7th Grade Talented and Gifted

Sayreville Middle School

Full year

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Written by: Jennifer McGough

Course Overview

Statement of Purpose

The purpose of the 7th Grade Talented and Gifted Program is to help advanced students become fearless problem-solvers, savvy financial thinkers, and strategic leaders. By engaging weekly in a rigorous, collaborative workspace, students will learn how to look at complex data, make smart predictions, and learn from their mistakes. Whether they are troubleshooting an engineering prototype or managing a virtual stock portfolio, students will practice using logic and creativity to back up their choices. By connecting engineering logic with real-world economics, we prepare students to confidently navigate and lead in a rapidly changing world.

Overview

The 7th Grade Talented and Gifted (TAG) Program provides weekly, fast-paced lessons designed for students who have been identified using multiple measures that love to think outside the box, solve complex puzzles, and tackle real-world challenges. This program bridges the worlds of high-level engineering and smart investing. Throughout the year, students will use the Engineering Design Process alongside their creative, inventive, and deductive skills to build systems from scratch and test their ideas. At the same time, they will dive deep into financial literacy, learning how money and markets work by taking charge of a virtual portfolio and competing in a live stock market simulation game.

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7th Grade Talented and Gifted

Content Area: **Talented and Gifted**
Course(s): Talented and Gifted
Time Period: Full Year
Length: 33 weeks
Status: **Not Published**

Section Title

TAG - Grade 7

Summary of the Unit

Seventh-grade students identified for the pull-out Talented and Gifted (TAG) program through multiple assessment measures will participate in weekly small-group enrichment sessions led by a district TAG teacher. These specialized learning experiences are designed to extend and enrich advanced learners' academic growth through engaging STEM challenges, higher-level critical thinking activities, creative problem-solving opportunities, and exploration of high-interest topics. Students will engage in hands-on science, technology, engineering, and mathematics (STEM) investigations, solve complex logic and reasoning challenges, and pursue student-driven projects and in-depth studies of unique areas of interest. Through these enrichment experiences, students will strengthen and apply advanced analytical, deductive, creative, inventive, evaluative, and visual-spatial thinking skills while fostering intellectual curiosity and independent learning.

Enduring Understandings

- Failure is an essential part of learning. It reveals flaws and provides the necessary data to make improvements.
- There is rarely a single right answer. Multiple successful solutions can exist for the exact same problem.
- Engineers work within constraints. Real-world designs always require balancing limitations like time, money, and materials.
- Design is a continuous loop. It constantly circles back to testing and refining.
- Feedback loops are critical. Peer critiques and user testing provide essential insights that the original designer might miss.
- Money management choices today shape your future freedom and security.
- Compound interest grows wealth over time through regular saving and investing.
- Buying stocks means owning a real piece of a company.
- Share prices rise and fall based on company success, market trends, and human emotion.
- Diversification spreads out risk so one bad investment does not ruin your portfolio.
- Team success relies on blending different skills, perspectives, and shared responsibilities to achieve a common financial goal.

Essential Questions

- Why is it important to follow a design process when developing solutions to a design challenge?
- Why should we evaluate design solutions at intervals?
- What is the problem we are trying to solve, and why does it matter?
- What scientific concepts or mathematical tools do we need to understand to solve this?
- How will we know if our design is successful?
- What failure points did we discover during testing, and how can we fix them?
- How effectively did our team collaborate to solve this challenge?
- Why does money grow when we invest it early?
- What does it mean to own a piece of a company?
- Why do stock prices go up and down every day?
- How can investors protect themselves from losing all their money?
- How do we balance differing opinions to make smart, collective investment choices?

Summative Assessment and/or Summative Criteria

Assessment is primarily formative classroom observations. Others include anecdotal records, student/teacher conferences, running records, worksheets, and prototypes.

Some summative assessment may be used for identification such as:

Benchmark assessments, LinkIt Assessments, NNAT3, Williams CAP

Resources

Power Point Presentations
Resource Folder Worksheets (planning guides, challenge tasks)
Discovery Education
Ponzi: https://www.youtube.com/watch?v=1QkZcdCDJJg
https://www.vivifystem.com/blog/2015/1/14/touchdown-lander
https://www.feelgoodteaching.com/2016/09/halloween-activity-stem-challenge-wings-wanted.html
Stock Market: https://www.youtube.com/watch?v=-ggtSIkHVDo
Stock Market: https://www.youtube.com/watch?v=CMQLdJa64Wk
https://spiral.ac/sharing/juwwzpc/bitcoin-how-cryptocurrencies-work
personalfinancelab.com

Unit Plan

Topic/Selection Time Frame	General Objectives	Instructional Activities	Standards
Topic: Topic: TAG Class Introduction & Activities Time Frame: 1 week	SWBAT list responsibilities of a TAG student and class expectations SWBAT demonstrate their ability to follow directions and creativity by participating in the game, "The Quest" and digital and physical classroom escape rooms.	Discussion of responsibilities and expectations for class. Students will participate in two icebreaker activities. Students will organize into groups of 5 to participate in "The Quest." Each group will work together to solve various types of problems as quickly as possible testing their collaboration, creativity, and critical thinking skills Students will organize into groups of 3-4 to solve digital and physical classroom escape rooms with tasks focused on creativity and critical thinking skills.	GIFT.PK-12.2.1.1 GIFT.PK-12.3.4.2 GIFT.PK-12.1.1.3 GIFT.PK-12.1.2.3
Topic: The Engineering Design Process Timeframe: 1 week	SWBAT explain and demonstrate the engineering design process. SWBAT identify design constraints like time, budget, and materials when building. SWBAT analyze designs for successes and failures and provide feedback.	The Pipe Cleaner Tower Challenge Review of the Engineering Design Process Explain and discuss examples of constraints in engineering. Students will work in teams of 2 to 3 with a planning sheet to create a free-standing pipe cleaner tower with only 15 pipe cleaners. During the activity, the teacher will stop the students periodically for constraints to be given	SCI.MS.ETS1.A SCI.MS-ETS1-1 SCI.MS-ETS1-2 SCI.MS-ETS1-4

		such as using only one hand (limit resources) and no communication (global marketplace) for part of the project. Also, teams may lose a pipe cleaner to show budget cuts. Followed by an evaluation of structures for successes and failures and the effect of constraints.	
Topic: The Engineering Design Process Timeframe: 2 weeks	SWBAT explain and demonstrate the engineering design process. SWBAT apply scientific principles to solve design problems. SWBAT analyze data from initial designs to identify performance failures and redesign prototype for success.	Alien Space Lander Explain kinetic energy and how gravity affects objects. Students will work in groups of 2 to 3 with a planning sheet to solve the Alien Space Lander Challenge using a "Lander Kit" to build a lander that allows two aliens (marshmallows) in a cup to land safely when dropped from varying heights. Students will collect and analyze data to improve their design.	SCI.MS.ETS1.A SCI.MS-ETS1-2 SCI.MS-ETS1-3 SCI.MS-ETS1-4
Topic: The Engineering Design Process Timeframe: 2 weeks	SWBAT explain and demonstrate the engineering design process. SWBAT apply scientific principles to solve design problems. SWBAT analyze data from initial designs to identify performance failures and redesign prototype for success.	Bat Wing Challenge Define and explain the four forces of flight: Lift (counteracting gravity), Drag (air resistance), Thrust (forward momentum), and Gravity. Students will work individually or in a group of 2 with a planning sheet and use a wingless bat	SCI.MS.ETS1.A SCI.MS-ETS1-2 SCI.MS-ETS1-3 SCI.MS-ETS1-4

	SWBAT evaluate competing designs for successes and failures and provide feedback.	body paper template to engineer a set of wings that will allow the bat body to safely glide the maximum distance possible. Students will be given practice paper and then a heavier stock paper for their final design. Students will collect and analyze data to improve their design, and a winner will be announced. Students will evaluate all other designs and provide feedback.	
Topic: The Engineering Design Process Real World Timeframe: 2 weeks	SWBAT design, build, test, and improve a model house that can withstand simulated tornado-force winds, using the engineering design process to evaluate and strengthen their structure.	Ask students how can engineers design homes that are safer during tornadoes? Discuss what causes tornadoes? How do tornadoes damage homes? What features might help a house survive strong winds? Show pictures of homes before and after tornadoes and examples of storm-resistant construction. Students will work in groups of 2-3 to build a model house that can withstand 30 seconds of simulated tornado winds from a fan while remaining upright and keeping its roof attached. Design Criteria Must have four walls and a roof.	SCI.MS.ETS1.A SCI.MS-ETS1-2 SCI.MS-ETS1-3 SCI.MS-ETS1-4

		Must fit on a 20 cm × 20 cm base. Must use only the provided materials. Must survive the tornado test. Students will sketch their house and label foundation/base, walls, roof, and reinforcements. Students will build their tornado-resistant houses using the provided materials. Place each house in front of a fan and conduct tests: Low speed for 10 seconds Medium speed for 10 seconds High speed for 10 seconds Students will observe did the house stay standing? Did the roof remain attached? Did any walls collapse? Students will record their data and discuss strengths and weaknesses, and then they will strengthen weak areas and retest their houses.	
Topic: Financial Literacy Timeframe: 2 weeks	SWBAT differentiate between financial "wants" and "needs" by analyzing real-world scenarios. SWBAT create a basic balanced budget using a fixed income amount.	Wants vs. Needs & Smart Budgeting Island Castaway: Students will receive a list of 15 items (e.g., water filter, smartphone, tent, video game, snacks). They must pick only 5 items to survive on a deserted island, forcing	9.1.8.PB.6 9.1.8.PB.1

		them to immediately distinguish survival needs from comfort wants. Introduce the concept of a budget & 50/30/20 Rule. Explain a simplified version of budgeting: 50% Needs (food, shelter, basic clothing), 30% Wants (entertainment, dining out, trendy shoes), and 20% Savings. ○ Students will work on their "First Job" budget in pairs. Scenario: "You earn $100 a week doing neighborhood jobs." Students must allocate their $100 into a budget sheet, ensuring they cover standard "needs" provided by the teacher before spending on "wants."	
Topic: Financial Literacy Timeframe: 2 weeks	SWBAT differentiate between fixed and variable expenses. SWBAT create a basic balanced budget using a fixed income amount.	Fixed & Variable Expenses & Budgeting Students will choose their dream job and research the median salary for the job. Use a Power Point presentation to explain and discuss fixed vs. variable expenses with examples. Students will use a planning packet to build a zero-based budget using their dream job salary including choices for fixed and variable expenses.	9.1.8.PB.6
Topic: Financial Literacy Timeframe: 1 week	SWBAT explain the concept of compound	The Power of Saving & Interest	9.1.8.PB.1

	interest and how it helps money grow over time. SWBAT calculate simple savings goals based on short-term and long-term targets.	The Magic Penny Dilemma: Ask students: "Would you rather have $10,000 cash right now, or a single penny that doubles in value every day for 30 days?" Reveal the answer (the doubling penny grows to over $5 million) to introduce the concept of compounding. Explain why we use banks instead of keeping money under a mattress (security + earning interest). Introduce the basic formula for how banks pay you to keep your money there. Students will make a Dream Purchase Timeline. Students will choose an item they want to buy (e.g., a $500 gaming console). They must calculate how much they need to save per week to buy it in 3 months vs. 6 months, factoring in a small "bonus" interest rate if they keep it in a savings account.	
Topic: Financial Literacy Timeframe: 2 weeks	SWBAT compare and contrast the differences between using cash, debit cards, and credit cards. SWBAT identify the hidden costs of credit card debt (interest and fees).	Payment Methods (Cash, Debit, and Credit) Ask students what happens when someone buys something with a credit card if they don't actually have the money in their bank account. Discuss. Use Power Point presentation to break down the three primary payment methods: Cash: Physical money you own right now.	9.1.8.CDM.1

		Debit: Digital money deducted instantly from your bank account. Credit: A loan from a bank that you must pay back later, often with extra fees (interest) if you don't pay it off quickly. Students will complete a Mall Run and are given a "Payment Method Card" (either Debit or Credit) and a shopping list. As they "buy" items, students with Credit cards draw "Interest Penalty" cards if they overspend, demonstrating how a $20 shirt can turn into a $35 shirt if paid off slowly. Students will write a reflection on which card is safer to use.	
Topic: Financial Literacy Timeframe: 1 week	SWBAT identify and explain the key components of a standard personal check. SWBAT accurately write out a check to a designated payee for a specific dollar amount, ensuring the word form matches the number form.	Writing a Check Correctly Using a check, ask students if they know what any of the numbers or lines mean. Point out the routing number, account number, memo line, and signature line. Walk students through the six steps to writing a check: Date, Payee ("Pay to the order of"), Numerical Amount, Written Amount (emphasizing the use of "and xx/100" for cents and drawing a line to the end), Memo, and Signature. Explain why we write the amount in words (to prevent fraud or alteration). Students will use sample checks to write four	GIFT.PK-12.5.1.2

		distinct payment prompts. Walk through the first one together, then have students complete the next three independently. Students swap with a peer to "audit" and check for missing signatures or mismatched amounts.	
Topic: Financial Literacy Timeframe: 2 week	SWBAT differentiate between a transaction deposit and a withdrawal. SWBAT maintain a running balance in a financial check register by accurately adding and subtracting sequential transactions.	Maintaining a Check Register Ask students, "You check your bank app and you have $50. But yesterday you wrote a check for $40 that hasn't cleared yet, and you bought a $15 lunch today using your debit card. How much money do you actually have left to spend?" Discuss why relying purely on a live bank app screen can sometimes lead to overdraft fees. Introduce a standard check register chart worksheet (Columns: Check Number, Date, Transaction Description, Payment/Debit (-), Deposit/Credit (+), and Balance). Show how every time money moves, the running balance must be recalculated. Provide students with a blank register worksheet with a starting balance of $200 and a chronological list of 5 actions that occurred over a month. Students fill out their own register sheets, calculating the final balance. Students swap with a peer to "audit" for the balance.	GIFT.PK-12.5.1.2

Topic: The Stock Market & the Simulation Timeframe: 1 week	SWBAT define what a stock is and explain why companies issue them to the public. SWBAT describe how supply and demand cause stock prices to fluctuate daily.	How the Stock Market Works Ask students to name three brands they love. Explain that anyone can actually own a tiny piece of those companies. Introduce the definition of a stock as a share of ownership in a business. Explain the role of the stock exchange as a massive digital flea market where buyers and sellers agree on prices based on news, performance, and trends. Student will participate "The Live Trading Floor." Students will be divided into buyers and sellers, and given cards for a fictional company, "Galaxy Gaming." Announce news flashes every 2 minutes (e.g., "Galaxy Gaming launches a viral new game!" or "Galaxy Gaming's servers crash for three days!"). Students must quickly negotiate and trade their stock cards, recording whether the price went up or down based on the news.	GIFT.PK-12.4.1.1 GIFT.PK-12.5.1.2
Topic: The Stock Market & the Simulation Timeframe: 2 weeks	SWBAT read a basic stock chart to identify ticker symbols, current prices, and daily changes. SWBAT research and select stocks to construct a mock investment portfolio.	Analyzing Stocks & The Market Display a live stock ticker on the board. Teach students how to read ticker symbols (e.g., AAPL, DIS, NFLX) and what the green (positive) and red (negative) numbers mean.	GIFT.PK-12.4.1.1 GIFT.PK-12.5.1.2

		Discuss the difference between established "Blue Chip" companies (older, steady companies) and volatile tech or startup stocks. Introduce the concept of diversification (not putting all your eggs in one basket.) Students will choose 3 real-world companies to invest in, and using a tracking sheet, research each company's past and current pricing and news. Then document their reasoning for each of their choices based on current trends.	
Topic: The Stock Market & the Simulation Timeframe: 1 week	SWBAT define a Ponzi scheme and identify its core warning signs. SWBAT diagram how a Ponzi scheme operates and contrast it with legitimate market investing.	Ponzi Schemes Too Good to Be True Pitch: Ask: "Give me $5 today, and I promise to give you $10 tomorrow, guaranteed. No risk at all." Take money from two students, then use a new student's money to pay back the first two. Ask the class: "Where did the extra money actually come from?" Explain that a Ponzi scheme is a fraud where the robber takes money from new investors to pay back older investors, making it look like a successful business when no actual investing is happening. Highlighting the ultimate red flags: "Guaranteed high returns," "consistent returns regardless of	GIFT.PK-12.4.1.1 GIFT.PK-12.5.1.2

		market conditions," and "secret investment strategies." Show video, Ponzi Scheme. Provide students with three fictional investment pitches (two legitimate, one a Ponzi scheme). In pairs, students will highlight phrases that match the red flags they learned. They must write a brief "warning report" explaining why the fraudulent pitch is unsafe.	
Topic: The Stock Market & the Simulation Timeframe: 1 week	SWBAT explain what cryptocurrency is and how it differs from traditional government-backed currency. SWBAT evaluate the high volatility and potential risks associated with trading digital assets.	Cryptocurrency & Digital Assets Introduce cryptocurrency as a digital-only currency that doesn't rely on a central bank and how a blockchain functions. Using Power Point, show a historical price chart of Bitcoin and Ethereum to illustrate its extreme ups and downs compared to a traditional index like the S&P 500. Students will break up into teams and debate the question: Is cryptocurrency a smart investment for the average person, or is it too much like gambling?	GIFT.PK-12.4.1.1 GIFT.PK-12.5.1.2
Topic: The Stock Market & the Simulation Timeframe: 10 weeks	SWBAT collaborate within a small group to negotiate, select, and justify stock choices based on research and consensus.	The Stock Market Simulation Introduce The Stock Market Game using personalfinancelab.com	GIFT.PK-12.5.1.5 GIFT.PK-12.4.1.1

	SWBAT execute simulated buy, sell, and hold orders within a fixed $100,000 budget while accurately tracking transactional costs like mock broker fees. SWBAT analyze the performance of a diversified portfolio by examining periodic gains, losses, and overall return on investment. SWBAT evaluate how unexpected market news or current events impact the valuation of specific industries or companies within their portfolio.	and the rules students must follow for participation. Students will be organized into groups of 2 or 3 and asked to create a name for their stock market team and at least three rules for trading. Teams will be given an account on personalfinancelab.com to trade. At the start of each class period, the teacher will introduce a simulated "Global News Flash" and teams will discuss and analyze how this news affects their specific portfolio and vote on whether to buy more, sell current shares, or hold steady. Teams will then analyze and evaluate the performance of their stocks and trade as they feel appropriate with the goal being to have the highest total portfolio value by the end of the competition. Following the close of the competition there will be a shareholder's meeting where teams present their biggest successes, mistakes, and how they handled disagreements.	

Standards

1.1.2	Educators assist students with gifts and talents in developing identities supportive of achievement.
1.2	Self-Understanding. Students with gifts and talents possess a developmentally appropriate understanding of how they learn and grow; they recognize the influences of their beliefs, traditions, and values on their learning and behavior.
2.1.1	Educators develop environments and instructional activities that encourage students to express diverse characteristics and behaviors that are associated with giftedness.
MS-ETS1-1	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
3.4.2	Educators use creative-thinking strategies to meet the needs of students with gifts and talents.
MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
MS-ETS1-3	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
MS-ETS1-4	Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
4.1.1	Educators maintain high expectations for all students with gifts and talents as evidenced in meaningful and challenging activities.
4.1.3	Educators create environments that support trust among diverse learners.
5.1.2	Educators regularly use enrichment options to extend and deepen learning opportunities within and outside of the school setting.
5.1.5	Educators regularly use current technologies, including online learning options and assistive technologies to enhance access to high-level programming.

Suggested Modifications for Special Education, ELL and Gifted Students

All students who demonstrate characteristics of giftedness will have access to a variety of enrichment opportunities and resources designed to support advanced learning. To ensure equitable access, enrichment experiences include multiple entry points, such as nonverbal and hands-on activities, that are particularly supportive of twice-exceptional learners and English language learners. Gifted students are encouraged to self-select learning experiences that align with their strengths, interests, and talents, allowing them to explore areas of passion, deepen their understanding, and develop their abilities at an appropriate pace.

Suggested Technological Innovations/Use

Discovery Education, Codeacademy.com, Python.org, Gamestar Mechanic, MIT App Inventor

Cross Curricular/Career Readiness, Life Literacies and Key Skills Practice

Lessons encourage 21st century skills including: collaboration, communication, creativity, critical thinking, and character. These soft skills promote career readiness and are requisites for success in all curricular areas.

9.1.8.CDM.1	Compare and contrast the use of credit cards and debit cards for specific purchases and the advantages and disadvantages of using each.
9.1.8.PB.1	Predict future expenses or opportunities that should be included in the budget planning process.
9.1.8.PB.6	Construct a budget to save for short-term, long term, and charitable goals.