Using a variety of media formats, students will discover the fundamental functions of the brain and delve into the neurological basis for the learning process. Students will reinforce the fact that learning a new skill is neurons making connections in the brain by building build models of neurons, from simplistic representations to full size working model. Students will watch video "Teaching to ensure learning" to enhance knowledge of the learning process in the brain. Students will reflect on the video and make connections to their own learning experiences, both positive and negative.

	specified time limit, using only resources provided. Over a series of lessons, students will work on planning and developing a solution, building and testing a prototype, and finalizing the design. Throughout the unit, teacher will monitor group work, infuse mini lessons to improve communication and collaboration skills, in addition to encouraging self-reflection and self-monitoring within the groups. Students will put their solutions to the test in a competitive event. Students will write an end of unit reflection demonstrating what they learned about their own strengths and weaknesses in terms of problem solving, creativity, communication, collaboration, critical thinking, and perseverance. The reflection will include a plan to enhance their skills in the future.	Students will next consider their personal learning preferences. Students will take a learning styles inventory quiz before being introduced to the concept of learning styles. They will learn about different styles, predict which they think they are, before discovering for themselves through a series of origami activities where the directions are presented in different formats. Students will then grade the quiz and reflect on this new knowledge about themselves. (Possible extension activity: iearn Origami collaborative project) Students will evaluate their short and long term memory through a series of games and puzzles. Students will identify areas of strength and weakness, before sharing current strategies and learning new ones to enhance recall. Finally, students will undertake a personalized project which focuses on one aspect of the brain and learning (ex. memory tricks, optical illusions, brain games, left/right dominance, etc.). Students may choose to work collaboratively or independently. Problem-solving skills, critical thinking, technology, non-fiction reading, explanatory writing, and presentation skills will be infused throughout the unit. During this unit, students may take a trip to the Franklin Institute exhibition 'Your Brain'.
Assessment	Students will be assessed through informal observation and discussion. Student challenge solutions, in addition to their teamwork skills, will be evaluated with student/teacher-created rubrics.	Students will be assessed through informal observation and discussion. Additionally, student passion projects will be evaluated with student/teacher-created rubrics.

Unit	2	2
Theme	**Green City**	**Lies, Fallacies, and Myths**
Essential Question(s)	What makes our town special? What do people look for in choosing a great place to live? How green is our town? How would you make Readington the best place to live?	Lies, Fallacies, and Myths - what's the difference? What is 'fake news' and why is it a problem? Can you use the scientific method to prove or disprove fake news? Can you use the scientific method to prove or disprove myths?
Unit Overview	Connecting with classroom learning, students will discuss the parameters that define a natural disaster. After an overview of the most common natural disasters to impact people, students will consider the potential impact of natural disasters on our town. After reading Green City by Allan Drummond, students will consider how the details of the book would differ if it took place in Readington rather than Greensburg. Students will learn about our town by researching local demographics, history, architecture, and contributions to the surrounding communities. Students will consider what is important to people in choosing a place to live? What features of our town make it a great place to live? What features of a town help to foster a strong community? What features do we wish our town had? How green is our town? Relating back to the book Green City, students will consider how they would rebuild Readington. Using the work of Sidewalk as a guide, students will work collaboratively to design the Readington of the future.	Students will be introduced to the terminology of lie, fallacy, and myth. Students will discuss their understanding of the meaning of the terms, how they are similar and how they are different. Extend to the concept of 'fake news' - what is it? Should it be considered a lie, a fallacy, or a myth? Infuse into discussions problems of fake news, the recent trend of it seeping into mainstream media, and the importance of evaluating the authenticity of information. Students will pit themselves against an online interactive game to see how well they can identify fake versus facts. After seeing how easy it is to be tricked by false information, students will be encouraged to consider how they could prove whether or not information was fact or myth. Students will learn to think critically about what they read in the media, common indicators of fake news, and how to authenticate sources of information. Like in the show Mythbusters, students will play the role of scientists to investigate common myths in our society. Children will learn about the scientific method and the importance of each step. Students will be presented with a myth. Utilising the scientific method, they will work in small

	Students will consider human needs, human happiness, sustainability, cost, transportation, etc. in developing their designs. Students will demonstrate their designs through a method of their choosing, ideas include but are not limited to scale drawings, models, animations, virtual creations, video, etc. Finally, students will apply what they have learned using Plan It Green Live by National Geographic. Students will play the role of mayor of their own virtual town, making decisions to create and run a town that is sustainable, fiscally sound, and meets the needs of its inhabitants. Problem solving skills, critical thinking, technology, non-fiction reading, explanatory writing, and presentation skills will be infused throughout the unit.	groups to brainstorm a hypothesis, develop and conduct an experiment, and then gather and analyze data. Next, students will be given the opportunity to come up with their own myth (either independently or in small group), and develop a plan to test the myth. Students will record each step of the scientific process and create their own Mythbuster episode to present their findings. To wrap up the unit, students will again consider fake news problem and discuss whether or not they could apply the scientific method to prove or disprove some questionable news items. Using a topical news story, allow students to formulate a question, hypothesis, research, evaluate evidence, and reach their own conclusion about the authenticity of the story. Problem solving skills, critical thinking, technology, non-fiction reading, explanatory writing, and presentation skills will be infused throughout the unit.
Assessment	Students will be assessed through informal observation, and discussion. Student town designs will be evaluated with student/teacher-created rubrics. Their success as the mayor of a virtual town will be measured by the game. Students will reflect on their areas of success and failure, and make plans for improvement.	Students will demonstrate an understanding of the concepts learned through student-created projects. Student work will be evaluated by teacher/student developed rubrics, student reflection, and peer critique. Feedback will be given through student/teacher conferences.

Unit	3	3
Theme	**Discovering Da Vinci**	**Fabulous Fibonacci**
Essential Question(s)	Who was Leonardo da Vinci? Why is his work still intriguing today?	Do you have the courage to be who you really are? What are Fibonacci numbers?

	How can a 15th century artist impact 21st century life? What character traits did da Vinci possess that helped him to attain success? Are character traits static or can you develop new ones? Can you influence the ones you develop?	What does Fibonacci have to do with nature? How are art and math connected? What does a 12th century mathematician have to do with 21st century careers?
Unit Overview	Students will explore the life of Leonardo da Vinci. Using a variety of media formats, students will discover the vast array of accomplishments he achieved in his lifetime. Students will determine why the work of a 15th century artist has had such a profound effect on life today. Students will discover their inner da Vinci through a series of hands-on activities including an ink blot art challenge, determining if the Vitruvian man is an accurate representation, in addition to utilizing da Vinci's notebooks to recreate some of his inventions. Students will present their creation to their peers, including an explanation of the contribution the invention has made to modern day life. Reflecting on how important observation, creativity, and perseverance are to great inventors, students may have the option to apply what they have learned and invent a new item to solve a problem or to improve a current item to address a flaw or weakness. Throughout the unit, students will be encouraged to identify character traits exemplified by different elements of da Vinci's work. Students will identify which traits were shown consistently throughout his range of works.	Students will be introduced to Fibonacci using the book *Blockhead* by Joseph D'Agnese. Students will discuss people's perceptions of Fibonacci when he was a child and his subsequent accomplishments. Students will discuss E. E. Cummings' quote, "It takes courage to grow up and turn out to be who you really are." Students will consider how this relates to Fibonacci's life, and then consider how this applies to themselves. A character education lesson about judgment and having the courage to be yourself will be infused into the discussion. Students will develop an appreciation of Fibonacci through one of his contributions to modern math by completing a Roman numeral/Arabic numeral math challenge. Using a variety of media formats, and through observations of nature, students will be introduced to the concept of Fibonacci numbers. Through a series of hands-on activities, students will discover the importance of the Fibonacci sequence, golden rectangle, golden ratio, Fibonacci spiral, and its prevalence in the natural world. Students will analyze famous works of art, musical compositions, poetry, architecture, and company logos to discover for themselves the widespread impact of Fibonacci's work, both in the past and in modern-day careers. Students will be challenged to demonstrate their knowledge

	Students will reflect on the permanence of their own character traits, and identify traits that may help them in future careers. After learning about the attributes of successful people, students will create a plan to encourage the development of beneficial traits. Problem-solving skills, critical thinking, technology, non-fiction reading, explanatory writing, and presentation skills will be infused throughout the unit.	through the design of an original logo incorporating the Fibonacci sequence, spiral, or golden ratio. Problem-solving skills, critical thinking, technology, non-fiction reading, explanatory writing, and presentation skills will be infused throughout the unit.
Assessment	Students will be assessed through informal observation and discussion. Additionally, student creations will be evaluated with student/teacher-created rubrics.	Students will be assessed through informal observation and discussion, in addition to the application of their knowledge in the production of their logo.

Unit	4	4
Theme	**Learning to Play, Playing to Learn**	**Learning to Choose, Choosing to Learn**
Essential Question(s)	Do popular pastimes for children have a place in the classroom? What elements of a game make it popular with children? If you could design an educational game, what would it be?	Do you believe there is value in giving students choices in their learning? What challenges would it cause if you were allowed to choose how and what you learn? How do you design a meaningful unit of study?
Unit Overview	Students will discuss current popular games and activities for children. Why are they popular? What makes them fun? What do you learn from them? Could they be used in the classroom for teaching? Students will choose a game or activity, analyze it, decide on the key factors that make the game successful and develop a version of the game with an educational element for classroom use.	Based on the book, *Learning to Choose, Choosing to Learn*, by Mike Anderson, students will be introduced to the concept of having greater choice in their learning. Students will share past positive experiences of choice and how it impacted their learning. Students will work collaboratively to make a list of the advantages of choice, both for students and for teachers. They will then do the same for disadvantages. Ideas will be used to guide a classroom discussion

	Critical thinking, communication, collaboration, creativity, and perseverance skills will be utilized throughout the unit. Example: Students could be introduced to the concept of an escape room and be challenged to solve a teacher created escape room. Students could reflect on the strategies that helped them in their quest and relate this to collaborative work in the classroom. Students would determine key factors for a successful escape room design and apply this knowledge to create their own. Students would research a theme/setting (with an educational connection), create a game scenario, produce an introduction to the game, design a variety of puzzles (related to the theme) to be solved, and develop props for their game design. Once complete, students would have the opportunity to open their Escape Room challenges to their grade level peers.	which will include brainstorming ideas to address the negatives. Working collaboratively, students will utilize the ideas to create guidelines for a liberty learning classroom. Following the class developed guidelines, students will be given the freedom to design a unit of study on a topic of their choosing. Students will develop a unit outline complete with theme, essential questions, an outline of content and activities, correlation to state learning standards, and how learning will be assessed. Students will have a set time period to follow their self-created outline and complete their unit of study. Students will reflect on their learning and make suggestions for improvement both to their unit plan and the liberty lesson classroom guidelines.
Assessment	Student work will be evaluated by teacher/student developed rubrics, student self-reflection, and peer review. Feedback will be given through student/teacher conferences.	Students will demonstrate an understanding of concepts learned through the creation of liberty learning classroom guidelines and a project of their choice. Student work will be evaluated by a teacher/student developed rubric, student self-reflection, and peer critique. Feedback will be given through student/teacher conferences.
Unit	5	5
Theme	**Mini Golf Design Challenge**	**Mensa's Roller Coaster Mania**
Essential Question(s)	When you hit a ball, where does it go? How does geometry make me a better mini golfer?	What does science have to do with roller coasters? How does the track design alter the ride?

	What factors are important in the design of a mini golf course? What is a budget and why is it important?	What factors are important in the design of a ride? How do you manage a budget?
Unit Overview	Students will learn about the popular pastime of mini golf, its history, and consider reasons for its popularity. Students will research famous mini golf courses and determine which features are common to most designs. Students will learn the basics of miniature golf course design, including essential features for a successful design, and explore unseen challenges. Students will consider the expense of building a mini golf course, why there is such a range of course styles, and why some choose basic designs while others choose elaborate. After a review of fourth grade geometry terminology, students will discuss how this connects to miniature golf. Students will reinforce knowledge of complementary and supplementary angles, in addition to being introduced to the law of reflection to gain a better understanding of how the ball acts in the game. Students will create a scale drawing for one hole of a mini golf course. It must include a variety of specified geometric shapes, at least two obstacles, and the ball is required to bounce off of at least two surfaces before dropping into the hole. Student drawings must include the path of the ball, complete with angles of reflection measurements. Once a diagram, which is both geometrically accurate and follows the laws of physics, is complete, students will use this as a	Students will explore the role of science in the design of roller coasters. Students will learn the fundamental physics behind roller coaster design including gravity, forces, and forms of energy. Students will use an interactive roller coaster design simulator to explore problems associated with roller coaster design, including the length of track, height of hills, tightness of turns, and critical speed. Students will keep an engineers journal detailing the problems they encountered and the strategies they used to solve. Students will then apply what they have learned to complete Mensa's Roller Coaster Mania challenge. Students will be given criteria for the challenge and will work collaboratively to create a successful design. Students will be given a 'budget' for the project and will be able to 'purchase' all required materials. Students will be responsible for monitoring all expenditures, keeping track of available balance, and working collaboratively to make fiscally responsible decisions. On completion of the project, students will demonstrate their design. Students will complete their journal with a detailed reflection of their design, its success in the challenge, and what changes they would make to improve it if they were to repeat the challenge.

	template to build their design. Students will test their completed designs with a mini golf tournament. During the unit, students may take a trip to a local mini golf course to analyze the course design, identify key elements they have learned about, and get first-hand experience of playing.	
Assessment	Students will demonstrate an understanding of the concepts learned through the creation of their own mini golf hole. Students will prove their knowledge of geometry and physics through their scale drawing with measured angles. Students created designs will be tested for fun and playability through a mini golf tournament. Student work will be evaluated by teacher/student developed rubrics, student self-reflection, and peer critique. Feedback will be given through student/teacher conferences.	Students will demonstrate an understanding of concepts learned through the creation of their own roller coaster. Students will document their findings in a journal. Student work will be evaluated by teacher/student developed rubrics, student self-reflection, and peer critique. Students will gain points in the rubric for multiple criteria including fiscal responsibility, safety, complexity of design, speed, and teamwork. Feedback will be given through student/teacher conferences.
Unit	6	6
Theme	**Kids Rights and Kites**	**Only One Day**
Essential Question(s)	Who was Janusz Korczak? Do children have rights in our society? Should children have more rights, and if so, which ones? How do you govern a society? What do kites symbolize?	In the span of your life, how important is one day? How can photographs from just one day connect cultures around the world? What is global citizenship and why does it matter? Do your actions today impact your future?
Unit Overview	Students will be asked for their understanding of human rights and especially children's rights. What rights do children have? Should they have more rights? Should they have more say in how our society runs?	Students will reflect on the importance of one day in their life. In the span of your life, how important is one day? Can one day change you? Can one day in your life change others? Can one day in your life change your future? Students will be

	Why or why not? Through a variety of media sources, students will learn about Janusz Korczak, the champion of children. Students will reflect on his actions, what motivated him, and the impact of his actions on the children in his care. Students will consider his decision to allow the children to govern themselves. What does that mean? If they were in that situation, could they do it? Students will come up with a plan to govern themselves within our classroom. Students will explore key elements of government, and devise and implement a classroom compatible version. Students will keep a journal to document their learning, reflect on the challenges and successes of the process, in addition to considering the implications of applying this concept in the real world. Finally, students will participate in a global celebration of Janusz Korczak through iearn project - Talking Kites Around the World. Students will learn about the history and symbolism of kites before designing their own. Children will fly them in unity with other children around the world to both celebrate the life of Janusz Korczak and to promote world peace through acceptance, tolerance, and understanding of others. Problem-solving skills, critical thinking, technology, non-fiction reading, narrative writing, and presentation skills will be infused throughout the unit.	introduced to the book One Day For Life. Students will explore the book and discuss observations. How is the daily life depicted in the images similar to ours? How are they different? Was this project based in the US? If not, then where? What evidence do you have? Students will consider what makes this book so intriguing and reflect on how much we learned about another culture and another time period just from a collection of photographs all taken on one day. The concept will then be extended, and students will take part in a global collaborative project - One Day in the Life (iearn project link) Within the safety of the forum, students will explore contributions by children from around the world and learn about everyday life. Students will connect with children from other countries through various means. As a group, students will decide on a theme, such as a school day, mealtimes, family fun, etc., to document for our One Day in the Life contribution. Students will create multimedia posts to add to the forum showcasing some aspect of their everyday life. Students will be encouraged to dialogue with others, sharing knowledge of our culture while gathering knowledge about cultures from around the world. Students will reflect on what they learned about children from other cultures. They will consider what surprised them the most. Did viewing one day in the life of another person change how they view their own life? Did it change how they view the rest of the world? Students will consider the importance of understanding other cultures and how this may be of use to them in the future. Students will again be asked to consider the question, in the span of your life, how important is one day. Has their

		answer changed? Finally, students will consider the quote from Ernest Hemingway "Today is only one day in all the days that will ever be. But what will happen in all the other days that ever come can depend on what you do today." They will consider what this quote means to them personally and create a poster for the classroom as a constant reminder that today's actions impact tomorrow.
Assessment	Students will demonstrate an understanding of the concepts learned through informal discussion, formation of a class government, and reflective journal entries.	Students will demonstrate an understanding of concepts learned through informal discussion, multimedia presentation, and forum postings.

	Grade 6	**Grade 7**
Unit	1	1
THEME	**The UN Global Goals for 2030: Sustainable Intelligence**	**The UN Global Goals for 2030: Crowdsourcing Change**
Essential Question(s)	What does the term "community" mean to you? What is "global community?" What makes a sustainable community? How can we use our understanding of the Global Goals to improve our community?	What does community mean? How can you make a convincing case about a problem that inspires people to take action? What is collective action? What is collective impact? What is crowdsourcing? How can small actions eventually change the world?
Unit Overview	Students are introduced to the United Nations Sustainable Development Goals (SDGs) for 2030, also known as the Global Goals. This "Agenda for 2030"	The future is human-centric, all about participation and the ability to co-create via an increasingly connected world. This new way of doing things – crowdsourcing,

	was adopted by all 193 members of the United Nations and is comprised of 17 goals to drive development, paving the way for a better and more sustainable future for all. As students analyze the Global Goals, they draw connections between the goals and their own lives, thinking about ways they may contribute to the achievement of the goals themselves now and in the future. Students create a community map, highlighting local systems that connect to the Global Goals. They learn research methods to conduct their own research and interviews with experts as they examine cause and effect relationships within the community. Students self-identify an issue of importance and use design thinking to develop a solution as they learn to think globally and act locally.	crowdfunding, co-creation, collaboration, curation, citizen engagement, and open innovation is challenging existing ways of doing things, offering an immense opportunity to rethink and reinvent conventional processes. As students bridge their conceptions of local and global community, they use their understanding of the Global Goals to consider ways to improve global community, locally. They advance their research skills in an area of interest, analyzing primary and secondary research to design their own crowdsourcing campaigns, convincing people to take action on the Global Goals. Students will use lateral thinking to free current thinking patterns from their usual pathways to generate new and innovative ideas. Students are further challenged to use media and technology strategically, using both to effectively tell a story and elicit action and response in their crowdsourcing campaigns.
Assessment	Students use research methods and design thinking to solve a problem. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.	Students use primary and secondary research skills, lateral thinking, and visual storytelling to develop a crowdsourcing campaign to convince people to take action on the Global Goals. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.
Unit	2	2
THEME	**Sustainable Cities: Social, Economic, and Ecological Systems**	**The Circular Economy: Regenerative Design**

Essential Question(s)	What is your vision of a "perfect society?" Why do we study and examine our past, present, and future? How can we predict what life will be like in the future? How do we make predictions for the future and ensure that they have validity?	What can other cultures teach us about ourselves and about life? How does change happen in a system? What makes a system balanced? How are human and natural systems related? Who decides what limits something?
Unit Overview	Communities are hybrid ecosystems consisting of both natural and human-made elements. And like natural ecosystems, communities evolve through a combination of chaos and order. To understand this process, students will examine a community over time, as it evolves from 10,000 BCE to the present day. Students will use Systems Thinking to understand the web of interconnections that create emerging patterns over time. Interconnections may be biological, physical, social, or cultural and exist in many forms. They will examine patterns and how structure influences the behavior behind these patterns. In turn, they will question the thinking that created those structures to identify where they may best leverage change within a system. Using the engineering design process, students will design sustainable and resilient communities of the future, working from a state of dystopia reaching for a utopian future. They will write essays to describe their communities in past and future states. They will create and manage team project plans, conduct shared research,	At the heart of creativity, innovation, and growth, cities play a central role as motors of the global economy. 54% of the world's population live in urban areas with this figure set to rise considerably over the coming decades. Cities account for 85% of global GDP generation and are also huge collectors of materials and nutrients, accounting for 75% of natural resource consumption, half of global waste production, and the large majority of greenhouse gas emissions. As urban areas continue to grow, our cities will have to build more housing, deal with greater pressure on road and transportation networks, and work out how to cope with a growing demand for resources. How can we reshape how we design, experience, and manage our cities more effectively? Can an economy be restorative and regenerative by design? Students will investigate the circular economy framework to address stresses on cities and their people. In a circular economy, products are made to be made again, digital technologies allow us to track materials and take advantage of access to products over ownership, nutrients are returned to the soil, structural waste is put

	and build virtual and physical models of their communities. Finally, they will present their models, detailing how the community and its inhabitants achieve the UN Sustainable Development Goals.	to effective use, and the whole system is powered by renewable energy. The circular economy can generate benefits for business, society and the environment. Cities are uniquely positioned to drive a global transition towards a circular economy, with their high concentration of resources, capital, data, and talent over a relatively small geographic area. Applying anticipatory thinking through the lens of possible, probable, and desirable futures, students explore the potential benefits such a shift could have on the economy, society, and environment as well as some of the challenges that will have to be overcome.
Assessment	Students will imagine, research, design, and build a sustainable and resilient community of the future. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.	Students design and build 3D and virtual city models demonstrating how a circular economy might generate benefits for business, society, and the environment while examining challenges and potential unintended consequences that may arise. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/ teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.
Unit	3	3
THEME	**The Power of Inquiry to Spark Innovation**	**Storytelling With Data: Making a Long Story Short**
Essential Question(s)	What do I need to know? What makes a question good? How do I understand?	How can you make a convincing case about a problem that inspires people to take action? How do pictures, graphs, tables, and data “paint a thousand words?”

	What if students rather than teachers assume responsibility for posing questions?	How do we identify patterns and use them to predict what will happen next? How does what you read influence how you should read it?
Unit Overview	Questioning deeply and imaginatively can help us identify and solve problems, come up with game-changing ideas, and pursue fresh opportunities. As innovation expert Warren Berger observes, a beautiful question is an ambitious yet actionable question that can begin to shift the way we perceive or think about something—and that might serve as a catalyst to bring about change. Students will engage in the art and science of the Question Formulation Technique applying divergent, convergent, and metacognitive thinking to develop ambitious yet actionable questions for their own action research projects.	The environment is the news story of the century. We're grasping the dangers of civilization-as-usual and are trying to change course, veering away from fossil fuels and switching our thinking from short-term to long-term. Students explore the public voices behind these headlines. What are their motives? As they assess information regarding population, consumption, and climate, students learn psychological concepts for analyzing motives and gain perspective on media chatter and influence. In turn, students will create their own news stories, collecting and visualizing their own data as they pursue a question of interest. Students will exercise both critical and spatial thinking as they use GIS mapping technology to create story maps, combining one or more web maps with narrative text, imagery, and multimedia content to tell stories about neighborhoods, communities, nations, or the world using the common visual language of geography.
Assessment	Students' questions shape individual research and team project work culminating in a presentation or publication. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/teacher-created rubrics, student self-reflection, and peer	Using their own research questions, students analyze, interpret, and present data using GIS mapping technology to create a story map and narrative for publication. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/ teacher-created rubrics, student self-reflection, and peer critique. Ongoing

	critique. Ongoing feedback will be given through student-teacher dialogue.	feedback will be given through student-teacher dialogue.
Unit	4	4
THEME	**Power to the People**	**Making Arguments Matter**
Essential Question(s)	What is progress, and how can it be sustained? What does sustainability mean and how does it relate to human activity? How can we create to inspire positive action? What does it mean to be a citizen in the community? How can we use story writing and storytelling to help solve everyday problems?	What is the difference between truth and fact? How should we balance the rights of individuals with the common good? What is the common good? How can we argue effectively?
Unit Overview	Energy fuels our lives. It sustains our bodies, powers our industries, lights our cities, charges our cell phones, moves transportation, and supports health care. Energy consumption is deeply rooted in many local and global issues, the choices we make about energy can be part of sustainable solutions to critical challenges facing the world today. Students take a close look at human energy use as they take on the role of social entrepreneur and inventor, designing solutions to support community resilience. Their aim is to provide citizens with the sustained ability to use available resources to respond to, withstand, and recover from extreme weather, energy, and economic challenges. Effective solutions must yield economic and social value within	To cultivate critical evaluation of the Global Goals, students will develop and practice the critical skills of debate: structuring and supporting arguments, researching evidence, writing persuasive cases, drafting rebuttals, organizing ideas, delivering speeches with confidence, listening carefully, and thinking quickly on their feet in a supportive, non-competitive environment.

	the community, sustainably empowering the community and its citizens.	
Assessment	Students research persuasive tactics that help to influence behavior change. They design a sustainable solution to increase community resilience and create a campaign that educates the community on how to decrease energy use while increasing social, economic, and ecological value. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/ teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.	Students will be assessed on the quality of research and evidence, argumentation, refutation, structure, and delivery. Students will be assessed through informal observation and discussion. Student work will be evaluated by student/ teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.
Unit	5	5
THEME	**Biomimicry: Creating Nature-Inspired Ideas**	**The Triple Bottom Line: Balancing Short and Long-Term Goals**
Essential Question(s)	What inner and outer factors influence how we create? What can we learn from natural systems to improve our common future? How do living things adapt to changes in their environment? Why is it important that we recognize universal patterns existing within our world?	What ways can numbers conceal as much as they reveal? How do our decisions affect humans, the environment, and the economy? What are the factors to consider when purchasing a product? What determines value? How do we define "happiness" for ourselves and how important it is in our lives?
Unit Overview	*"I think the biggest innovations of the 21st century will be at the intersection of biology and technology. A new era is beginning."* – Steve Jobs	In today's ever-shifting financial market, investors are constantly faced with the choice between playing it safe or taking risks. The world of finance and investing has also been impacted by environmental

	At a time when we need sustainable solutions to solve many pressing local and global challenges, researchers are finding that solutions to many of these problems already exist in nature. Biomimicry is the practice of looking to nature for strategies to solve human challenges. The goal is to create products, processes, and policies—new ways of living—that are well-adapted to life on earth over the long haul. Nature has already solved many of the problems we are grappling with. Animals, plants, and microbes are the consummate engineers. Students will practice sitting quietly in nature and observing with a curious mind, looking for relationships and patterns in the environment, speculating about the functions behind what they observe. They look for patterns in nature at three scales: visual/form patterns, process patterns, and system-level patterns. Students work in teams to develop a research plan to investigate "How does nature…" questions and begin finding biological models. They begin to generate design ideas from the biological strategies and patterns they discovered and translate them into biomimetic design strategies that can be applied to a design problem. Students use design and systems thinking to develop a nature-inspired solution to a human challenge.	concerns, giving rise to green brands and socially responsible investing, with corporate companies paying more attention to what has become known as the Triple Bottom Line: people, planet, and profit. The Triple Bottom Line measures economic, ecological, and social accountability in an organization. These traits support socially responsible investing. When it comes to the financial markets, how will you define and weigh short and long-term goals? What risks are you willing to take, and why? Students dive into the world of global economics and develop a fundamental understanding of investing. They engage in an online simulation of the global capital markets investing in stocks, bonds, and mutual funds as they build their own portfolios and explore what it means to support the Triple Bottom Line.
Assessment	Students will be assessed through informal observation and discussion.	Students will be assessed through informal observation and discussion. Student work

	Student work will be evaluated by student/teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.	will be evaluated by student/ teacher-created rubrics, student self-reflection, and peer critique. Ongoing feedback will be given through student-teacher dialogue.

GRADE 8

In the eighth grade, students are invited to work on capstone projects, individually or in teams. With the support of the Gifted and Talented teacher, students define their study, develop a set of steps to be followed to accomplish their goals, complete the study, present their findings in real-world context, and reflect on and self-evaluate their work.

With the support of the Gifted and Talented teacher, students also have the option of applying their work towards a Congressional Award. The Congressional Award is non-partisan, voluntary, and non-competitive. It is the highest honor the U.S. Congress bestows upon American youth. Designed to promote and recognize service, initiative, and achievement, there are six levels of Award — Bronze, Silver, and Gold Certificates and Bronze, Silver, and Gold Medals. The minimum age to register for the Congressional Award program is 13 1/2 years old.

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