



SPRINGFIELD PUBLIC SCHOOLS

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Springfield Public Schools
Springfield, New Jersey 07081

Gifted and Talented
Grade K-5

Curriculum Guide

2025

This curriculum may be modified through varying materials, techniques, and strategies as per an individual student's IEP.

Springfield Board of Education
Approved November 17, 2025

Springfield Public Schools

Cultivating compassionate and extraordinary learners!

EXTRACT OF THE MINUTES OF A MEETING OF
THE BOARD OF EDUCATION OF
THE TOWNSHIP OF SPRINGFIELD
COUNTY OF UNION, NEW JERSEY
AS RECORDED IN THE OFFICIAL MINUTE BOOK

Resolution: 15

Introduced By: Mrs. Turnbull

Seconded By: Mrs. Murphy

Adopted: November 17, 2025

Curriculum Adoption

To approve the following curriculum

1. Elementary School Level
 - a. Creative Curriculum -- PreK
 - b. Gifted and Talented Art -- Grades K-5
 - c. Intervention Services Gr K-5
2. Middle School Level
 - a. ELA LAB -- Grades 6-8 (NEW)
 - b. Introduction to Mysteries of History (NEW)
3. High School
 - a. AP Senior Seminar
 - b. Springfield Leadership (Grades 11 & 12)

I, Michelle Calas, School Business Administrator/ Board Secretary of the Springfield Board of Education, hereby certify that the extract from the minutes of a meeting of the Board of Education duly called and held on November 17, 2025 has been compared by me with the original minute book of said Board of Education, and is a true, complete and exact copy thereof, as far as the same relates to the subject matter to on said extract.

In WITNESS THEREOF, I have hereunto set my hand and seal of the Springfield Board of Education, this 18th day of November 2025.

SEAL



Michelle Calas

School Business Administrator/ Board Secretary

Michelle Calas, School Business Administrator/Board Secretary



**Springfield Public Schools
Springfield, New Jersey**

**Rachel Goldberg
Superintendent of Schools**

**Erica Scudero
Assistant Superintendent of Curriculum and Instruction**

Curriculum Developed By:

Dave Rennie ~ Principal of James Caldwell

Timothy Kielty ~ Principal of Thelma L. Sandmeier

Dr. Jonathan Firetto ~ Principal of Edward V. Walton

Ashley Bauers ~ Coordinator of Visual & Performing Arts

Kim Noto ~ Art Teacher

Shannon Cuff ~ Art Teacher

Jessica Ging ~ Elementary Gifted and Talented Teacher



Unit Overview Template

Content Area:	ELA/Math	Grade Level:	1	Unit Title:	Critical Thinking
Unit Summary: In this unit the students will learn a variety of problem solving and critical thinking techniques. These lessons will create opportunities for students to think about problems differently and see an array of solutions. Through explicit instruction in problem solving methods and ample time to experience these methods, students will gain valuable knowledge on being persistent in problem solving.					
Primary Interdisciplinary Connections: 21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy ☐ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy					
Unit Rationale: This unit will provide students with a variety of ways to approach problems which will promote critical thinking and problem solving skills in young students.					

Learning Targets

Standards: New Jersey Student Learning Standards	
Content Statements:	
CPI#:	Cumulative Progress Indicator (CPI):
LA.1.SL.1.1	Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
LA.1.SL.1.1.A	Follow agreed-upon norms for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
LA.1.SL.1.1.B	Build on others' talk in conversations by responding to the comments of others through multiple exchanges
LA.1.L.1.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 1 reading and content, choosing flexibly from an array of strategies.
LA.1.L.1.5.C	Identify real-life connections between words and their use (e.g., note places at home that are cozy).
MA.1.1.G.A.1	Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.5	Use appropriate tools strategically.
Unit Essential Questions: • How can I approach a new problem? • How can I prove my thinking? • What are some methods of problem solving and critical thinking? • How can I effectively communicate my ideas with others?	
Unit Enduring Understandings: • There are multiple ways to approach and solve problems.	



- Following directions, communicating and collaborating are important skills when building a solution to a problem
- Solving problems can be time consuming and constraints exist in the real world.
- Students can understand why things happen as they do, how one thing leads to another, how a single event can have multiple causes and consequences, and how some consequences are intended and some are not.

Unit Learning Targets:

Students will...

- Experience genuine and relevant inquiry into the big ideas of core content
- Be provoked to think deeply, participate in lively discussion, develop new understanding
- Consider alternatives, weigh evidence, support ideas and justify their answers
- Spark meaningful connections with prior learning and personal experiences
- Reflect on how to find answers and imagine new possibilities
- Make sense of problems and persevere in solving them
- Work through the design process allowing the students to further strengthen their problem solving, communication, critical thinking and reasoning skills.

Evidence of Learning

Summative Assessment: Assessed all year through task completion

Equipment Needed: Relevant task cards, activity sheets, manipulatives

Teacher Resources: Group Solutions, PETS (Primary Education Thinking Strategies)

Formative Assessments:

- Task Sheets
- Exit Slips
- Teacher Observation
- Understanding Scored on Rubrics
- Class Discussions
- Group Presentations

Lesson Plans

Lesson	Time Frame
Lesson 1 Searches "Find The..."	40 Minutes
Lesson 2 Logic with Astronauts	40 Minutes
Lesson 3 Analogies	40 Minutes

Teacher Notes:

The time frame of this unit will vary. Units are meant to be flexible and driven by student interest, need and engagement.

Curriculum Development Resources/Technology Resources:



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Click the links below to access additional resources used to design this unit:

Group Solutions

Primary Education Thinking Strategies

Teacher Created Materials



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Lesson Plan 1 Template

Content Area: ELA/Math Lesson Title: Searches "Find The.." Time Frame: 40 Minutes

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Math, English Language Arts, Communication, Critical Thinking and Problem Solving skills to successfully complete this lesson. Students will be using clues to read, search, deduce and draw conclusions.

Integration of Technology:

Extensions to these lessons can be accessed through websites and iPad apps.

Equipment Needed:

Task Cards, Picture Cards, Large Example for whole class lesson, Manipulatives

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use clues, picture cards, and the process of elimination to locate one object among many. - Use early math concepts to search and deduce potential answers.	Lesson Sequence - Intro - 6 students in the front of the room- give class clues - which students should sit and why and why, leaving one student left. Introduce the concept of deductive reasoning as a problem solving-skill. - Go through examples as a group. Using clues and picture cards to find the correct answer. - Discuss instructions explicitly. - Students are separated into groups of 4 to work	- Class Discussion - Teacher Observation - Task Completion



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- on problems collaboratively.
5. Groups “level up” to problems with increased difficulty as they show what they can do.

Differentiation:

Mixed Ability Grouping, Leveled Questioning, Group Investigations. Peer and Teacher Support in Small Groups

Resources Provided:

- Task Cards
- Picture Cards
- Manipulatives
- Group Examples



Lesson Plan 2 Template

Content Area: ELA/Math Lesson Title: Logic with Astronauts Time Frame: 40 Minutes

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Math, English Language Arts, Communication, Critical Thinking and Problem Solving skills to successfully complete this lesson. Students will be using clues to order items based on attributes.

Integration of Technology:

Extensions to these lessons can be accessed through websites and iPad apps.

Equipment Needed:

Task Cards, Picture Cards, Large Example for whole class lesson, Manipulatives

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use deductive reasoning to order objects based on attributes. - Use orientation clues to draw conclusions.	Lesson Sequence - Gather students together on a rug. Logic introduction - with students as an example. - Example of the types of problems that they will be solving; students brainstorm and develop strategies, connect to previous deduction lesson. - Student volunteers help read clues and explain thinking. - Students break out into tables to work through the worksheet and solve	- Class Discussion - Teacher Observation - Task Completion



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	the problems using manipulatives. 5. Extension - Create your own problem as a group, share out.	
Differentiation: Mixed Ability Grouping, Leveled Questioning, Group Investigations. Peer and Teacher Support in Small Groups, Extension Activities		
Resources Provided: • Task Cards • Picture Cards • Manipulatives • Group Examples		



Lesson Plan 3 Template

Content Area: ELA/Math Lesson Title: Analogies Time Frame: 40 Minutes

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Math, English Language Arts, Communication, Critical Thinking and Problem Solving skills to successfully complete this lesson. Students will be using knowledge of word and pictorial relationships to complete analogies.

Integration of Technology:

Extensions to these lessons can be accessed through websites and iPad apps.

Equipment Needed:

Task Cards, Picture Cards, Large Example for whole class lesson, Worksheets, Dry Erase Markers and Communicators.

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use vocabulary, prior knowledge and critical thinking skills to solve analogies. - Use pictorial clues to complete analogies.	Lesson Sequence - Gather students together on rug. Analogy introduction - with students as an example. - Read "Animal Analogies" students participate in finishing analogies in the story. - Example of the types of problems that they will be solving; students brainstorm and develop strategies for solving; the steps of solving an analogies - Students break out into tables to work through problems	- Class Discussion - Teacher Observation - Task Completion



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| | <ol style="list-style-type: none">5. Students that show mastery of pictorial analogies move on to word analogies.6. Extension - Create your own analogy. | |
|--|---|--|

Differentiation:

Mixed Ability Grouping, Leveled Questioning, Group Investigations. Peer and Teacher Support in Small Groups, Extension Activities

Resources Provided:

- Student Worksheets
- Group Examples
- Extension Paper



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Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills		X	
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: ELA/Math	Grade Level: 1	Unit Title: Critical Thinking
Created: Kelley Tauscher	Board Approved on: Type Here	



Unit Overview Template

Content Area: ELA/Math **Grade Level:** 2 **Unit Title:** Critical Thinking

Unit Summary: In this unit the students will learn a variety of problem solving and critical thinking techniques. These lessons will create opportunities for students to think about problems differently and see an array of solutions. Through explicit instruction in problem solving methods and ample time to experience these methods, students will gain valuable knowledge on being persistent in problem solving. This unit builds on their Enrichment lessons from grade 1.

Primary Interdisciplinary Connections:

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☐ Information Literacy ☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: Learning a variety of ways to approach problems will promote critical thinking and problem solving skills in young students.

Learning Targets

Standards: New Jersey Student Learning Standards

Content Statements: Comprehension and Collaboration
 Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
 Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).
 Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.
 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings

CPI#:	Cumulative Progress Indicator (CPI):
LA.2.L.2.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.
LA.2.L.2.5	Demonstrate understanding of figurative language, word relationships and nuances in word meanings.
LA.2.SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
LA.2.SL.2.1. A	Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).
LA.2.SL.2.1. B	Build on others' talk in conversations by linking their comments to the remarks of others.



MA.2.2.NB T.A.1	Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.
MA.2.2.NB T.A.2	Count within 1000; skip-count by 5s, 10s, and 100s.

Unit Essential Questions:

- How can approach a new problem?
- How can I solve this problem in a different way?
- How can I prove my thinking?
- What are some methods of problem solving and critical thinking?
- How can I effectively communicate my ideas with others?

Unit Enduring Understandings:

- There are multiple ways to approach and solve problems.
- Following directions, communicating and collaborating are important skills when building a solution to a problem.
- Solving problems can be time consuming and constraints exist in the real world.
- Students can understand why things happen as they do, how one thing leads to another, how a single event can have multiple causes and consequences, and how some consequences are intended and some are not.
- Collaborating as a member of a team is a valuable skill.

Unit Learning Targets:

Students will....

- Experience genuine and relevant inquiry into the big ideas of core content
- Be provoked to think deeply, participate in lively discussion, develop new understanding
- Consider alternatives, weigh evidence, support ideas and justify their answers
- Spark meaningful connections with prior learning and personal experiences
- Reflect on how to find answers and imagine new possibilities
- Make sense of problems and persevere in solving them
- Work through the design process allowing the students to further strengthen their problem solving, communication, critical thinking and reasoning skills.

**Evidence of Learning**

Summative Assessment: Assessed all year through task completion

Equipment Needed: Relevant task cards, activity sheets, manipulatives

Teacher Resources: Group Solutions, PETS (Primary Education Thinking Strategies) Extra students supplies.

Formative Assessments:

- Task Sheets
- Exit Slips
- Teacher Observation
- Understanding Scored on Rubrics
- Class Discussions
- Group Presentations

Lesson Plans

Lesson	Time Frame
Lesson 1 Isabel The Inventor	40 minutes
Lesson 2 Hink Pinks	40 minutes
Lesson 3 Logic and Reasoning	40 minutes

Teacher Notes:

The time frame of this unit will vary. Units are meant to be flexible and driven by student interest, need and engagement.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

Group Solutions

Primary Education Thinking Strategies

Teacher Created Materials



Lesson Plan 1 Template

Content Area: ELA Lesson Title: Isabel The Inventor Time Frame: 40 Minutes

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of English Language Arts, Math, Communication, Critical Thinking and Problem Solving skills to successfully complete this lesson.

Integration of Technology:

Extensions to these lessons can be accessed through websites and iPad apps. Other "picture pieces" will be left behind for means of enrichment in creativity.

Equipment Needed:

Isabel The Inventor Story, Whisk, Picture Pieces, Picture Examples, Poster with Instructions

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use their creativity to complete pieces of pictures based on what they see, using their background knowledge and imagination. • Recognize differences and similarities between their own thinking and their peers • Be able to see multiple solutions and scenarios to a single problem	Lesson Sequence 1. Discuss the way individuals may see the same problem in several different ways. 2. Introduce "Isabel the Inventor" story. Students listen and participate in story by-answer questions. Students imagine new ways that a whisk can be used. 3. "Picture Pieces" are introduced, students turn and talk about what they see. 4. Examples are shown; students are given picture pieces to complete.	• Class Discussion • Teacher Observation • Exit Ticket • Task Completion • Understanding Assessed on Rubric



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| | 5. Upon completion - gallery walk; students give compliments, discuss what they notice. | |
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Differentiation:

Grouping, Leveled Questioning, Group Investigations, Teacher Support

Resources Provided:

- Story
- Whisk
- Picture Pieces
- Examples
- Extension Pieces



Lesson Plan 2 Template

Content Area: ELA Lesson Title: Hink Pinks Time Frame: 40 Minutes

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of English Language Arts, Communication, Critical Thinking and Problem Solving skills to successfully complete this lesson

Integration of Technology:

Extensions to these lessons can be accessed through websites and iPad apps.

Equipment Needed:

Rhyming Cards, Hink Pink Pictures, Hink Pink Books, Hink Pink Worksheet.

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use their knowledge of rhyming to solve hink pink riddles. - Use their knowledge of synonyms and context clues to make sense of problems - Exercise knowledge of rhyming and synonyms to create their own hink pink riddles.	Lesson Sequence - Talk about what the students know about words that rhyme - begin with spring poem. Students identify the rhyming words. - Show students picture, create a list of as many rhyming words as we can for that word. - Introduce concept of Hink Pink through pictures. Show students a picture and have them describe the picture using two words that rhyme. - Translate picture exercise to riddles with words using "Ape Cape" book.	- Class Discussion - Teacher Observation - Exit Ticket - Task Completion - Understanding Assessed on Rubric



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| | 5. Students work in partnerships to solve hink pink worksheets. If they finish early, they can try to create their own. Share out at the end. | |
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Differentiation:

Grouping, Leveled Questioning, Group Investigations, Extension Activity

Resources Provided:

- Rhyming Cards
- Picture Cards
- Ape Cape Book
- Task Sheet



Lesson Plan 3 Template

Content Area: ELA/Math Lesson Title: Logic and Reasoning Time Frame: 40 Minutes

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Math, Communication, Critical Thinking and Problem Solving skills to successfully complete this lesson.

Integration of Technology:

Extensions to these lessons can be accessed through websites and iPad apps.

Equipment Needed:

The Deductive Detective Book, Large Poster Example - Juggler with clues, Logic Packets, Dry Erase Markers

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use deductive reasoning to solve logic puzzles. - Use clues and prior knowledge to make sense of challenging problems.	Lesson Sequence - Logic introduction - Read The Deductive Detective. Talk through clues and solution. - Go through example as a whole group (Juggler - what order are the colors of the balls). Talk through thinking, have students share thinking. - Students work in partnerships to complete logic puzzles packet. - Stop and Share; what strategies are you using? What is working and what is not? What is challenging? How are you overcoming the	- Class Discussion - Teacher Observation - Exit Ticket - Task Completion - Understanding Assessed on Rubric



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	challenges that you are facing? 5. Extension; more challenging puzzles.	
Differentiation: Grouping, Leveled Problems, Group Investigations, Teacher Support, Challenge Problems		
Resources Provided: • The Deductive Detective, by Brian Rock • Logic Board Example with Pieces • Logic Packets		



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice		X	
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills		X	
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment		X	
Provide data to inform and adjust instruction to better meet the varying needs of learners		X	

Curriculum Design Template

Content Area: ELA/Math Enrichment	Grade Level: 2	Unit Title: Critical Thinking
Created: Kelley Tauscher	Board Approved on:	Type Here

**Unit Overview Template****Content Area:** STEM**Grade Level:** 3**Unit Title:** Engineering Design Process

Unit Summary: The students will learn the steps of the Engineering Design Process through becoming engineers by building a solution to a problem. This unit spans throughout the year and the different STEM projects are anchored in the Next Generation Science Standards. Students will work through the five steps and finally communicate through a written lab report. The learning outcomes will have them become masters of the Engineering Design Process as well as learning different math and science content.

Primary Interdisciplinary Connections:

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: Learning the steps of the Engineering Design Process and working through them first hand will provide students with a concrete understanding of the content while promoting critical thinking and problem solving. These projects also promote deep thinking about various content areas.

Learning Targets

Standards: Next Generation Science Standards
NJ Student Learning Standards
Technology Standards

Content Statements: **Asking Questions and Defining Problem**

Asking questions and defining problems in 3–5 builds on grades K–2 experiences and progresses to specifying qualitative relationships.

Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.

Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-5-ETS1-3)

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.



Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem. (3-5-ETS1-2)	
CPI#:	Cumulative Progress Indicator (CPI):
3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved
3-PS2-1	Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.
3-PS2-2	Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion
LA.3.RI.3.6	Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).
LA.3.W.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
LA.3.SL.3.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
LA.3.SL.3.4	Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
TECH.8.1.5. B.CS1	Apply existing knowledge to generate new ideas, products, or processes.
TECH.8.1.5. C.CS2	Communicate information and ideas to multiple audiences using a variety of media and formats.
TECH.8.1.5. F.CS1	Identify and define authentic problems and significant questions for investigation.
MA.3.3.OA. D.9	Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.
Unit Essential Questions:	
• What are the steps of the Engineering Design Process? • What design will build the strongest bridge? • How can I use data to develop a better product?	



- How can I effectively communicate my findings with others?
- What is the best design for a pulley system?
- How can I use research to design successful products?

Unit Enduring Understandings:

- The Engineering Design Process has five steps - Ask, Plan and Build, Test and Improve, Redesign, Communicate
- Following directions, communicating and collaborating are important skills when building a solution to a problem
- The improvement process is time consuming and constraints exist in the real world
- Students can understand why things happen as they do, how one thing leads to another, how a single event can have multiple causes and consequences, and how some consequences are intended and some are not.

Unit Learning Targets:

Students will....

- Develop vocabulary and communication skills to explain how the model works
- Reflect on how to find answers and imagine new possibilities
- Brainstorm ideas and endeavor to bring some to fruition
- Make fair tests and collect data
- Make systematic observations and measurements
- Use data to drive improvement process
- Display and communicate data using tables and graphs
- Make sense of problems and persevere in solving them
- Work through the design process allowing the students to further strengthen their problem solving, communication, critical thinking and reasoning skills.
- Think creatively to make a working model



Evidence of Learning

Summative Assessment: Yearlong - Projects are assessed using rubrics

Equipment Needed: Science Fusion Textbook, Lab Packets, Laptops/iPads, Defined STEM access
Building supplies for each group:

Bridge: Straws, paperclips, string, toothpicks, index cards

Pulleys: Straws, wooden dowels, cardboard, paper towel tubes, pipe cleaners, string, small cups, wooden spools, rubberbands, popsicle sticks, construction paper, paper clips

Toy Designer: Various materials based on student ideas and items from home

Teacher Resources: Science Fusion Resources, Defined STEM resources, Mystery Science Resources

Formative Assessments:

- Lab Sheets
- Exit Slips
- Lesson Quizzes and Tests (when applicable through Science Fusion)
- Student Presentations
- Class Discussions
- Performance Based Rubrics



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Lesson Plans

Lesson	Time Frame
Lesson 1 Bridge Construction	1 Month
Lesson 2 Treehouse Pulley	1 Month
Lesson 3 Toy Designer	1 Month

Teacher Notes:

The time frame of this unit will vary. STEM units are meant to be flexible and driven by student interest and engagement.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

<https://www-k6.thinkcentral.com>

<http://pbskids.org/designsquad/>

<http://www.kidsdiscover.com/shop/issues/bridges-for-kids/>

<https://app.definedstem.com/task/oC3AoACE-oBC3-46F3-8760-1CF14F62E315/student>

**Lesson Plan 1 Template**

Content Area: STEM Lesson Title: Building Bridges Time Frame: 1 Month

Lesson Components**21st Century Themes**

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will also access Defined STEM in order to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Lab Packets, Laptops/iPads, Testing Station, Plastic Container, Pennies
Building supplies for each group: Straws, paperclips, string, toothpicks, index cards

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the steps of the engineering design process. - Define constraints and requirements of a building task. - Collaboratively construct a bridge using specific materials. - Reflect upon designs and improve prototypes.	Lesson Sequence - Read "The Lettuce Thief" Students identify the steps that Mrs. Tauscher took to get the rabbits out of her garden, discuss and uncover what the steps of the engineering design process are. - Introduce task, materials, requirements and constraints. - Students are assigned into building groups and begin researching and designing their bridges	- Class Discussions - Student Presentations - Performance Based Rubrics



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- | | | |
|--|--|--|
| | <ol style="list-style-type: none">4. Students sketch their ideas and get them approved for building5. Students build the bridge prototypes and test as ready by placing the plastic container on the top of the bridge and placing pennies inside until compromised.6. Students reflect upon results and redesign for improved results7. Students retest as needed and reflect on the experience.8. Students present their designs and discuss what they learned about structural engineering. | |
|--|--|--|

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:

- Laptops/iPads
- Building Supplies
- Lab Sheets



Lesson Plan 2 Template

Content Area: STEM Lesson Title: Treehouse Pulley Time Frame: 1 Month

Lesson Components

21st Century Themes

- ☒ Global Awareness
 ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy
 ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation
 ☒ Critical Thinking and Problem Solving
 ☒ Information Literacy
☒ Life and Career Skills
 ☒ Communication and Collaboration
 ☐ Media Literacy
 ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Lab Packets, Laptops/iPads, Quarters for Testing, Student Packets

Building supplies for each group: Straws, wooden dowels, cardboard, paper towel tubes, pipe cleaners, string, small cups, wooden spools, rubberbands, popsicle sticks, cardstock paper, paperclips.

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use the steps of the Engineering Design Process to solve a problem. - Collaboratively plan and build a working pulley with given supplies. - Communicate results with others. - Persevere through challenges.	Lesson Sequence - Project picture of a tree house; gauge student knowledge and understanding. - Introduce Scenario: You have just finished construction on an awesome treehouse in your backyard. You can't wait to fill the tree house with all kinds of cool items, but climbing up and down the ladder with the items is difficult and tiring. What system can you develop to make this job a whole lot easier? - Introduce Task: Develop a prototype of a pulley system that	- Class Discussions - Student Presentations - Performance Based Rubrics



- can rise to a height of 15 inches and lowered back down safely. Quarters will be placed in your pulley system to test its strength. Your goal is to create a working pulley that can carry the most weight.
4. Go over materials and budget.
 5. Pass out lab sheets – go over process; explain testing
 6. Students get into groups. Students have the opportunity to manipulate the materials before making plan and building
 7. Students work with team to plan – once sketch is labeled and can be explained, students purchase materials and build.
 8. Testing – Place quarters in pulley bin and rise/lower until compromised.
 9. Students reflect on effectiveness by looking at their results and brainstorm possible improvements. (Time permitting; students redesign/retest)
 10. Students discuss and answer reflection questions
 11. Communicate results – students share their design and results.

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:

- Laptops/iPads
- Building Supplies
- Lab Sheets



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Lesson Plan 3 Template

Content Area: STEM Lesson Title: Toy Designer Time Frame: 1 Month

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy

☒ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy

☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will also access Defined STEM in order to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Lab Packets, Laptops/iPads, Student Packets, Advertisement Examples and Strategy Resources
Building supplies for each group: Varies based on student need. Can be provided by teacher or brought in by students.

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - In collaborative teams design an appropriate toy for a fast food chain. - Conduct market research to inform decision making. - Utilize marketing strategies to create an advertisement for their toy.	Lesson Sequence - Discussion about Fast Food meals that come with a toy for a kid, what the students have seen and how they feel about them. Watch career video and answer discussion questions. - Review GRASP: You have just been hired by the creative director of a fast food chain, McDougals, to develop a new toy for inclusion in their Jolly Meals. Traditionally, there is a toy option for girls and another for boys. It will be up to you and	- Class Discussions - Student Presentations - Performance Based Rubrics



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- your team to develop one of each.
3. You have worked with numerous toy designers over the years, and you have had success along the way. This is the first time you have been asked to design toys for inclusion in the fast food chain, McDougal's Jolly Meals. As they always offer a toy for boys and another for girls, you will have to research the current toy trends, media that may influence popularity, and interests of the target audience; boys and girls ages 3 to 11.
 4. Students come together in collaborative teams to design their toy. Students will be making a sketch of their toy including measurements for the size of the toy.
 5. Students take designs to the prototype phase and eventually create a billboard advertisement using appropriate strategies.

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:

- Laptops/iPads
- Building Supplies
- Lab Sheets



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Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners		X	

Curriculum Design Template

Content Area: STEM	Grade Level: 3	Unit Title: Engineering Design Process
Created: Kelley Tauscher	Board Approved on:	Type Here



Unit Overview Template

Content Area: Gifted and Talented **Grade Level:** 3 **Unit Title:** Enrichment

Unit Summary: Throughout the school year students will complete a variety of enrichment projects to deepen and extend their understanding of various grade level topics. These projects are long term, cross curricular and allow for student choice. The purpose is for students that present advanced proficiency to have the opportunity to complete rigorous, challenging and technology infused products to enhance their academic experience. These projects may be completed with the whole class, a small group of students or for individual students as appropriate. The projects for grade 3 include; My Dream Bedroom, Public Service Announcements and Diary of an Animal.

Primary Interdisciplinary Connections:

Each of the projects have a primary focus as well as integration of additional subject and skill areas.

My Dream Bedroom: This project is primarily targeted towards enrichment math skills, however there is an integration of persuasive writing and technology.

Public Service Announcements: This project is primarily a Science and Technology project but has additional applications to Reading and Writing (research and creating iMovie storyboard) as well as a mathematically component learning about particular facts that have to do with their topic.

Diary of an Animal: This project is primarily a reading and writing project, the additional applications are to science (Living Things Unit), research and technology (use of StoryJumper for publishing).

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: This unit directly addresses the needs of Gifted and Talented students. These projects were created to give appropriate challenge, support and motivation to maximize the potential of these children. This unit allows for students to explore content in different ways and share what they learn in creative capacities.

Standards: NJ Student Learning Standards
Next Generation Science Standards
Technology Standards

Content Statements: Represent and solve problems using multiplication and division. Apply mathematical strategies to real world problems.

Key Ideas and Details, Craft and Structure, Integration of Knowledge and Ideas, Range of Writing

Demonstrate creative thinking, construct of knowledge and develop innovative products and processes using technology.

CPI#: **Cumulative Progress Indicator (CPI):**



TECH.8.1.5. B.CS2	Create original works as a means of personal or group expression.
TECH.8.1.5. C.CS1	Interact, collaborate, and publish with peers, experts, or others by employing a variety of digital environments and media
TECH.8.1.5. D.CS2	Demonstrate personal responsibility for lifelong learning
LA.RL.3.1	Ask and answer questions, and make relevant connections to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
LA.RL.3.7	Explain how specific aspects of a text's illustrations contribute to what is conveyed by the words in a story (e.g., create mood, emphasize aspects of a character or setting).
LA.W.3.4	With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose
LA.W.3.5	With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
MA.3.3.MD .C.5	Recognize area as an attribute of plane figures and understand concepts of area measurement.
MA.3.3.MD .D.8	Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.
MA.K-12.1	Make sense of problems and persevere in solving them
SCI.3.3-LS1 -1.LS1.B.1	Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.

Unit Essential Questions:

- How does what I learn in school help prepare me for the future?
- Why is it beneficial to have global awareness?
- In what ways are perspective important?

Unit Enduring Understandings:

- There are multiple ways to solve problems.
- I can use appropriate tools strategically.
- I can make sense of problems and persevere in problem solving.
- Technology is a valuable tool in learning and expressing ideas.
- Confidence, motivation, resilience, independence, curiosity, and risk taking make us better learners
- Mathematical vocabulary is important for expressing ideas clearly.

Unit Learning Targets:

Students will....

- Make sense of problems and persevere in problem solving.
- Reason abstractly and quantitatively.



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- Model with mathematics.
- Use appropriate tools and strategically.
- Attend to precision.
- Look for and make sense of structure.
- Show creativity and cognitive flexibility.
- Seek opportunities to enhance academic achievement.

Evidence of Learning

Summative Assessment: Yearlong Projects assessed by Rubrics

Equipment Needed: Laptops, iPads, Student Materials

Teacher Resources: These projects have been teacher created and can be modified for varied academic needs and are flexible for change and the incorporation of student choice.

Formative Assessments:

- Student Check-ins
- Final Products scored on Rubric
- Student Presentations
- One on One Conferences

Lesson Plans

Lesson	Time Frame
Lesson 1 Dream Bedroom	1 Month
Lesson 2 Public Service Announcements	1 Month
Lesson 3 Diary of an Animal	1 Month

Teacher Notes:

These projects can be done with the full class or with a small group of students as a means of enrichment. Benchmarks and Mini Lessons will vary based on students.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

Teacher Created Materials

iMovie Application

www.storyjumper.com

Lesson Plan 1 Template

Content Area: Gifted and Talented Lesson Title: Dream Bedroom Time Frame: 1 Month

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy



☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

This project is primarily targeted towards enrichment math skills, however there is an integration of persuasive writing and technology.

Integration of Technology: Students will use technology to research the needs for their dream bedroom. They will use the internet to look up the prices and dimensions for pieces of furniture that they would like to incorporate in their design.

Equipment Needed: Dream Bedroom Student Packets, Scale Drawing Activity Sheet, Rulers, iPads/Laptops, Construction Paper, Cardstock, Shoeboxes (for model extension).

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use and create true scale drawings with scales to the $\frac{1}{2}$ inch. • Add and subtract money and work within a budget. • Create a bar graph of spending with correct labels. • Use persuasive language to write a convincing letter.	Lesson Sequence 1. What is a scale? Students come up with examples of where you would see a scale, maps, globes, show examples and explain how they work. 2. Give students scaled drawing of living room activity; students practice finding area and perimeter of objects using the scale 1cm = 2ft. Students practice converting and finding the area and perimeter. 3. Introduction to Open Ended Performance Task: After years of begging your parents are finally letting you remodel your bedroom! There are many steps that you will need to carefully consider. You will be drawing a blueprint, choosing furniture, picking wall color, designing your textiles, finding flooring and	• Student Check-ins • Final Products scored on Rubric • Student Presentations



- adding accessories. In the end, you will write a letter to your parents explaining your choices and the final cost of the entire project.
4. Your Parents Need you to:
Think carefully about how much money you will spend. Map out a blueprint of your room to figure out square footage. Choose a type of flooring and calculate cost. Choose a really awesome paint color, and calculate the cost. Map out the furniture and add to your blueprint to ensure that everything will fit. Design the textiles for your bedroom including bedding, curtains, pillows and blankets. Write a letter explaining your choices and persuading them to go through with your remodel.
 5. Explain the steps of the project as well as optional extensions including: Poster sized scale drawing. (Scale using fractions) Shoe-Box bedroom model.
 6. Students work independently or in collaborative pairs to make project decisions.

Differentiation:

Small Group Targeted Enrichment, Student Choice, Mini Lessons, Varied Resources, Optional Extensions.

Resources Provided:

- Dream Bedroom Packets
- Scale Drawing Map
- Rulers
- Laptops/iPads



Lesson Plan 2 Template

Content Area: Gifted and Talented Lesson Title: Public Service Announcement Time Frame: 1 Month

Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

This project is primarily a Science and Technology project but has additional applications to Reading and Writing (research and creating iMovie storyboard) as well as a mathematically component learning about particular facts that have to do with their topic.

Integration of Technology:

In this project students will utilize technology as a tool for research. They will also be using the application iMovie to create, produce and edit their PSA.

Equipment Needed:

Laptops/iPads, iMovie Application, Graphic Organizers, Storyboards

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Describe the important components of a Public Service Announcement. - Research facts about an environmental issue that are relevant to their age and understanding. - Write, film and produce a 30 second to 1 minute long PSA spreading awareness and offering solutions to an environmental concern.	Lesson Sequence Benchmark: What is a PSA? Survey student knowledge and understanding. - As a class view example videos and have a discussion about what we notice. Examples include: Wishes, Active for Life, and No Kid Hungry. Leading into an overview of the main components of a PSA. - Introduction of Project: The very first Earth Day was celebrated on April 22nd, 1970. Every year since, on that very day we spread awareness of the importance of keeping our planet healthy and	- Student Check-ins - Storyboard Conferences - Final Products scored on Rubric - Student Presentations



- clean. Many people make promises to help the environment and make positive changes in their community.
4. There are many ways that people harm the environment, sometimes without even realizing it. In this project, you will research a common environmental issue that people can help to solve. Through your research you will create a survey to give to your classmates in order to collect data about this issue. Your group will be analyzing the data you collect and use it to create a Public Service Announcement (PSA) to spread awareness to others and offer solutions to this issue.
 5. PSA Must Include 1) What the issue is. 2) Why it is important. 3) What elementary aged students can do to help. 3) An organization where viewers can find more information.
 6. Students gather in teams and read articles about their given topic to gather information - answering guiding questions.
 7. Benchmarks and Mini Lessons Offered: 1) What is a Storyboard? 2) What makes a PSA memorable?
 8. Students work in collaborative teams to research, create storyboard, record videos, find pictures, record voice overs, etc, to compile pieces together to make iMovie.

Differentiation:

Small Group Targeted Enrichment, Student Choice, Mini Lessons, Varied Resources, Optional Extensions.



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Resources Provided:

- Student Task Sheets
- Storyboards
- Powerpoints for Benchmarks
- Laptops/iPads - iMovie Application
- Mrs. Tauscher's How To Resources and Screencasts



Lesson Plan 3 Template

Content Area: Gifted and Talented Lesson Title: Diary of an Animal Time Frame: 1 Month

Lesson Components

21st Century Themes

- ☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is primarily a reading and writing project, the additional applications are to science (Living Things Unit), research and technology (use of StoryJumper for publishing).

Integration of Technology: Students will be using technology as a means of researching in addition to print books. Students will also be utilizing Story Jumper to publish their books as an e-book with online illustrations.

Equipment Needed: Laptops, iPads, Non Fiction Books on Animals, Graphic Organizers, Diary of a Worm, Diary of a Spider and Diary of a Fly by Doreen Cronin.

Resources Provided:

- Student Graphic Organizers
- Non Fiction Books on Animals
- Diary of Series by Doreen Cronin
- Laptops/iPads
- Usernames/Passwords to Storyjumper
- Mrs. Tauscher's How To Resources and Screencasts

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Define point of view and how it impacts a story • Conduct research on an animal of their choice in order to create a "Diary of" book • Combine fact and fiction in story telling	Lesson Sequence 1. Introduce point of view; what it is how it changes the way we read a story 2. Read Diary of a Spider; stop to talk about, use of point of view and facts/fiction about spiders 3. Activity: What Am I? Read students example of writing from the point of view of a clock,	• Student Check-ins • Final Products scored on Rubric • Writing Conferences • Student Presentations



- students guess what I am based on the writing. Students get a slip of paper with something that is in the classroom written on it and complete a short narrative from the point of view of that object.
4. Read different examples and students guess what they are. Discuss what students did well in personifying items.
 5. Students are then introduced to "Diary of" project; students choose animal and begin research using tech and library books
 6. Students fill our graphic organizers, gathering information about the animals. They then complete 5 narrative diary entries told from the point of view of their animal, weaving in facts.
 7. Mini Lessons and Benchmarks Offered: 1) Another look at Personification 2) A Reread of the Diary of Series 3) Brainstorming Strategies 4) Using Storyjumper
 8. Students conference with teacher and peers and publish draft on storyjumper.

Differentiation:

Small Group Targeted Enrichment, Student Choice, Mini Lessons, Varied Resources, Optional Extensions.

Resources Provided:

- Student Graphic Organizers
- Non Fiction Books on Animals
- Diary of Series by Doreen Cronin
- Laptops/iPads
- Usernames/Passwords to Storyjumper
- Mrs. Tauscher's How To Resources and Screencasts



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Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Gifted and Talented	Grade Level: 3	Unit Title: Enrichment
Created: Kelley Tauscher	Board Approved on:	Type Here

**Unit Overview Template****Content Area:** STEM**Grade Level:** 4**Unit Title:** Engineering Design Process

Unit Summary: The students will learn the steps of the Engineering Design Process through becoming engineers by building a solution to a problem. Students will work together to construct solutions to real world problems throughout the year on a variety of projects. Within this unit students will be building a boat that floats and bears weight, designing an energy solution of a wind turbine, and an environmentally friendly six pack can holder. They will work through the five steps and finally communicate through a written lab report.

Primary Interdisciplinary Connections:**21st Century Themes** ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: Learning the steps of the Engineering Design Process and working through them first hand will provide students with a concrete understanding of the content while promoting critical thinking and problem solving. These projects also promote deep thinking about various content areas. Units are also based in real world problems to promote global awareness.

Learning Targets

Standards: Next Generation Science Standards
NJ Student Learning Standards
Technology Standards

Content Statements: Asking Questions and Defining Problems

- Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-5-ETS1-3)

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.

- Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem. (3-5-ETS1-2)



CPI#:	Cumulative Progress Indicator (CPI):
3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved
4-PS3-4	Apply scientific ideas to design, test, and refine a device that converts energy from one form to another
4-ESS2-2	Analyze and interpret data from maps to describe patterns of Earth's features
4-ESS3-2	Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans
MA.4.4.MD.A.1	Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit.
MA.K-12.6	Attend to precision: Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.
LA.4.RI.4.7	Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.
LA.4.W.4.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
LA.4.SL.4.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.
TECH.8.1.5.A.4	Graph data using a spreadsheet, analyze and produce a report that explains the analysis of the data.



TECH.8.1.5. B.CS1	Apply existing knowledge to generate new ideas, products, or processes.
TECH.8.1.5. F.CS1-3	Identify and define authentic problems and significant questions for investigation Plan and manage activities to develop a solution or complete a project. Collect and analyze data to identify solutions and/or make informed decisions.
Unit Essential Questions: • What are the steps of the engineering design process? • How can I sift through design ideas to develop the best solution? • What tools are available to deepen my knowledge and understanding in order to develop an innovative solution?	
Unit Enduring Understandings: • The Engineering Design Process has five steps - Ask, Plan and Build, Test and Improve, Redesign, Communicate. • Following directions, communicating and collaborating are important skills when building a solution to a problem. • The improvement process is time consuming and constraints exist in the real world. • Students can understand why things happen as they do, how one thing leads to another, how a single event can have multiple causes and consequences, and how some consequences are intended and some are not.	
Unit Learning Targets: Students will.... - Think creatively to make a working model - Develop vocabulary and communication skills to explain how the model works - Reflect on how to find answers and imagine new possibilities - Brainstorm ideas and endeavor to bring some to fruition - Make fair tests and collect data - Make systematic observations and measurements - Use data to drive improvement process - Display and communicate data using tables and graphs - Make sense of problems and persevere in solving them - Determine what makes objects float - Work through the design process allowing the students to further strengthen their problem solving, communication, critical thinking and reasoning skills	

**Evidence of Learning**

Summative Assessment: Yearlong: Final Reports, Products, Presentations scored on Rubrics

Equipment Needed: Science Fusion Textbook, Lab Packets, Laptops/iPads, Defined STEM access
Building supplies for each group:
Boats: Foil, Wax Paper, Styrofoam Cups, Straws, Foam Sheets, Tape
Wind Turbine: Paper Towel Tubes, Styrofoam Balls, Straws, Popsicle Sticks, Index Cards, Cardstock Paper, Wooden Skewers, Small Cups, Toothpicks, Tape
Harmless Holder: Cardboard, Rubberbands, Wax Paper, Paint Stirrers, Cardstock Paper, String, Duct Tape

Teacher Resources: Science Fusion Resources, Defined STEM resources, Mystery Science Resources

Formative Assessments:

- Lab Sheets
- Exit Slips
- Lesson Quizzes and Tests (when applicable through Science Fusion)
- Student Presentations
- Class Discussions
- Performance Based Rubrics

Lesson Plans

Lesson	Time Frame
Lesson 1 Boat Design	1 Month
Lesson 2 Wind Energy Systems Installer	1 Month
Lesson 3 Harmless Holder	1 Month

Teacher Notes:

The time frame of this unit will vary. STEM units are meant to be flexible and driven by student interest and engagement.

Curriculum Development Resources/Technology Resources:

<https://www-k6.thinkcentral.com>

<http://pbskids.org/designsquad/>

<https://app.definedstem.com/task/2Aafb50F-F820-4ABD-A6B6-AED709E9E82D/student>



Lesson Plan 1 Template

Content Area: STEM Lesson Title: Boat Building Time Frame: 1 month

Lesson Components

21st Century Themes

- ☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Lab Packets, Laptops/iPads, Pennies for Testing, Student Task Sheets, Student Design Journals
 Building supplies for each group: Foil, Wax Paper, Styrofoam Cups, Straws, Foam Sheets, Tape

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the effects of heavy rain on an area. - Collaboratively develop a boat design that will float and bear weight. - Identify and compare the SF Design process to the IDE design process.	Lesson Sequence - IDE Design Process Benchmark: students explore the new steps of the Design Process - Formulate, Explore, Ideate, Sift, Simulate, Advocate. Introduce Design Journals and model use. - Introduce Task: Every year, people in our country and all over the world face natural disasters. Just a few weeks ago, Hurricane Florence crashed into the coast of South and North Carolina causing devastating damage to millions of people. Sometimes people	- Class Discussions - Student Presentations - Performance Based Rubrics



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are unprepared for incoming natural disasters, and are unable to get help when they need it most. Hurricanes like Florence can bring about unbelievable amounts of rain and flooding. Where there were once streets become full of water and houses sit alone like islands. Brave first responders jump into action during these times of need. Often time the only way to reach people is by boat.

Quick-thinking citizens desperately try to find items that can act as a boat to bring them to safety. In this task you will design and construct a boat that can float and bear weight, to test how you would do under the pressures of a natural disaster. Do you have what it takes?

3. Students gather in Design Teams and research to gather further information in order to develop their solution.
4. Once students plan designs and work out their budgets they purchase materials and build their boats.
5. Boats are tested until compromised.
6. Students make improvements and redesign until successful.
7. Students communicate and advocate their findings in final debrief.

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:



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- Laptops/iPads
- Books for Research
- Building Supplies
- Design Journal & Task Sheets



Lesson Plan 2 Template

Content Area: STEM Lesson Title: Energy Systems Installer Time Frame: 1 month

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Lab Packets, Laptops/iPads, Pennies for Testing, Student Task Sheets, Student Design Journals, *Energy Island* by Allan Drummond
 Building supplies for each group: Paper Towel Tubes, Styrofoam Balls, Straws, Popsicle Sticks, Index Cards, Cardstock Paper, Wooden Skewers, Small Cups, Toothpicks, Tape

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify how energy exists in many forms and can be changed from one form to another (transformed) as it moves through a system. - Identify and explain the steps of a wind turbine from wind to energy. - Design and construct a working wind turbine within engineering	Lesson Sequence - Discussion of electricity and how we get it. What are the benefits? What are the drawbacks? - Benchmark - Full class read of <i>Energy Island</i> by Allan Drummond. Discuss what students know about energy and their thoughts as we read. - Introduce problem and task through Defined STEM: Wind Energy Installer. Review GRASP.	- Class Discussions - Student Presentations - Performance Based Rubrics



constraints and materials budget.

4. You are part of a team from an alternative energy company. Your team will be helping a community of your choosing to better understand the value of wind energy. The township committee will need to understand how this process works as a system to produce electricity. You also need to help them understand what materials are needed and how much space the device will need.
5. Students gather together with engineering teams and begin to research in their design journal.
6. Students plan, sketch and work out budget for prototype of wind turbine. Wind turbines are then built by students and tested in front of a fan. Students will record results and brainstorm improvements.
7. Students redesign as needed and move into the advocate phase; final presentations and debriefing.

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:

- Laptops/iPads
- Books for Research
- Building Supplies
- Design Journal & Task Sheets



Lesson Plan 3 Template

Content Area: STEM Lesson Title: Harmless Holder Time Frame: 1 month

Lesson Components

21st Century Themes

- ☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Lab Packets, Laptops/iPads, 6 Cans for Testing, Student Task Sheets, Student Design Journals
 Building supplies for each group: Cardboard, Rubberbands, Wax Paper, Paint Stirrers, Cardstock Paper, String, Duct Tape

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify environmental issues and needs. - Work collaboratively to build a harmless holder with given materials. - Engage the community in meaningful ways to bring about change.	Lesson Sequence - Benchmark Discussion; Plastic 6 Pack Ring, what is this? What is it used for? Why is it harmful? If there are other alternatives why do these still exist? - Introduce Task; Plastic rings are great for carrying cans. But they're real trouble when they become trash that animals can get tangled in. There's got to be a better way to hold six cans together. That's where you come in! Your task is to design a new and improved holder, a harmless holder.	- Class Discussions - Student Presentations - Performance Based Rubrics



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- | | | |
|--|--|--|
| | <ol style="list-style-type: none">3. Review Specs; Holds 6 cans, Easy to carry, Safe for animals, Convenient to use, Wise use of space and materials.4. Students formulate the problem and explore possibilities in their design teams.5. Students ideate and simulate, testing their ideas with 6 cans. Students improve and adjust designs as needed in order to be successful.6. Students advocate; this is a problem that really matters, to honor Earth Day what can we do to help? Students come up with an Advocate Plan to put into action. | |
|--|--|--|

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:

- Laptops/iPads
- Books for Research
- Building Supplies
- Design Journal & Task Sheets



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Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives	X		
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: STEM	Grade Level: 4	Unit Title: Engineering Design Process
Created: Kelley Tauscher	Board Approved on:	Type Here

**Unit Overview Template**

Content Area: Gifted and Talented **Grade Level:** 4 **Unit Title:** Enrichment

Unit Summary: Throughout the school year students will complete a variety of enrichment projects to deepen and extend their understanding of various grade level topics. These projects are long term, cross curricular and allow for student choice. The purpose is for students that present advanced proficiency to have the opportunity to complete rigorous, challenging and technology infused products to enhance their academic experience. These projects may be completed with the whole class, a small group of students or for individual students as appropriate. The projects for grade 4 include; Escape Room Design, Tabletop Mini Golf and Bizworld.

Primary Interdisciplinary Connections:

Each of the projects have a primary focus as well as integration of additional subject and skill areas.

Escape Room Design: This project is targeted toward any subject area that the students wish to make their academic escape room for. Creating the escape room incorporates aspects of reading, writing, technology and problem solving.

Tabletop Mini Golf: This project is primarily a math project with a focus on geometry. In creating their mini golf course they will use their knowledge of shapes and angles. In addition the students will use research skills to choose a location for their course and consider economical impacts. They will also use persuasive writing techniques to get patrons to visit their course.

Bizworld: This project is primarily an economics project. When students create their businesses they will use math, reading, writing, and research skills to create their successful business.

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy
☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy

Unit Rationale: This unit directly addresses the needs of Gifted and Talented students. These projects were created to give appropriate challenge, support and motivation to maximize the potential of these children. This unit allows for students to explore content in different ways and share what they learn in creative capacities. These opportunities will add a new dimension to the education of the gifted rather than merely extend classroom activities.

Learning Targets

Standards: NJ Student Learning Standards
Next Generation Science Standards
Technology Standards

Content Statements: Use the four operations with whole numbers to solve problems.

Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.



All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.

CPI#:	Cumulative Progress Indicator (CPI):
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.6	Attend to precision.
MA.4.4.O A.A.3	Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.
MA.4.4.M D.C.6	Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.
MA.4.4.G. A.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
LA.W.4.6	With guidance and support from adults, use technology to produce and publish writing as well as to interact and collaborate with others.
LA.W.4.7	Conduct short research projects that build knowledge about a topic.
TECH.8.1. 5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
TECH.8.1. 5.D.CS2	Demonstrate personal responsibility for lifelong learning.

Unit Essential Questions:

- How does what I learn in school help prepare me for the future?
- How can we use what we know to learn new things?
- How can questions influence a search for understanding?
- How can interdisciplinary approaches to problem solving lead to strong outcomes?
- What does it take to start up a successful business?
- What are the implication of geometry in the real world?

Unit Enduring Understandings:

- There are multiple ways to solve problems.
- I can use appropriate tools strategically.
- I can make sense of problems and persevere in problem solving.
- Technology is a valuable tool in learning and expressing ideas.
- Confidence, motivation, resilience, independence, curiosity, and risk taking make us better learners



- Mathematical vocabulary is important for expressing ideas clearly.

Unit Learning Targets:

Students will....

- Seek opportunities to enhance academic achievement.
- Develop research skills and methods for solving open-ended tasks.
- Make sense of problems and persevere in problem solving.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Use appropriate tools and strategically.
- Attend to precision.
- Show creativity and cognitive flexibility.
- Create differentiated products.

Evidence of Learning

Summative Assessment: Yearlong Projects assessed on Rubric

Equipment Needed: Task Cards, Clues, Puzzles, Locks, Keys, Construction Paper, Rulers, Protractors, Biz Bucks, Student Folders, Ledgers, Cardstock Paper, String, Beads, How To Sheets

Teacher Resources: These projects have been teacher created and can be modified for varied academic needs and are flexible for change and the incorporation of student choice.

Formative Assessments:

- Student Check-ins
- Final Products scored on Rubric
- Student Presentations
- One on One Conferences

Lesson Plans

Lesson	Time Frame
Lesson 1 Escape Room Design	1 Month
Lesson 2 Tabletop Mini Golf	1 Month
Lesson 3 Bizworld	1 Month

Teacher Notes:

These projects can be done with the full class or with a small group of students as a means of enrichment. Benchmarks and Mini Lessons will vary based on students.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

bizworld.org

breakoutedu.com



Lesson Plan 1 Template

Content Area: Gifted and Talented Lesson Title: Escape Room Design Time Frame: 1 Month

Lesson Components

21st Century Themes

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is targeted toward any subject area that the students wish to make their academic escape room for. Creating the escape room incorporates aspects of reading, writing, technology and problem solving.

Integration of Technology: Students will utilize technology in making their clues. Students will be introduced to Discovery Puzzle Maker as a tool.

Equipment Needed: Task Cards, Clues, Locks, Keys, Puzzles, Laptops/iPads

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use the four operations to answer multi-step word problems. - Use problem solving and critical thinking skills on various puzzles and riddles. - Develop and create an academic escape room with a minimum of 5 clues.	Lesson Sequence - Opening discussion: Survey students on knowledge of escape rooms/who has been to one. Share student knowledge and experiences. - Explain that students will be escaping the classroom today and in order to escape they need to show their math skills. Students begin by reading intro letter. Students solve problems and follow the steps. - Each clue will lead them around the room to a new clue, it is essential that the students get each problem correctly in order for them to be lead to the correct place. Clues will eventually lead the students to a box that is	- Completed Escape Room scored on Rubric - Feedback from peers upon completion of Escape Room participation



- locked. Students solve the problems to get the combination, eventually leading to their escape.
4. After students have completed the tasks and escape the room introduce the project.
 5. For the next math until students will be challenged with creating an escape room for the class to solve. The problems that the students solve will have to do with a subject of their choice. They will need to figure out how they can make an engaging game with unique clues.
 6. Teacher will conference with students as they work on the project, providing guidance and resources to ensure success.
 7. Upon completion of the Escape Room the students will set up their activity for the class and the other students will attempt to escape while the creators act as coaches.

Differentiation:

Small Group Targeted Enrichment, Student Choice, Mini Lessons, Varied Resources, Optional Extensions.

Resources Provided:

- Teacher created escape room as a guide
- Student organizers
- Blank Puzzles, Locks, Keys

Lesson Plan 2 Template

Content Area: Gifted and Talented Lesson Title: Tabletop Mini Golf Time Frame: 1 Month

Lesson Components

**21st Century Themes**

- ☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is primarily a math project with a focus on geometry. In creating their mini golf course they will use their knowledge of shapes and angles. In addition the students will use research skills to choose a location for their course and consider economical impacts. They will also use persuasive writing techniques to get patrons to visit their course.

Integration of Technology: Students will use technology to research different marketing techniques and well as research a good location for their golf course.

Equipment Needed: Laptops/iPads, Project Task Sheet, How To Resources, Construction Paper, Rulers, Protractors.

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use their knowledge of geometry to sketch a mini golf course hole with specified requirements. • Use math tools appropriately in regards to geometry. • Apply mathematical practices to build a scale model of their design.	Lesson Sequence 1. Introductory Discussion: Project picture of mini golf course hole. Discuss with students, what do you see? Bring the conversation to geometric terms. 2. Ask students where they would hit the ball if they were to play this course. Discuss how we use math without even realizing it to play this game. 3. Overview of project requirements: A mini golf course owner is taking proposals for some new and improved holes at his course. There are some geometric features that the owner requires in the proposal. In this project you will sketch a mini golf hole layout and if	• Sketch scored for completeness based off checklist • Model scored on rubric • Student conferences and check ins



- you choose, create a model of it (Mrs. T will provide you will the materials). Feel free to look at pictures of mini golf examples to get inspiration!
4. Features that must be present and labeled in design sketch:
Line, Point, Line Segment, Parallel Lines, Perpendicular Lines, Intersecting Lines, Right Angle, Acute Angle, Obtuse Angle, Ray, 5 Polygons
 5. Students will work though design sketches and get them approved before moving on to scale models.
 6. Students will gallery walk and discuss strategies of how they would play each other's courses.

Differentiation:

Small Group Targeted Enrichment, Student Choice, Mini Lessons, Varied Resources, Optional Extensions.

Resources Provided:

- Project Task Sheet
- Construction Paper
- Rulers
- Protractors



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Lesson Plan 3 Template

Content Area: Gifted and Talented Lesson Title: Bizworld Time Frame: 6 Weeks

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is primarily an economics project. When students create their businesses they will use math, reading, writing, and research skills to create their successful business.

Integration of Technology: Students will use technology to learn about marketing strategies for their companies.

Equipment Needed: Biz Bucks, Student Folders, Ledgers, Cardstock Paper, String, Beads, How To Sheets, Powerpoints, Student Resources.

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Define basic business vocabulary; profit, revenue, expenses, venture capitalist. - Analyze strengths and weaknesses in order to apply for jobs. - Present business plan to venture capitalists and sell stock in exchange for start up money. - Keep track of finances and pay expenses. - Manufacture products, create a marketing campaign, including a unique logo, slogan, and advertisements.	Lesson Sequence - Opening Activity: Lemonade Stand. Tell the Lemonade Stand story, asking questions and giving tidbits of information about starting a business in a way the students can relate. Introduce important terms and discuss what students already know. - Introduce Task: You and a team of peers will start up your own business. You will work through all of the steps of starting and keeping a business and ultimately sell your products and evaluate the effectiveness of your company.	- Student Worksheets scored for accuracy - Final Sales Bazaar Experience Scored on Rubric - One to One Business Meetings



- Calculate final finances to determine whether or not the company was profitable.

3. Steps of the Project: 1) Applying for a job within the company 2) Making your business plan 3) Pitching to the Venture Capitalists 4) Designing Your Product 5) Manufacturing your product 6) Marketing your product 7) Sales Bazaar and analyzing effectiveness
4. Students work through the steps of starting up a company, producing a product, marketing that product, and selling that product. They do so in a team of students.
5. Benchmarks/Mini Lessons: What Makes a Good Sales Pitch? How Can We Manufacture Efficiently? What are Marketing Strategies? How Do We Calculate Profit?

Differentiation:

Small Group Targeted Enrichment, Student Choice, Mini Lessons, Varied Resources, Optional Extensions.

Resources Provided:

- Student Folders
- Student Packets - Profit Equation Worksheet, Company Ledger, Finance Worksheets, Income statement
- Biz Bucks
- Cardstock Paper
- String



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Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives		X	
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Gifted and Talented **Grade Level:** 4 **Unit Title:** Enrichment

Created: Kelley Tauscher **Board Approved on:** Type Here

**Unit Overview Template**

Content Area: Visual and Performing Arts **Grade Level:** 4 **Unit Title:** Sculpting Stories: Exploring Form and Dimension

Unit Summary: Students will use sculpture to tell stories, express emotions, and explore form, space, and texture.

Primary Interdisciplinary Connections: Career Readiness, Technology

21st Century Themes X Creativity and Innovation X Critical Thinking and Problem Solving ☐ ICT Literacy

☐ Information Literacy ☐ Life and Career Skills X Communication and Collaboration ☐ Media Literacy

Unit Rationale: This unit will introduce talented 4th-grade art students to the fundamental principles of three-dimensional design, encouraging them to explore various materials and techniques. Through hands-on experiences with clay, found objects, and paper mâché, students will learn how sculpture can convey stories, emotions, and cultural identities.

By engaging in sculptural processes, students will develop problem-solving skills, patience, and perseverance as they work through challenges in construction and design. Additionally, they will make meaningful connections to art history, world cultures, and personal expression. This unit fosters an appreciation for diverse artistic traditions while allowing students to develop their own unique artistic voices. The skills and concepts learned in this unit will support their growth as young artists and prepare them for more advanced artmaking experiences in the future.

Sculpture is a powerful artistic form that allows students to think critically and creatively while developing spatial awareness and fine motor skills.

Career Readiness): 9.2, 9.4

Learning Targets

Standards: 1.5, SEL.PK-12.3

Content Statements: Anchor Standard 1: Generating and conceptualizing ideas.
Anchor Standard 2: Organizing and developing ideas.
Anchor Standard 3: Refining and completing products
Anchor Standard 7: Perceiving and analyzing products.
Anchor Standard 10: Synthesizing and relating knowledge and personal experiences to create products.
Anchor Standard 11: Relating artistic ideas and works within societal, cultural and historical contexts to deepen understanding.
Core Idea: An individual's passions, aptitude and skills can affect his/her employment and earning potential.
Core Idea: Sending and receiving copies of media on the internet creates the opportunity for unauthorized use of data, such as personally owned video, photos, and music.



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CPI#:	Cumulative Progress Indicator (CPI):
1.5.5.Cr1a	Brainstorm and collaborate on multiple approaches to an art or design problem.
1.5.5.Cr2b	Demonstrate craftsmanship through the use of various materials, tools, and approaches in creating works of art.
1.5.5.Cr3a	Create personally satisfying artwork using a variety of artistic processes and materials.
1.5.5.Re7b	Analyze components in visual imagery that convey messages.
1.5.5.Cn10a	Create artwork that reflects community and cultural traditions.
1.5.5.Cn11a	Identify how art is used to inform or change beliefs, values, or behaviors of an individual or society.
9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.5.DC.4	Model safe, legal, and ethical behavior when using online or offline technology (e.g., 8.1.5.NI.2).

Unit Essential Questions:

- How do sculptors use different materials to express ideas and emotions?
- What role does texture, balance, and form play in sculpture?
- How can sculpture tell a story or reflect cultural identity?

Unit Enduring Understandings:

- Sculptors use a variety of materials and techniques to create three-dimensional artwork.
- Form, texture, and space contribute to the meaning and impact of a sculpture.
- Sculpture can be influenced by cultural traditions, personal experiences, and artistic innovation.

Unit Learning Targets:

Students will....

- design and create a three-dimensional character using clay.
- use texture, form, and detail to bring their sculpture to life.
- explain how their sculpture represents a story, idea, or emotion.

**Evidence of Learning****Summative Assessment:** 30 days**Equipment Needed:** Air-dry clay, Sculpting tools (wooden sticks, toothpicks, carving tools), water and sponges for smoothing, acrylic paint for finishing, found objects (buttons, cardboard, bottle caps, wire, wood scraps, old toys, etc.), hot glue, tape, or wire for assembly, scissors, wire cutters, balloons or plastic mask bases, newspaper strips and paper mâché paste (flour + water or glue + water), brushes, feathers, beads, string, and other decorative materials**Teacher Resources:** *"Masks Around the World"*: A look into various masks from around the world.
"How to make Mask with paper mache": A step by step guide on how to papier mache
"Sculpture Techniques: Clay Basics": A beginner-friendly guide to hand-building techniques.
"Assemblage Art Explained" – A look into found object sculpture and the work of Louise Nevelson.**Formative Assessments:**

- Portfolio rubric for student hands on artwork.
- Guided practice.
- Class critique that involves group reflection on the differences between historical references vs personal creations.

Lesson Plans

Lesson	Time Frame
Lesson 1 Clay Character Sculptures: Bringing Stories to Life	10 days
Lesson 2 Found Object Assemblage: Transforming Everyday Items into Art	10 days
Lesson 3 Paper Mâché Cultural Masks: Exploring Identity and Tradition	10 days

Teacher Notes: Timelines will be adjusted as needed based on district mandated projects. All activities can be modified by splitting up students into smaller groups or participating in the projects from a desk/table.**Curriculum Development Resources/Technology Resources:**

Click the links below to access additional resources used to design this unit:

<https://www.youtube.com/watch?v=7Cl268ZdswM><https://www.youtube.com/watch?v=1n7apcgQizo><https://www.youtube.com/watch?v=5rbSh30Fhls>https://www.youtube.com/watch?v=YWb_en6Fr-k



Lesson Plan 1 Template

Content Area:	Visual and Performing Arts	Lesson Title:	Clay Character Sculptures: Bringing Stories to Life	Time Frame:	10 days
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Lesson Components

21st Century Themes

- ☐ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: Career Readiness, Technology

Integration of Technology: Powerpoint presentation, videos

Equipment Needed: Air-dry clay, Sculpting tools (wooden sticks, toothpicks, carving tools), water and sponges for smoothing, acrylic paint for finishing

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - sculpt a three-dimensional character inspired by a personal story, book, or imagination using clay. - design and create a three-dimensional character using clay. - use texture, form, and detail to bring their sculpture to life. - explain how their sculpture represents a story, idea, or emotion.	Lesson Sequence - Introduction & Discussion: Show examples of sculpted figures from different cultures (e.g., Henry Moore's abstract forms, Inuit carvings, or folk figurines). Discuss how sculptures tell stories. - Sketching & Planning: Students brainstorm and sketch their character, considering facial expressions, clothing, and pose. - Sculpting Process: Using clay, students build their character in a three-dimensional form, focusing on texture and balance. - Drying & Painting: Once dry, students paint their	- Creativity and originality of character design. - Effective use of sculpting techniques (texture, form, balance). - Thoughtful explanation of the character's story.



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| | <p>sculptures to enhance their details.</p> <p>5. Reflection & Critique: Students present their sculptures, explaining the story behind their character.</p> | |
|--|--|--|

Differentiation: Group investigation: The lesson will allow students to work together as a group to identify sculptures done throughout the world as well as discover the meanings behind various symbols and colors used. Think, Pair, Share by readiness, interest, learning style: Students will discuss and decide which sculpture had an impact on their own decision making for their own creation.

Resources Provided:

- <https://www.youtube.com/watch?v=1n7apcgQizo>



Lesson Plan 2 Template

Content Area:	Visual and Performing Arts	Lesson Title:	Found Object Assemblage: Transforming Everyday Items into Art	Time Frame:	10 days
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Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: Career Readiness, Technology

Integration of Technology: Powerpoint presentation, videos

Equipment Needed: Found objects (buttons, cardboard, bottle caps, wire, wood scraps, old toys, etc.), hot glue, tape, or wire for assembly, scissors, wire cutters

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - create a three-dimensional assemblage sculpture using found objects to represent an idea, emotion, or abstract concept. - use found objects to create a unique three-dimensional sculpture. - arrange and connect objects in a way that creates meaning. - explain how their assemblage sculpture represents an idea or emotion.	Lesson Sequence 1. Introduction & Inspiration: Show works by artists like Louise Nevelson and Pablo Picasso's assemblages. Discuss how artists repurpose objects to create meaning. 2. Collection & Planning: Students bring found objects from home and sketch their sculpture idea, considering composition, balance, and symbolism. 3. Building the Sculpture: Students assemble their objects, experimenting with layering and joining techniques. 4. Painting & Final Touches: Students can	- Thoughtful selection and arrangement of found objects. - Structural stability and craftsmanship. - Ability to articulate the meaning behind the assemblage.



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paint their assemblages one color (monochrome) to create unity or leave them with their original colors.

5. Gallery Walk & Reflection: Students explain their sculptures' themes and creative decisions.

Differentiation: Precut shapes, templates, visual aides, step by step instructions, extra time

Resources Provided:

- <https://www.youtube.com/watch?v=7Cl268ZdswM>



Lesson Plan 3 Template

Content Area:	Visual and Performing Arts	Lesson Title:	Paper Mâché Cultural Masks: Exploring Identity and Tradition	Time Frame:	10 days
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Lesson Components

21st Century Themes

- ☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: Career Readiness, Technology

Integration of Technology: Powerpoint presentation, videos

Equipment Needed: Balloons or plastic mask bases, Newspaper strips and paper mâché paste (flour + water or glue + water), acrylic paints, brushes, feathers, beads, string, and other decorative materials

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - design and create a three-dimensional paper mâché mask inspired by cultural traditions or personal identity. - design and create a paper mâché mask inspired by cultural traditions. - use color, pattern, and texture to enhance their sculpture. - explain the significance of their mask's design choices.	Lesson Sequence - Introduction & Cultural Exploration: Show examples of cultural masks (African tribal masks, Venetian carnival masks, Indigenous ceremonial masks). Discuss their significance. - Design & Sketching: Students brainstorm and sketch their mask design, incorporating symbolic colors and patterns. - Paper Mâché Process: Students layer newspaper strips over a balloon or base, shaping facial features. Allow drying time. - Painting & Decoration: Once dry, students paint	- Research and understanding of cultural mask traditions. - Creativity and craftsmanship in paper mâché techniques. - Ability to express cultural or personal identity through design.



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| | <p>and decorate their masks with cultural elements.</p> <p>5. Presentation & Reflection: Students wear or display their masks and share their inspiration and meaning.</p> | |
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Differentiation: Precut shapes, templates, step by step instructions, visual aides, extra time

Resources Provided:

- <https://www.youtube.com/watch?v=5rbSh3oFhls>
- https://www.youtube.com/watch?v=YWb_cn6Fr-k



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Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives	X		
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills		X	
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area:	Visual and Performing Arts	Grade Level:	4	Unit Title:	Sculpting Stories: Exploring Form and Dimension
Created:	Kim Noto and Shannon Cuff	Board Approved on:	Type Here		



Unit Overview Template

Content Area: STEM

Grade Level: 5

Unit Title: Engineering Design Process

Unit Summary: The students will learn the steps of the Engineering Design Process through becoming engineers by building a solution to a problem. Students will work together to construct solutions to real world problems throughout the year on a variety of projects. Within this unit students will design Earthquake Resistant Structures, a Martian Plan Chamber and a working Roller Coaster. They will work through the five steps and finally communicate through a written lab report and presentations.

Primary Interdisciplinary Connections:

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy

☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy

Unit Rationale: Learning the steps of the Engineering Design Process and working through them first hand will provide students with a concrete understanding of the content while promoting critical thinking and problem solving skills. Curriculum connection to Forces and Motion, Living Things and Ecosystems as well as Earth and Space.

Learning Targets

Standards: Next Generation Science Standards
NJ Student Learning Standards
Technology Standards

Content Statements: Asking Questions and Defining Problems

- Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost. (3-5-ETS1-1)

Planning and Carrying Out Investigations

Planning and carrying out investigations to answer questions or test solutions to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions.

- Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (3-5-ETS1-3)

Constructing Explanations and Designing Solutions

Constructing explanations and designing solutions in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems.

- Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design problem. (3-5-ETS1-2)



CPI#:	Cumulative Progress Indicator (CPI):
3-5-ETS1-1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5-ETS1-2	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
3-5-ETS1-3	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved
5-PS2-1	Support an argument that the gravitational force exerted by Earth on objects is directed down
5-LS1-1	Support an argument that plants get the materials they need for growth chiefly from air and water
5-LS2-1	Develop a model to describe the movement of matter among plants, animals, decomposers and the environment
e-ESS3-1	Obtain and combine information about ways individual communities use science ideas to protect Earth's resources and environment
MA.5.5.MD. B.2	Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.
MA.5.5.NB T.A.3	Read, write, and compare decimals to thousandths.
LA.5.RI.5.3	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
LA.5.W.5.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
LA.5.SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
LA.5.SL.5.4	



	Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
Grade 5: 8.1.5.A.6	Export data from a database into a spreadsheet; analyze and produce a report that explains the analysis of the data.
Grade 5: 8.2.5.C.4	Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.
Grade 5: 8.2.5.D.1	Identify and collect information about a problem that can be solved by technology, generate ideas to solve the problem, and identify constraints and trade-offs to be considered.
Grade 5: 8.2.5.D.2	Evaluate and test alternative solutions to a problem using the constraints and trade-offs identified in the design process to evaluate potential solutions.
Grade 5: 8.2.5.D.3	Follow step-by-step directions to assemble a product or solve a problem.

Unit Essential Questions:

- What are the steps of the Engineering Design Process?
- How can I stay within a budget?
- How can I use data to develop a better product?
- How can I effectively communicate my findings with others?

Unit Enduring Understandings:

- The Engineering Design Process has five steps - Ask, Plan and Build, Test and Improve, Redesign, Communicate
- Following directions, communicating and collaborating are important skills when building a solution to a problem
- The improvement process is time consuming and constraints exist in the real world
- Students must familiarize themselves with working with a budget
- Students can understand why things happen as they do, how one thing leads to another, how a single event can have multiple causes and consequences, and how some consequences are intended and some are not.

Unit Learning Targets:

Students will....

- Think creatively to make a working model
- Develop vocabulary and communication skills to explain how the model works
- Reflect on how to find answers and imagine new possibilities
- Brainstorm ideas and endeavor to bring some to fruition
- Make fair tests and collect data
- Make systematic observations and measurements
- Use data to drive improvement process



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- Remain within a budget and be a wise spender
- Display and communicate data using tables and graphs
- Make sense of problems and persevere in solving them
- Determine what makes objects experience the most air resistance
- Work through the design process allowing the students to further strengthen their problem solving, communication, critical thinking and reasoning skills.

**Evidence of Learning**

Summative Assessment: Yearlong - Products are assessed on Rubrics

Equipment Needed: Science Fusion Textbook, Lab Packets, Laptops/iPads, Defined STEM access Building supplies for each group:
Earthquake Engineering: Large Popsicle Sticks, Small Popsicle Sticks, Pipe Cleaners, Paper Clips, Straws, Brass Fasteners, Small Index Cards, Large Index Cards, Toothpicks, String, Tape, Shake Table, Washers, Testing Weight, Tape
Martian Plant Chamber: Cardboard, Cardstock, Paperclips, Popsicle Sticks, Straws, Plastic Tubing, Aluminum Foil, Saran Wrap, Wooden Dowels, Water Bottles, Plastic Syringes, String, Mirrors, Styrofoam Cups, Grass/Bean Seeds, Soil, Tape, Hot Glue
Roller Coaster Physics: Roller Coaster Templates Printed on Various Colored Cardstock Paper, Clear Tape, Foam Board

Teacher Resources: Science Fusion Resources, Defined STEM resources, Mystery Science Resources

Formative Assessments:

- Lab Sheets
- Exit Slips
- Lesson Quizzes and Tests (when applicable through Science Fusion)
- Student Presentations
- Class Discussions
- Performance Based Rubrics

Lesson Plans

Lesson	Time Frame
Lesson 1 Earthquake Engineering	1 Month
Lesson 2 Mars Plant Chamber	1 Month
Lesson 3 Roller Coaster Physics	1 Month

Teacher Notes:

The time frame of this unit will vary. STEM units are meant to be flexible and driven by student interest and engagement.

Curriculum Development Resources/Technology Resources:

<https://www.k6.thinkcentral.com>

<https://www.eie.org/engineering-adventures/curriculum-units/shake-things>

[https://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Lunar Plant Growth C
hamber.html](https://www.nasa.gov/audience/foreducators/topnav/materials/listbytype/Lunar_Plant_Growth_Chamber.html)

<https://dlrn.us/e9q10>



Lesson Plan 1 Template

Content Area: STEM Lesson Title: Earthquake Engineering Time Frame: 1 Month

Lesson Components

21st Century Themes

- ☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Laptops/iPads, Student Packets

Large Popsicle Sticks, Small Popsicle Sticks, Pipe Cleaners, Paper Clips, Straws, Brass Fasteners, Small Index Cards, Large Index Cards, Toothpicks, String, Tape, Shake Table, Washers, Testing Weight, Tape

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Use the engineering design process as a tool to help solve problems. - Work collaboratively to construct a structure 10 inches off the ground that will bear weight for 10 seconds on a shake table. - Identify the causes of Earthquakes and the solutions that have been developed to minimize the devastating effects of Earthquakes.	Lesson Sequence - Benchmark - Project pictures of damage structures due to Earthquakes, discuss what students notice and know about this natural disaster. - View Engineering is Elementary Video; <i>Shake Things Up</i>. Discuss what the students observe. Introduce Task; Your team of civil engineers has been asked to make recommendations related to materials that should be used in new construction and potential buildings solutions to help make	- Class Discussions - Student Presentations - Performance Based Rubrics



- Utilize Littlebits to develop an Earthquake warning system to be built in a chosen target area.

- buildings more earthquake resistant.
3. Part 1: Research the effects of Earthquakes and current Earthquake Resistant Technology
 4. Part 2: Design and construct a prototype of a building that can withstand a simulated Earthquake
 5. Part 3: Draw conclusions about what you learned to make your best recommendation
 6. Students work together in teams through the parts of the project; culminating in the building and testing of their Earthquake Resistant Structures and presentations of their findings.

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:

- Laptops/iPads
- Introduction Video
- Books for Research
- Building Supplies
- Design Packets



Lesson Plan 2 Template

Content Area: STEM Lesson Title: Mars Plant Chamber Time Frame: 1 Month

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Laptops/iPads, Student Packets
 Cardboard, Cardstock, Paperclips, Popsicle Sticks, Straws, Plastic Tubing, Aluminum Foil, Saran Wrap, Wooden Dowels, Water Bottles, Plastic Syringes, String, Mirrors, Styrofoam Cups, Grass/Bean Seeds, Soil, Tape, Hot Glue

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the natural resources that help seeds/plants grow - Identify plants that provide food for people - Identify and describe properties of Mars - Compare and contrast the properties of Mars and Earth - Determine a growth chamber is needed to grow plants on Mars	Lesson Sequence - Benchmark Discussion: By the year 2030 we hope to send manned missions to Mars. If we were to colonize Mars; what would we need? Open discussion with students. Lead conversation to food and sustainability. - Kick off video: <i>The Space Food Laboratory</i> and discuss. - Introduce Task: We're going to Mars! You are an engineer that has been selected to be a part of designing a self-sustaining colony	- Class Discussions - Student Presentations - Performance Based Rubrics



- Identify and describe parts that are needed to create a watering system
- Express ideas by sketching a diagram of a watering system and Martian plant growth chamber
- Understand the engineering design process and stay within design constraints and requirements
- Apply a materials budget to a design
- Use rulers to meet requirements and meet the needs of living things

- on Mars. As an engineer and dietician, your specialty is designing environments for living things to thrive while keeping in mind humans and their nutritional needs. Plants cannot grow on Mars like they do here on Earth. Therefore, in learning more about the needs of plants and the Martian environment you will be able to design and construct a plant growth chamber that will house all of the food to feed the Martian colony.
4. Mission 1: Students find out more about the needs of living things.
 5. Mission 2: Students find out more about the Martian Environment.
 6. Mission 3: Students explore the dietary needs of humans and ways that we get the nutrients we need through fruits and vegetables.
 7. Mission 4: Plant Growth Chamber Design.
Requirements:
 - Minimum Base Size: 6 inches x 6 inches
 - Minimum Height: 8 inches
 - A self-watering system (or way that plant can be watered from the outside of the chamber)
 - An open and closable latch for astronauts to tend to and harvest plants
 - A way to direct sunlight to your plant
 8. Students work through the steps to get to the final stage which is proposing their plant selections and chamber designs.

Differentiation: Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.



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Resources Provided:

- Laptops/iPads
- Defined STEM Access
- Books for Research
- Building Supplies
- Design Packets



Lesson Plan 3 Template

Content Area: STEM Lesson Title: Roller Coaster Physics Time Frame: 1 Month

Lesson Components

21st Century Themes

☒ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☒ Life and Career Skills ☒ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections:

The students will be using their knowledge of Science, Math Reading and Information Literacy to successfully complete the project.

Integration of Technology:

Students will have access to laptops and iPads to do necessary research to accomplish their building goals. Students will be able to watch videos, engage in lessons and use research links to deepen understanding.

Equipment Needed:

Laptops/iPads, Marbles for Testing, Student Packets
 Roller Coaster Templates Printed on Various Colored Cardstock Paper, Clear Tape, Foam Board

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Define potential and kinetic energy, centripetal force, and friction. - Use the laws of motion to develop a working paper roller coaster that meets requirements, within constraints, that runs to completion without assistance. - Understand the engineering design process and stay within	Lesson Sequence - Benchmark; Roller Coaster Survey, who likes them and why. - View video of first person account from a coaster, what forces they experience and how an entire roller coaster runs on gravity. - Review Task: Due to the struggling economy, the Town of Springfield is looking to increase revenue in order to ensure that the town can continue to provide essential services, such as the Free Public Library, the Springfield Police and Fire	- Class Discussions - Student Presentations - Performance Based Rubrics - Student Advertisements using iMovie



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design constraints and requirements.

- Seek answers to questions independently using research skills.

Departments, the Department of Public Works, and new technology in the Public Schools.

4. Proposals Must Include: A working prototype (paper model that shows all coaster features), decorated with a ride name and a unique and exciting theme. Budget for completed coaster. A certified safety test to ensure that the coaster will operate safely. A marketing package that promotes your design, and highlights some of the physics concepts that help to make your coaster exciting, such as Speed and Velocity, Changes in Motion (acceleration), Energy Conversions (potential, kinetic) Forces, and Newton's Laws of Motion
5. Qualifying designs and marketing packages will be presented to representatives from the Springfield Township Committee at a Town Meeting; the best coaster will be approved.
6. Students gather in construction teams to learn more about how roller coasters work in order to build their paper coasters.
7. Coasters are constructed and tested using a marble passenger. Once coasters are completed, students come up with a theme and advertisement for their coaster.

Differentiation:

Grouping, Leveled Questioning, Group Investigations, Open Ended Projects, Small Group Mini Lessons as Needed.

Resources Provided:



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- Laptops/iPads
- Books for Research
- Building Supplies
- Design Packets



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ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly*, *Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives	X		
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: STEM	Grade Level: 5	Unit Title: Engineering Design Process
Created: Kelley Tauscher	Board Approved on:	Type Here

**Unit Overview Template**

Content Area: Gifted and Talented **Grade Level:** 5 **Unit Title:** Enrichment

Unit Summary: Throughout the school year students will complete a variety of enrichment projects to deepen and extend their understanding of various grade level topics. These projects are long term, cross curricular and allow for student choice. The purpose is for students that present advanced proficiency to have the opportunity to complete rigorous, challenging and technology infused products to enhance their academic experience. These projects may be completed with the whole class, a small group of students or for individual students as appropriate. The projects for grade 5 include; Graphic Novel, Podcasting, and Let's Debate.

Primary Interdisciplinary Connections:

Each of the projects have a primary focus as well as integration of additional subject and skill areas.

Graphic Novel: This project is primarily targeted towards writing with an integration of reading and art.

Podcasting: This project is primarily a writing and technology (Garageband) project with the integration of research and social studies (current events).

Let's Debate: This project is primarily research and public speaking project. Students will also using persuasive writing techniques to prepare for their debates.

21st Century Themes ☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☐ ICT Literacy

☒ Information Literacy ☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy

Unit Rationale: This unit directly addresses the needs of Gifted and Talented students. These projects were created to give appropriate challenge, support and motivation to maximize the potential of these children. This unit allows for students to explore content in different ways and share what they learn in creative capacities. These opportunities will add a new dimension to the education of the gifted rather than merely extend classroom activities.

Learning Targets

Standards: NJ Student Learning Standards
Next Generation Science Standards
Technology Standards

Content Statements: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.



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

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

CPI#:	Cumulative Progress Indicator (CPI):
MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.6	Attend to precision.
TECH.8.1. 5.A.1	Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
TECH.8.1. 5.D.CS2	Demonstrate personal responsibility for lifelong learning.
TECH.8.1. 5.B.1	Collaborative to produce a digital story about a significant local event or issue based on first-person interviews.
LA.RL.5.5	Explain how a series of chapters, scenes, or stanzas fits together to provide the overall structure of a particular story, drama, or poem.
LA.W.5.2. B	Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.
LA.W.5.3. B	Use narrative techniques, such as dialogue, description, and pacing, to develop experiences and events or show the responses of characters to situations.
LA.SL.5.4	Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace

Unit Essential Questions:

- How does communication with others strengthen and broaden understanding?
- How can an argument best support a claim?
- How does what I learn in school help prepare me for the future?
- What role does technology play in the pursuit of inquiry?
- How can we use what we know to learn new things?
- How can interdisciplinary approaches to problem solving lead to strong outcomes?

Unit Enduring Understandings:

- Persuasion is an important skill with various implications.
- Collaboration is an essential skill in life.
- There are multiple ways to solve problems.
- Writing is a process and can be published in a variety of ways.
- I can make sense of problems and persevere in problem solving.
- Technology is a valuable tool in learning and expressing ideas.
- Confidence, motivation, resilience, independence, curiosity, and risk taking make us better learners



Unit Learning Targets:

Students will....

- Seek opportunities to enhance academic achievement.
- Develop research skills and methods for solving open-ended tasks.
- Make sense of problems and persevere in problem solving.
- Reason abstractly and quantitatively.
- Attend to precision.
- Show creativity and cognitive flexibility.
- Create differentiated products.



Evidence of Learning

Summative Assessment: Yearlong Projects - Assessed on Rubric

Equipment Needed: Graphic Novel Examples, Graphic Novel Frames, Microsoft Word, Laptops/iPads, Garageband Application, Current Event Articles, Graphic Organizers.

Teacher Resources: These projects have been teacher created and can be modified for varied academic needs and are flexible for change and the incorporation of student choice.

Formative Assessments:

- Student Check-ins
- Final Products scored on Rubric
- Student Presentations
- One on One Conferences



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Lesson Plans

Lesson	Time Frame
Lesson 1 Graphic Novel	1 Month
Lesson 2 Podcast	1 Month
Lesson 3 Let's Debate	1 Month

Teacher Notes:

These projects can be done with the full class or with a small group of students as a means of enrichment. Benchmarks and Mini Lessons will vary based on students.

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

storyboardthat.com

educationworld.com



Lesson Plan 1 Template

Content Area: Gifted and Talented Lesson Title: Graphic Novel Time Frame: 1 Month

Lesson Components

21st Century Themes

☐ Global Awareness ☒ Financial, Economic, Business and Entrepreneurial Literacy
☒ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy
☐ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is primarily targeted towards writing with an integration of reading and art.

Integration of Technology: Students will be using computer software to publish their graphic novels.

Equipment Needed:

Laptops/iPads, Graphic Novel Frame Templates, StoryBoard That!, PowerPoint

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the components of a graphic novel. - Analyze excerpts of a graphic novel as a means of learning more about structure and components. - Brainstorm ideas for their own graphic novel. - Use the writing process to create a unique story written in the form of a graphic novel. - Utilize online media to publish an original work of fiction.	Lesson Sequence 1. Introductory Powerpoint; What are Graphic Novels? Students share what they know, what they have read 2. What are some components of Graphic Novels? Students discuss what they know 3. Students in groups receive copies of different graphic novels. Students take notes on what they see as important components of graphic novels 4. Come back together; share out what they observed 5. Go through Powerpoint which explains the components necessary 6. Introduce task: Write a graphic novel in which a	- Student/Teacher Conferences and Check-ins - Final Graphic Novel Scored on Rubric - Stars and Wishes from the Class (Feedback)



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- character struggles to do the right thing
Purpose: Tell a story through narrative, illustration, and dialogue
Audience: Classmates
7. Students work through the steps of the writing process to create their graphic novels. Throughout this project students will have graphic novel exemplars to use as a resource. Students will also peer and teacher conference and have various benchmark lessons and mini lessons to assist in the writing process.

Differentiation:

Tiered Assignments, Novel Examples, Benchmark Lessons, Small Group Mini Lessons

Resources Provided:

- Laptops
- Graphic Novel Examples
- Graphic Novel Pages Copies
- Introductory PowerPoint
- Graphic Novel Frames for Drafts



Lesson Plan 2 Template

Content Area: Gifted and Talented Lesson Title: Podcast Time Frame: 1 Month

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy

☒ Civic Literacy ☐ Health Literacy

21st Century Skills

☒ Creativity and Innovation ☒ Critical Thinking and Problem Solving ☒ Information Literacy

☐ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is primarily a writing and technology (Garageband) project with the integration of research and social studies (current events).

Integration of Technology: Students will be using the application Garageband to publish their podcasts.

Equipment Needed: Podcast Examples, Laptops/iPads with GarageBand, Chosen Articles, Storytelling Written Example, Screencasts and How-To Sheets

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: • Use a nonfiction news article to develop a story told from first person. • Write with sensory details to portray their ideas clearly. • Become familiar in utilizing GarageBand as a publishing tool.	Lesson Sequence 1. Discuss doing the right thing, why is it important? Is it always easy to do the right thing? 2. What about famous people or people of history, how have they decided to do the right thing? 3. Introduce concept of a Podcast; Survey student understanding. A podcast is: an audio program of stories on similar topic or theme recorded directly with a computer and microphone and posted for download, can be downloaded as a single program or many episodes with a subscription	• Student/Teacher Conferences and Check-ins • Final Podcast Scored on Rubric • Stars and Wishes from the Class (Feedback)



4. Listen to clip of storytelling podcast; Mike Rowe- The Way I Heard It
5. Discuss what the students heard, how the story was told. Different points of view, writing from first person vs. third person.
6. Introduce Task: Students will be reading about an “everyday hero” a person in the news that did the right thing. The students will take this news article and transform it into a story; a first person account of the act. What they did, why they did it and how they feel about it.
7. Students will start by reading about their assigned everyday hero. Students will then begin drafting first person account. (Benchmark example serve as a resource to students.)
8. Once students finish writing they conference with a peer and teacher. They will publish their story using garageband.

Differentiation:

Tiered Assignments, Podcast Examples, Benchmark Lessons, Small Group Mini Lessons, How-To Sheets and Screencasts

Resources Provided:

- Podcast Examples
- Laptops/iPads with GarageBand
- Chosen Articles
- Storytelling Written Example



Lesson Plan 3 Template

Content Area: Gifted and Talented Lesson Title: Let's Debate Time Frame: 1 Month

Lesson Components

21st Century Themes

☒ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy

☒ Civic Literacy ☐ Health Literacy

21st Century Skills

☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☒ Information Literacy

☒ Life and Career Skills ☒ Communication and Collaboration ☒ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: This project is primarily research and public speaking project. Students will also using persuasive writing techniques to prepare for their debates.

Integration of Technology: Students will be using online articles to research their topic as a means of gathering support and evidence for their argument. Students will be taught about trusted resources.

Equipment Needed: Laptops/iPads, Debate Example, Graphic Organized, Pre-Selected Articles, Student Surveys

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Identify the components of debate. - Choose a side of a debate topic and conduct research to support their stance. - Use persuasive techniques to convey opinions with strong reasoning and cited support.	Lesson Sequence - Opening Discussion: What is Debate? Survey student knowledge and understanding. Introductory PowerPoint: Sides of a debate, components of debate. - View example video of elementary students debating whether or not zoos should be banned. As students watch, they note what the students did well and what they could improve on, as well as any agreed upon rules that they noticed. - Discuss video; get student feedback about which side "won" and why.	- Teacher Check-Ins - Completed Graphic Organizers - Final Debate Scored on Rubric



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4. Explain to students that in this project they will be participating in a debate. The first step is to take a survey, this will ask students to choose a side in 5th grade topics that they are willing to debate.
5. After students take the survey, partnerships are made based on responses.
6. Students receive partnership and begin researching their topic, using first the assigned article, taking notes in their graphic organizer.
7. Graphic organizers detail 3 main points and support, possible points the other side will make and how they will refute it and other interesting facts.
8. Students research and eventually turn their research into speeches that they will debate.
9. Benchmarks/Mini Lessons Offered Throughout: Public Speaking Tips, The Art of the Rebuttal, Thinking on Your Feet.

Differentiation:

Tiered Assignments, Debate Examples, Benchmark Lessons, Small Group Mini Lessons

Resources Provided:

- Laptops/iPads
- Graphic Organizers
- Articles
- Student Surveys



Lesson Reflection

Reflect on the lesson you have developed and rate the degree to which the lesson *Strongly, Moderately* or *Weakly* meets the criteria below.

Lesson Activities	Strongly	Moderately	Weakly
Are challenging Strongly and require higher order thinking and problem solving skills	X		
Allow for student choice	X		
Provide scaffolding for acquiring targeted knowledge/skills	X		
Integrate global perspectives	X		
Integrate 21st century skills	X		
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills	X		
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills	X		
Are varied to address different student learning styles and preferences	X		
Are differentiated based on student needs	X		
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process	X		
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives	X		
Provide opportunities for student reflection and self- assessment	X		
Provide data to inform and adjust instruction to better meet the varying needs of learners	X		

Curriculum Design Template

Content Area: Gifted and Talented	Grade Level: 5	Unit Title: Let's Debate!
Created: Kelley Tauscher	Board Approved on:	Type Here



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Unit Overview Template

Content Area: Type Here **Grade Level:** Type Here **Unit Title:** Type Here

Unit Summary: Students will

Primary Interdisciplinary Connections:

21st Century Themes ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☐ ICT Literacy
☐ Information Literacy ☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy

Unit Rationale: This unit will...

Career Readiness (Standard 9):

Learning Targets

Standards: Type Here

Content Statements: Type Here

CPI#: **Cumulative Progress Indicator (CPI):**

Type Here Type Here

Type Here Type Here

Type Here Type Here

Type Here Type Here

Type Here Type Here

Type Here Type Here

Type Here Type Here

Type Here Type Here

Unit Essential Questions:

- Type Here
- Type Here
- Type Here

Unit Enduring Understandings:

- Type Here
- Type Here
- Type Here
- Type Here

Unit Learning Targets:

Students will....



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Evidence of Learning

Summative Assessment: X days

Equipment Needed: Type Here

Teacher Resources: Type Here

Formative Assessments:

- Type Here
- Type Here
- Type Here
- Type Here
- Type Here



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ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

Lesson Plans

Lesson	Time Frame
Lesson 1 name of lesson 1	X hours/days
Lesson 2 name of lesson 2	X hours/days
Lesson 3 name of lesson 3	X hours/days

Teacher Notes:

Type Here

Curriculum Development Resources/Technology Resources:

Click the links below to access additional resources used to design this unit:

type URL here

type URL here

type URL here

type URL here



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Lesson Plan 1 Template

Content Area: Type Here Lesson Title: Type Here Time Frame: X hours/days

Lesson Components

21st Century Themes

- ☐ Global Awareness ☐ Financial, Economic, Business and Entrepreneurial Literacy
☐ Civic Literacy ☐ Health Literacy

21st Century Skills

- ☐ Creativity and Innovation ☐ Critical Thinking and Problem Solving ☐ Information Literacy
☐ Life and Career Skills ☐ Communication and Collaboration ☐ Media Literacy ☐ ICT Literacy

Interdisciplinary Connections: Type Here

Integration of Technology: Type Here

Equipment Needed: Type Here

Goals/Objectives	Learning Activities/ Instructional Strategies	Formative Assessment Tasks
Students will: - Type Here - Type Here - Type Here - Type Here	Lesson Sequence - Type Here - Type Here - Type Here - Type Here	- Type Here - Type Here - Type Here
Differentiation: Type Here		
Resources Provided: - Type Here - Type Here - Type Here		



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ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS

IEP AND 504 ACCOMMODATIONS AND MODIFICATIONS FOR EARLY CHILDHOOD AND ELEMENTARY SCHOOL STUDENTS:

Large print textbooks
Textbooks for at-home use
Additional time for assignments
Review of directions
Use of mnemonics
Have student restate information
Concrete examples
Adaptive writing utensils
Support auditory presentations with visuals
Use of a study carrel
Assistance in maintaining uncluttered space
Weekly home-school communication tools (notebook, daily log, phone calls or email messages)
Space for movement or breaks
Study sheets and teacher outlines
Extra visual and verbal cues and prompts
Math sheets with highlighted instructions
Graph paper to assist in organizing or lining up math problems
Use of computers and calculators
Books on tape
Graphic organizers
Quiet corner or room to calm down and relax when anxious
Preferential seating
Alteration of the classroom arrangement
Reduction of distractions
Answers to be dictated
Hands-on activities
Use of manipulatives
No penalty for spelling errors or sloppy handwriting
Follow a routine/schedule
Alternate quiet and active time
Teach time management skills
Rest breaks
Verbal and visual cues regarding directions and staying on task
Agenda book and checklists
Adjusted assignment timelines
Visual daily schedule



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**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Varied reinforcement procedures
Immediate feedback
Work-in-progress check
Personalized examples

TESTING AND ASSESSMENT ACCOMMODATIONS AND MODIFICATIONS:

Answers to be dictated
Frequent rest breaks
Additional time
Oral testing
Untimed tests
Choice of test format (multiple-choice, essay, true-false)
Alternate ways to evaluate (projects or oral presentations instead of written tests)
Accept short answers
Open-book tests
Read test and directions to student
Provide study outline prior to tests
Highlight key directions
Test in alternative site
Use of calculator
Extra credit option
Preview test procedures
Simplified test wording; rephrased test questions and/or directions

GENERAL ACCOMMODATIONS AND MODIFICATIONS:

Use of alternative books or materials on the topic being studied
Computerized spell-check support
Word bank of choices for answers to test questions
Provision of calculator and/or number line for math tests
Reworded questions in simpler language
Projects instead of written reports
Highlighting important words or phrases in reading assignments
Modified workload or length of assignments/tests
Modified time demands
Modified grades based on IEP

BEHAVIOR ACCOMMODATIONS MODIFICATIONS:



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**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Breaks between tasks
Cue expected behavior
Daily feedback to student
Have contingency plans
Use de-escalating strategies
Use positive reinforcement
Use proximity/touch control
Use peer supports and mentoring
Model expected behavior by adults
Have parent sign homework
Have parent sign behavior chart
Set and post class rules
Chart progress and maintain data



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**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

IEP AND 504 ACCOMODATIONS AND MODIFICATIONS FOR MIDDLE AND HIGH SCHOOL STUDENTS:

Large print textbooks
Textbooks for at-home use
Additional time for assignments
A locker with adapted lock
Review of directions
Review sessions
Use of mnemonics
Have student restate information
Provision of notes or outlines
Concrete examples
Adaptive writing utensils
Support auditory presentations with visuals
Weekly or bi-weekly home-school communication
Space for movement or breaks
Study sheets and teacher outlines
Extra visual and verbal cues and prompts
Lab and math sheets with highlighted instructions
Graph paper to assist in organizing or lining up math problems
Use of tape recorder for lectures
Use of Interactive notebook
Use of a scribe
Use of computers and calculators
Books on tape
Graphic organizers
Quiet corner or room to calm down and relax when anxious
Preferential seating
Alteration of the classroom arrangement
Reduction of distractions
Answers to be dictated
Hands-on activities
Ability to type all assignments
Follow a routine/schedule
Teach time management and organizational skills
Rest breaks
Verbal and visual cues regarding directions and staying on task
Agenda book and checklists
Daily check-in with case manager or special education teacher
Adjusted assignment timelines
Visual daily schedule



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**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Varied reinforcement procedures
Immediate feedback
Work-in-progress check
Personalized examples

TESTING AND ASSESSMENT ACCOMMODATIONS AND MODIFICATIONS:

Answers to be dictated
Frequent rest breaks
Additional time
Oral testing
Choice of test format (multiple-choice, essay, true-false)
Alternate ways to evaluate (projects or oral presentations instead of written tests)
Accept short answers
Open-book or open-note tests
Read test and directions to student
Provide study guides prior to tests
Highlight key directions
Test in alternative site
Use of calculator
Extra credit option
Pace long-term projects
Preview test procedures
Simplified test wording; rephrased test questions and/or directions

GENERAL ACCOMMODATIONS AND MODIFICATIONS:

Allow outlining, instead of writing for an essay or major project
Use of alternative books or materials on the topic being studied
Computerized spell-check support
Word bank of choices for answers to test questions
Provision of calculator for math tests
Film or video supplements in place of reading text
Reworded questions in simpler language
Projects instead of written reports
Highlighting important words or phrases in reading assignments
Modified workload or length of assignments/tests
Modified time demands



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**ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY
GLOBAL SKILLS**

Pass/no pass option
Modified grades based on IEP

BEHAVIOR ACCOMMODATIONS FOR STUDENTS:

Breaks between tasks
Cue expected behavior
Daily feedback to student
Have contingency plans
Use de-escalating strategies
Use positive reinforcement
Use proximity/touch control
Use peer supports and mentoring
Model expected behavior by adults
Have parent sign homework
Set and post class rules
Chart progress and maintain data



Accommodations and Modifications for ESL Students

- Give tests orally
- Give instructions/directions in writing and orally
- Assign a peer tutor, same language or English speaking
- Allow use of bilingual/translation dictionary
- Provide summaries of text or study guides of particular chapters
- Allow errors in speaking
- Allow errors in writing
- Accept writing in first language
- Highlight key vocabulary
- Reduce amount of work required
- Assess comprehension through demonstration or other alternative means (gestures, drawings)
- Rephrase questions, directions, and explanations
- Reduce multiple choices on assessments
- Provide study guides and/ or outlines
- Shorten reading assignments
- Allow extended time for test/project completion
- Use of audio books
- Use of graphic organizers
- Use reduced text, so that print is not dense
- Use visuals/pictures throughout lesson/unit/assignment
- Adapt homework to reflect language proficiency/home support
- Adapt homework to reflect home support
- Provide hands-on activities and explanations
- Allow extended time to answer questions, and permit drawing, as an explanation
- Use of translation dictionaries to locate words in the native language
- Use anecdotal records and portfolio of work as forms of assessment
- Use story retellings to assess comprehension

What Does the Gifted and Talented Experience Look Like? *Springfield Public Schools*

Mission Statement

The Gifted and Talented Program of the Springfield Public Schools aims to provide a meaningful and rigorous education that instills the value of lifelong learning and empowers all students to reach their full potential and become self-fulfilled creative leaders in accordance with the comprehensive standards of our state. We accomplish this by offering challenging, real-world experiences in a student-centered environment.

We recognize that students come from diverse socioeconomic, cultural, and ethnic backgrounds, and the mission of the gifted and talented program is to provide opportunities for students to explore their intellectual, creative, and artistic gifts and talents within the classroom and with beyond-the-classroom experiences. It is essential to provide diverse, appropriate, and ongoing learning experiences and environments that incorporate students' academic, psychological, and social needs. Our responsibility is to provide students with educational alternatives that teach, challenge, and expand their knowledge, while simultaneously stressing the development of independent and self-directed learners who continuously generate questions, analyze, synthesize, and evaluate information and ideas.

New Jersey Administrative Code 6A:8-3.1 defines students who are gifted and talented 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.

Goals:

To support our mission, we have established the following goals to guide our work:

- To infuse into the general education program a broad range of activities for high-level learning that will challenge all students to perform at advanced levels, and provide extended opportunities, resources, and support in particular areas where student interest or talent is demonstrated.
- To provide a continuum of gifted education services that will strengthen the total school program, offer enriching and challenging learning opportunities for all students, and provide specialized learning experiences
- To promote achievement of students' best potentials and increased ability.

Through a productive and collaborative relationship among the building principals, classroom teachers, and the Gifted and Talented teacher, our schools can create programming that will enhance the learning experience for every student and serve the unique and specialized needs of students currently demonstrating gifted behaviors.

Elements of the Schoolwide Enrichment Model, W.I.N (What I Need), differentiated instruction, advanced classes, or individual programs into a student's regular instruction program are integral to this overarching framework for gifted education in the Springfield School District.

Reference Board Policy and Regulation 2464 – Gifted and Talented Pupils (M)

Early Childhood Center **Edward V. Walton**

Schoolwide Virtual Enrichment

All first and second grade students have access to the [Gifted and Talented Virtual Classroom](#). This virtual classroom is a space for students to complete various challenges and enrichment opportunities at their own pace. Students can receive feedback and additional adaptable resources to meet their individual learning needs. The virtual classroom design expands accessibility to enrichment resources and allows students to choose learning activities according to their unique interests and abilities. The purpose of the activities is to encourage problem-solving, develop critical thinking

skills, and expand curiosity and imagination. Activities are aligned to the New Jersey Student Learning Standards.

Gifted and Talented Teacher as a Resource

The Gifted and Talented teacher serves as a resource to all teachers within Edward V. Walton School. Teachers seeking resources for their high-ability learners will receive additional support from the Gifted and Talented teacher in various ways. This support may include additional units of study, challenging resources, and student projects.

Elementary Schools

James Caldwell

Thelma L. Sandmeier

The goal is to engage small groups of students in intensive learning experiences through standards-based, rigorous, and relevant units of study that supplement, not supplant, the grade-level curriculum and support students' unique learning needs.

Enrichment Experience Grade 3

Beginning in third grade, the G&T teacher will cycle through all classrooms to work on problem-solving and enrichment tasks with students. Driven by assessment data, academic performance, student interest, and teacher observation, small groups of students will meet with the G&T teacher during W.I.N. (What I Need) periods throughout the week that the teacher is assigned to their classroom teacher. Groupings will be flexible and monitored to best meet each student's needs throughout the school year. Activities will include brain teasers, puzzles, strategic thinking, problem-solving, and STEM challenges.

Targeted Gifted and Talented Programing Grades 4-5

Students may become identified as Gifted and Talented in fourth grade. Students that are identified may receive support from the G&T Teacher for up to five periods (200 minutes) a week during W.I.N. (What I Need) periods. Identified students will meet to explore grade-level content while incorporating depth and complexity in a student-centered, problem-based environment. The Gifted and Talented Program aims to provide students with various advanced and challenging learning experiences across content areas to promote independent thinking skills, refine critical thinking and communication skills, cultivate joy in learning, and expand student interests through problem-solving. The instruction that students receive incorporates 21st Century Skills and advanced content that is challenging, hands-on, and relevant to the real world.

Strategies and Practices that Support Gifted and Talented Students

- Adjusted Pace of Lessons
- Inquiry-Based Instruction
- Higher-Order Thinking Activities
- Interest-Based Content
- Real World Problem Solving/Problem Based Learning
- Independent Study/Passion Projects
- Units of Study with Like-Minded Peers

Schoolwide Virtual Enrichment

All JCS and TLS students have access to grade level-specific [Gifted and Talented Virtual Classrooms](#). These virtual classrooms are a space for students to complete various challenges and enrichment opportunities at their own pace. Students are able to receive feedback and additional opportunities based on their needs. The virtual classrooms have expanded the accessibility of enrichment resources directly to the students and allows for students to choose opportunities according to their interests and abilities. The purpose of the activities is to encourage problem solving, develop critical thinking skills, and expand curiosity and imagination in conjunction with the New Jersey Student Learning Standards.

Gifted and Talented Teacher as a Resource

In addition to classroom support, the Gifted and Talented teacher also serves as a resource to all teachers in the building. Teachers that are seeking resources for their high ability learners will receive additional support from the Gifted and Talented teacher in various ways. This may include additional units of study, challenging resources, student projects, and meeting with the G&T teacher as needed.

Additional Enrichment Opportunities

Across all grade levels 3-5, as recommended by the classroom teacher, students exhibiting a need for additional enrichment may have the opportunity to meet with the G&T teacher as the schedule allows. Groupings will be flexible and monitored to best meet the students' needs throughout the school year. Activities will include, brain teasers, puzzles, strategic thinking activities, problem-solving challenges, and STEM challenges. Students engage in an extended process of asking questions, using resources, and developing answers that lead to thinking about what and how they are learning. Students are held accountable for how they work and use their time by demonstrating their learning through products or presentations.

Students self-select to participate in individual and/or group projects based on interest and commitment. The classroom teacher and/or the enrichment teacher will help guide and monitor student exploration of chosen topics, facilitating their learning with resources and teaching of needed skills.

Secondary Schools
Florence M. Gaudineer Middle School
Jonathan Dayton High School

Grades 6-12: Access to specific content programs with higher levels of academic challenges (i.e. Pre-Algebra, Accelerated Communication Arts, and Advanced Placement Classes)

Dual Credit Courses provide students the opportunity to obtain high school credit, and college credit, simultaneously through partnerships with several institutions.

Project Lead the Way (PLTW) students become builders of technology by engaging in real world activities. Students are empowered as design thinkers collaborating on real world projects.

Gifted and Talented Identification Criteria

The Springfield Schools Gifted and Talented Program recognizes that students require differentiated learning experiences beyond the core curriculum being taught because of their advanced abilities in one or more content areas. These students may also have other cognitive qualities such as curiosity, creativity, motivation, leadership, and passion that require modifications to their academic experience.

Multiple Measures of Eligibility

Kindergarten through grade twelve identification process for gifted and talented students includes multiple measures. Multiple measures may include but are not limited to: achievement test scores; grades; student performance or products; intelligence testing; parent, student, and/or teacher recommendation; and other appropriate measures. The identification methodology is developmentally appropriate, non-discriminatory, and related to the programs and services offered by the Springfield School District. The identification procedures are reviewed annually.

According to N.J.A.C. 6A:8-3.1, all public school districts must have a board-approved gifted and talented identification process and provide services for identified students enrolled in the grades of that school district. The regulations require that identification and services be made available to students in grades K-12.

When students are recommended for the Gifted and Talented Program there are multiple measures that are considered to determine if services are necessary and appropriate. The assessments used are as follows:

- Cognitive Abilities Test (CogAT)
- Classroom Performance/Student Portfolios
- DRA2 Level
- iReady Diagnostic Scores
- Gifted Indicators Checklist
- Start Strong/NJSLA Assessment Data

The N.J.A.C. requires that students be compared to their chronological peers in the local school district. The New Jersey Department of Education has not established state-level criteria for identifying students who are gifted, such as mandated tests or assessments, grade point averages, or IQ scores. Local school districts must use multiple measures to identify students.

Procedures

<https://www.straussesmay.com/seportal/Public/DistrictPolicy.aspx?policyid=2464&id=b8a33a9f505e4998a6db3fb8e1de778b>

Gifted and Talented Program Identification Matrix

Minimum Score Required for Consideration: 14 Points

1 Point	2 Points	3 Points
Cogat Assessment Overall Stanine Score of a 7	Cogat Assessment Overall Stanine Score of an 8	Cogat Assessment Overall Stanine Score of a 9
iReady Math Assessment Just Below Current Grade Level	iReady Math Assessment On Grade Level	iReady Math Assessment ½ Year + Above Current Level
iReady ELA On Grade Level	iReady ELA ½ Year Above Current Level	iReady ELA One Full Grade Level + Above Current Level
NJSLA Math Approaching Expectations	NJSLA Math Met Expectations	NJSLA Math Exceed Expectations
NJSLA ELA Approaching Expectations	NJSLA ELA Met Expectations	NJSLA ELA Exceed Expectations
HOPE Teacher Rating Scale Raw Score: 11 - 29	HOPE Teacher Rating Scale Raw Score: 30 - 49	HOPE Teacher Rating Scale Raw Score: 50-66

Team meetings present the opportunity to review data and assess the educational needs of all students. Teacher provides examples of student work exhibiting above and beyond grade level expectations, creativity, leadership, critical and abstract thinking. Programs for gifted and talented students will be periodically evaluated for their continuing efficacy and adjusted accordingly. The parent of any student identified as gifted or talented shall be consulted regarding any program designed to address the student's particular needs.

Resource Links

https://riversideinsights.com/cognitive_abilities_test

<https://www.curriculumassociates.com/programs/i-ready-learning>

<https://www.nj.gov/education/assessment/resources/>

<https://www.routledge.com/HOPE-Teacher-Rating-Scale-Involving-Teachers-in-Equitable-Identification/Gentry-Pereira-Peters-McIntosh-Fugate/p/book/9781618214522#:~:text=The%20HOPE%20Teacher%20Rating%20Scale.making%20it%20easy%20to%20use.>

Gifted and talented student: The "[*Strengthening Gifted and Talented Education Act*](#)" defines a gifted and talented student as a "student who possesses or demonstrates a high level of ability in one or more content areas when compared to their chronological peers in the school district and who require modifications of their educational program if they are to achieve in accordance with their capabilities."

Twice-exceptional (2E) students: A twice-exceptional (2E) student is defined as "a student who is both gifted and a student with a disability. These students may also be referred to as having dual exceptionalities or as being gifted with learning disabilities (GT/LD). This also applies to students who are gifted with ADHD or gifted with autism" (New Jersey Association for Gifted Children, www.nagc.org).

Instructional adaptation: An adjustment or modification to instruction enabling a student who is gifted and talented to participate in, benefit from, and demonstrate knowledge and application of the New Jersey Student Learning Standards in one or more content areas at the instructional level of the student, not just the student's grade level.

Identifying gifted and talented students: The focus of identification is to provide programming and services in which students' specific learning needs and potential are appropriately addressed and met. In every New Jersey school district, there are students who require modifications to the general education curriculum if they are to achieve in accordance with their abilities. By identifying a student's general intellectual ability, creativity, or specific academic area aptitudes, we are acknowledging that they need programming and services outside of the general education/grade level curriculum to advance their learning.

NJDOE Fast Facts

<https://www.nj.gov/education/standards/gifted/>

<https://www.nj.gov/education/standards/gifted/legislation.shtml>

Supplemental Resources/Programming for Gifted Students

Edward V. Walton

- PETS Program – Primary Education Thinking Skills
- Group Solutions/Group Solutions 2 – Cooperative Logic Activities
- Lollipop Logic
- Beginning Thinking Skills
- AIMS Education Programming

James Caldwell and Thelma L. Sandmeier

Math/ELA

- Project M3: Mentoring Mathematical Minds
- Junior Great Books
- AIMS Education Programming
- Borenson Hands on Equations
- BizWorld
- Perplexors
- Advanced Math Explorations grade 3-5
- Challenging Units for Gifted Learners (ELA and Math)
- Creative Curriculum Extenders
- Differentiated Lessons & Projects
- Challenge Math Grades 4+
- Differentiating Instruction with Menus (All Content Areas)
- Jacob's Ladder
- Genius Hour/Passion Project
- Spatial Reasoning
- Logic Puzzles, Brain Games, Analogies

STEM

- Engineering is Elementary
- Engineer Throughout the Year
- PBS Design Squad
- DefinedSTEM
- Project Lead the Way (PLTW)

Enrichment Events

Experience for all students to be enriched through events related to the curricular or extracurricular activities. Examples include after school clubs, PTA-sponsored events, leadership opportunities, visual and performing arts, and community service opportunities.