

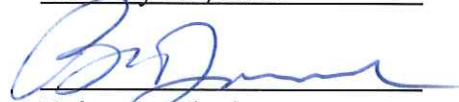
# Mendham Township Public Schools




## QUEST Curriculum

Board of Education Adoption Date: January 29, 2019

Board of Education President:

  
Brian Jendryka

Superintendent of Schools:

  
Salvatore M. Constantino

Principal:

  
Patrick J. Ciecone

Principal:

  
Julianne Kotcho

**Mendham Township School District**  
**Mendham Township Elementary School**

Gifted & Talented and Enrichment Program Overview  
K-4

**Overview**

The Mendham Twp. Elementary Gifted & Talented and Enrichment Program is designed to challenge and engage students in accelerated learning experiences that foster independence, leadership, problem solving and creative thinking. Students in grades K-4 who demonstrated advanced intellectual abilities, academic aptitude, creative thinking and problem solving abilities are encouraged to develop their overall potential and abilities in the areas of logical thinking/reasoning, decision making, problem solving and leadership.

**Program Goals**

1. Provide an environment and experiences in the school and community which will enable the gifted and talented to develop their potential and ability in such areas as decision making, reasoning, problem solving and leadership.
2. Encourage active problem solving, collaboration, and a greater awareness of our global community issues.
3. Develop individual talents and abilities to reach maximum potential.

**Selection Process**

All students K-4 that demonstrated advanced intellectual, academic abilities may be recommended for the Gifted and Talented and Enrichment Programs. Multiple assessment measures are used to help identify students that are demonstrating the need for advanced alternate or differentiated programs and learning experiences. Gifted & Talented and Enrichment opportunities are offered at all grade levels Kindergarten through grade 4.

## **Gifted, Talented, and Enrichment Offerings**

### STEM

Grades PreK-2

All students in Preschool-Second grade, will receive one class per week of STEM education. STEM integrates the subjects of Science, Technology, Engineering, and Math into a cohesive learning paradigm based on real-world applications. The classroom is designed to provide instruction in critical and creative thinking skills.

### Mastery & Enrichment

Grades 3-4

All students participate in enrichment activities one period per week. The activity offerings run on 6-8 week cycles, and vary throughout the year. Students can self-select from the offerings based upon his or her individual interests and needs. Once an activity is selected students remain in the enrichment cluster for the entire cycle. Students have the opportunity to select new enrichments each cycle.

### Quest

Grades 3-4

One of the clusters offered during Mastery & Enrichment is Quest. This class focuses on collaborative work that requires high levels of critical and creative thinking skills. Potential students are identified and screened during the spring of grade 2. Multiple measures are used to help identify students that are demonstrating readiness to participate in the Quest program. Students attend the Quest enrichment one period per week during Mastery/Enrichment, and one zero period before school. The curriculum for this program is on the school website, under the curriculum link.

### Gateways

Grades K-4

Gateways is an advanced academic program which provides parallel or accelerated instruction in language for students K-2 & social studies 3&4, and math who have demonstrated ability and achievement 1+ grade levels above peers, and whom need additional or advanced coursework to continue his or her academic growth. Eligibility is determined on an as need basis for. If a student has shown academic skills far beyond his or her peers, a parent/guardian or teacher may recommend the child for additional math, language arts, or cognitive assessments. The math specialist, reading specialist, and/or testing coordinator administer assessments. If the assessments support the initial findings of the teacher, additional academic enrichments will be provided to support the identified needs of the child. will be screened to determine need for advanced programming.

Mendham Township Elementary School  
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Gateways offerings

*Math Acceleration-*

Grade levels vary on a yearly basis

Students are recommended for additional math assessment based upon classroom observations and performance on benchmark assessments. A test may be administered to determine ability in specific math areas including basic concepts, operations, applications, critical thinking and problem solving. The test results will help determine if the student needs math acceleration, such as completing the 5<sup>th</sup> grade math curriculum in 4<sup>th</sup> grade.

*Gateways Social Studies-*

Grades 3-4

Students who demonstrate ability and achievement beyond his or her peers in Language Arts will participate in a pullout Social Studies program. The parallel curriculum will address the same essential questions and standards as the grade level Social Studies curriculum but will utilize a language based approach to enhance reading and writing skills.

**MTES (K-4)**  
**Gifted, Talented, & Enrichment Services**  
**Referral Form**

Student's Name \_\_\_\_\_ Date: \_\_\_\_\_

Grade Level \_\_\_\_\_ Teacher \_\_\_\_\_

\_\_\_\_\_ Teacher Referral \_\_\_\_\_ Parent Referral \_\_\_\_\_ Other

New Student: \_\_\_\_\_ YES \_\_\_\_\_ NO

**If applicable, please fill out the following:**

DRA score: \_\_\_\_\_

Last Writing Prompt Score: \_\_\_\_\_

Math Benchmark Scores: Pre-Test \_\_\_\_\_ Mid-Year \_\_\_\_\_

CogAT Verbal \_\_\_\_\_ Quantitative \_\_\_\_\_ Nonverbal \_\_\_\_\_

PARCC Language Arts \_\_\_\_\_ Math \_\_\_\_\_

Additional Comments:

The student is being referred for additional assessment in the following area(s):

\_\_\_\_\_ Math Enrichment

\_\_\_\_\_ Advance Math

\_\_\_\_\_ QUEST

\_\_\_\_\_ GATEWAYS

**Please attach the following to the referral form:**

1. Please type a brief paragraph explaining why you think this child should be identified for any of our Gifted and Talented/Enrichment offerings.
2. A completed Renzulli-Hartman Checklist

**Please Submit Referral Forms and Supporting Information to Dori Smyth**



Mendham Township Gifted & Talented Program  
Adopted 2014  
Mendham Township School District



## Quest Program Grades 3 - 8

### Overview

**The Elementary School's** grade 3 and 4 Quest programs engage students in advanced collaborative and critical thinking to problem solve real-world STEM (Science, Technology, Engineering, Math) based learning activities. Students are challenged to use effective oral and written communication skills to research, collect data, analyze information and provide strong rationale for outcomes and proposals.

The grade 3 and 4 Quest classes meet weekly during enrichment and zero periods. Quest students may also participate in additional special programs, competitions, or field trips coordinating with their units of study. In addition to the Quest program, all students in grades K-4 participate in weekly enrichment classes delivered by the G&T and classroom teachers.

**The Middle School's** Quest programs are a continuation of the elementary programs. Students work collaboratively to propose and implement solutions to real life phenomena through logic-based simulations. Students continue to develop effective oral and written communication skills, however, developing effective 'cooperation skills' are paramount to producing successful projects as students move through the grades. In addition, there is an increased focus on authentic 'building' and creative problem solving in grade 7 and 8.

Quest 5 and 6 classes meet weekly during enrichment periods and are open only to those students who meet the eligibility requirements outlined below. Quest 7 and 8 classes meet at least once per week during enrichment but may meet more frequently based on the complexity of the units or activities. Quest activities may include field trips, competitions, and or special presentations.

### Overview of Eligibility

All MTES students in grade 2 will be screened for Quest services beginning with CogAt Testing. Students found eligible for Quest services in grade 2 will remain eligible for Quest services indefinitely through grade 8.

All students will again be screened for Quest services in grade 5. The grade 5 screening shall not terminate Quest eligibility for any student regardless of score, rather, grade 5 students who earn in the 96<sup>th</sup> percentile (CogAT) Composite or Non-Verbal will be added to Quest service rosters for grade 6. In grades 7 and 8, all "interested" students shall have the opportunity to participate in Quest 7 and 8 based upon successful completion of preliminary summer projects.

Students new to the district may be recommended for participation upon registration, however must be screened and meet minimum eligibility criteria.

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## Grade 2 Eligibility Process for Grades 3-5

### Stage 1 - Screening

#### Step 1

The Cognitive Abilities Test (CogAT) is administered to all students in grades 2. Students receiving a (CogAT) Composite or Non-Verbal Standard Age Score of 125 or above continue to step 2.

*\*A Standard Age Score of 125 represents scores in the 8<sup>th</sup> stanine and 94<sup>th</sup> percentile of national scores.*

*\*A standard Age Score of 130 represents scores in the 9<sup>th</sup> stanine and the 98<sup>th</sup> percentile of national scores.*

#### Step 2

Students are assessed using the **Sages-2 Aptitude Assessment** (Screening Assessment for Gifted Elementary School Students) \*Parent permission is required.

#### Step 3

Two teachers will complete the Renzulli-Hartman Checklist.

### Stage 2- Identification

\*Students must meet the minimum score requirements listed below to be eligible for Quest services:

CogAt: Standard Age Score of 125 or higher on the Composite or Non-Verbal sections.

Sages-2: Aptitude score of 120 or higher (on either section)

Renzulli-Hartman Checklist: Students must receive at least 60 out of 72 points on one or both of the Checklists.

### **\*Appeal Process**

If a child does not meet the entrance requirements for Quest services, a parent or teacher can request the student be assessed through the appeal process. All appeals must be filed in writing to the principal for consideration for the following school year.

*\*Students must demonstrate above average ability on the CogAT Composite Standard Age Score (125 or above) to be considered for appeal.*

- The appeal will consist of an opportunity for the student to demonstrate critical and creative thinking skills in a given performance task.
- The students will be able to select from either a linguistic (language based) or mathematical/spatial performance task.
- The students will complete the task independently and be assessed using the Creative and Critical Thinking rubric.
- The student must receive a minimum score **24** on the rubric to receive Quest services.

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**Grade 5 Eligibility Process for Grades 6-8**

- All students found eligible for Quest in grade 2 will remain eligible through grade 8
- CogAt administration in grade 5
- Grade 5 students who earn in the 96<sup>th</sup> percentile (CogAt) Composite or Non-Verbal will be added to the Quest rosters for grade 6.
- In grades 7 and 8, Quest services will be available to all Middle School students based upon interest. However, eligibility may be contingent upon successful completion of a lengthy summer project.

# Mendham Township Elementary School

18 West Main Street, Brookside, NJ 07926



Julianne Kotcho, Principal  
[jkotcho@mendhamtp.org](mailto:jkotcho@mendhamtp.org)  
Phone 973-543-7107

Mrs. Cheryl O'Connor, Secretary  
[choconnor@mendhamtp.org](mailto:choconnor@mendhamtp.org)  
Fax 973-543-5537

MTES

## Gifted & Talented Student Profile

STUDENT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

CIRCLE ONE (1):                      QUEST 3                      QUEST 4

1. IDENTIFICATION PATHWAY:                      \_\_\_\_\_ CogAt                      \_\_\_\_\_ Teacher Referral  
   \_\_\_\_\_ New Student                      \_\_\_\_\_ Parent Referral

### 2. SCREENING ASSESSMENTS:

A.      CogAT Scores                      \_\_\_\_\_ 130+                      \_\_\_\_\_ 125+ Composite or Non-Verbal

(If no scores are available, continue to B.)

B.      SAGES-2                      \_\_\_\_\_ 120+                      \_\_\_\_\_ -120

C.      Renzulli Checklist                      \_\_\_\_\_ 60-72                      \_\_\_\_\_ -60

3. APPEAL REQUESTED:                      \_\_\_\_\_ YES                      \_\_\_\_\_ NO

If yes,

D.      Creative Critical Thinking Rubric                      \_\_\_\_\_ 27+                      \_\_\_\_\_ -27

### 4. RECOMMENDATION:

\_\_\_\_\_ STUDENT RECOMMENDED FOR QUEST

\_\_\_\_\_ STUDENT NOT RECOMMENDED FOR QUEST



# Mendham Township Elementary School

18 West Main Street, Brookside, NJ 07926

973-543-7107



Julianne Kotcho, Principal  
[jkotcho@mendhamtwp.org](mailto:jkotcho@mendhamtwp.org)

Cheryl O'Connor, Secretary  
[coconnor@mendhamtwp.org](mailto:coconnor@mendhamtwp.org)

Date:

Dear Mr. and Mrs. \_\_\_\_\_,

Your child was identified to participate in the screening process to determine the need for Gifted & Talented services next school year at MTES.

Your child's scores:

\_\_\_\_\_ Recommended to participate in the G&T Quest Program.

\_\_\_\_\_ Not recommended to participate in the G&T Quest Program.

The MTES grade 3 & 4 Quest Programs engage students in advanced collaborative and critical thinking to problem solve real-world STEM (Science, Technology, Engineering, Math) based learning activities. Students are challenged to use effective oral and written communication skills to research, collect data, analyze information and provide strong rationale for outcomes and proposals. In addition to the Quest Program all students in grades K-4 participate in weekly enrichment classes delivered by the G&T teacher and classroom teachers.

The grade 3 & 4 Quest classes meet weekly during enrichment & zero periods. Quest students may also participate in additional special programs, competitions, or field trips coordinating with their units of study. Students participating in Quest will remain in the program through grade 5.

**\*\*If a child does not meet the minimum score entrance requirements for G&T services, you may request the student be assessed through the appeal process. All appeals must be filed in writing via email to Ms. Kotcho, ([jkotcho@mendhamtwp.org](mailto:jkotcho@mendhamtwp.org)) by May 30<sup>th</sup> for consideration for the following school year.**

- The appeal will consist of an opportunity for the student to demonstrate critical and creative thinking skills in a given performance task.

Warm Regards,

Julianne Kotcho, Principal

*Every Student, Every Day*  
<http://www.mendhamtwp.org>

Mendham Township School District  
G&T Program Overview



**G&T Component by Grade Level**

<i><b>Grade Level</b></i>	<i><b>Component</b></i>
<i><b>Grade 5</b></i>	Mathematics Acceleration to Grade 6 Math
	Quest Program – Mystery Festival
	Science – Challenge Level Assessments
	ELA – Alternate Night Writes
<i><b>Grade 6</b></i>	Mathematics Acceleration to Grade 7 Math
	Math 6 Accelerated Section
	Quest Program – Inventions and Innovations
	Science – Challenge Level Assessments
	ELA – Alternate Night Writes
	Instrumental Music Acceleration into Wind Symphony
<i><b>Grade 7</b></i>	Mathematics Acceleration to Grade 8 Math
	Mathematics Acceleration to Honors Algebra
	2 x Math 7 Accelerated Section
	AMC 8 Mathematics Challenge
	Quest Program – Green Challenge
	Quest Program – Junk Box Wars
	Science – Challenge Level Assessments
	ELA – Alternate Night Writes
	Instrumental Regions Course
<i><b>Grade 8</b></i>	Mathematics Acceleration to Honors Algebra
	Mathematics Acceleration to Honors Geometry
	AMC 8 Mathematics Challenge
	Quest Program – Green Challenge
	Quest Program – Junk Box Wars
	Science – Challenge Level Assessments
	ELA – Alternate Night Writes
	Instrumental Regions Course

**Accommodations Addendum**  
**Curriculum Modifications for**  
**IEPs, 504s, ELL and Gifted & Talented**

**IEP and 504:**

Allow for extended time on homework and assessments as described in the student's plan

Allow use of calculator

Check for comprehension and understanding

Highlight or underline key words

Permit ample time for student to respond to questions

Clearly define limits and expectations

Encourage student to ask for needed assistance

Preferential seating

Repeating, clarifying or rewording directions

**ELL**

Allow for alternate responses

Provide student with advanced notes

Allow for extended time on homework and assessments

Teacher modeling of what is expected and necessary steps to complete task

Provide simplified written and verbal instructions

Permit ample time for student to respond to questions

Encourage student to ask for needed assistance

Check for comprehension and understanding

Repeating, clarifying or rewording directions

Preferential seating

Allow use of eDictionary/technology to look up unknown words

Quest

Grade 3

## Ice Cream Social

Project #1

### Stage 1-Desired Results

#### Goals

- Gather, analyze and record data in order to determine how much ice cream will be needed in order to provide enough for the entire school.

#### Understandings

- Students will be able to plan, collect data, analyze data and make decisions based on evidence.

#### Essential Questions

- How many scoops will each child eat?
- How will you calculate the amount of ice cream needed for the entire school?
- How will you plan for student flavor preferences?

#### Knowledge

Students will know...

- Measurement of capacity
- Making and understanding their predictions in comparison to reality
- Analyze and understanding the data from the survey

#### Skills

Students will be able to ...

- Calculating the number of ice cream scoops needed
- Estimation
- Creating tables, graphs and charts to display data

#### NJCCCS:

4.2 (Geometry and measurement) All students will develop spatial sense and the ability to use geometric properties, relationships, and measurement to model, describe and analyze phenomena.

- 4.2.C.1

4.1 (Number and Numerical operations) All students will develop number sense and will perform standard numerical operations and estimations on all types of numbers in a variety of ways.

- 4.1.B.1-7, 4.1.C.1-4

3.3 (Speaking) All students will speak in clear, concise, organized language that varies in content and form for different audiences and purposes.

- 3.3.A.1-3, 3.3.B.3, 3.3.B.6, 3.3.D.1-7

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Make predictions
- Take a survey
- Organize data
- Calculate quantities
- Share their data

#### Other Evidence:

- Student kept records
- Teacher observation
- Tables, graphs, charts
- Dialogue
- Student journals

Quest

Grade 3

## Ice Cream Social

Project #1

### Stage 3- Learning Plan

#### Learning Activities:

- Predict
- Make a hypothesis
- Measure capacity
- Decision making
- Collecting data
- Analyze data
- Record data
- Create charts, tables, and graphs using the computer
- Share their findings

#### Resources:

- HSA (help coordinate ice cream social)
- Computer

## What's in This Food?

<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>Identify and analyze each ingredient in a common food of choice.</li> <li>Understand that food contains ingredients consumers are not aware of.</li> <li>Make healthy and informed decisions about food choices.</li> <li>Share findings with the entire school population.</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>Students will be aware of ingredients in common foods</li> <li>Students will be equipped to make healthy decisions in food choices.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>What food will you investigate?</li> <li>What are the listed ingredients in that food?</li> <li>How will you research and analyze each ingredient?</li> <li>Did you find anything in your research that surprised you?</li> <li>What will be the key information that you include on your display poster to raise awareness?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>How to read product labels (ingredients)</li> <li>How to research and analyze ingredients</li> <li>Why do food companies use the scientific names for the ingredients?</li> <li>How to create a poster to display their research and data</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>Identify ingredients for different foods</li> <li>Research and analyze their findings</li> <li>Be more aware of product contents before eating it</li> <li>Present or display their research to the entire school</li> </ul>
<b>NJCCCS:</b> 9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society. <ul style="list-style-type: none"> <li>9.2.A.1-4, 9.2.E.1-6</li> </ul> 5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results. <ul style="list-style-type: none"> <li>5.1.A.1-4, 5.1.B.1-2, 5.1.C.1-2</li> </ul>	

Quest  
Grade 3  
Project #2

## What's in This Food?

5.3 (Mathematical applications) All students will integrate mathematics as a tool for problem solving in science, and as a means of expressing and/or modeling scientific theories.

- 5.3.A.1-3, 5.3.C.1, 5.3.D.1

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Select a food and research ingredients
- Create list of the ingredients
- Find ways to determine what each ingredient actually is (e.g. computer, call company, or use research book)
- Create poster to display data

#### Other Evidence:

- Students' notes (folder)
- Teacher observation
- Students' discussions
- Students' poster

### Stage 3- Learning Plan

#### Learning Activities:

- Teacher will raise awareness by having student sample product. Students will try to identify ingredients. Discuss.
- Students will pick a product to investigate.
- Students will identify ingredients of their product.
- Students will find ways to determine what each ingredient actually is (e.g. computer, call company, or use research book) and will research each ingredient.
- Students will share their findings about their product.
- Students will design posters to inform the school population.

#### Resources:

- Different food items that the students will be investigating
- Computer

# Quest

Grade 3

## Math on the Menu

### Project #3

#### Stage 1-Desired Results

##### Goals

- Apply different problem-solving strategies as they plan and enlarge a menu, determine different combinations of ingredients, analyze costs, set prices, and address interior logistics when the restaurant expands to a second location.

##### Understandings

- The students will understand what factors must be considered to open and run a restaurant.
- The students will understand how math is applied in real-world and multi-cultural situations.

##### Essential Questions

- How will you decide what will be included on your menu?
- What do you need to consider in order to open a restaurant?
- How will you prepare to expand to a second location?

##### Knowledge

Students will know...

- The factors that contribute to opening and expanding a restaurant
- How to create a menu, considering food selection and cost
- Information about Hispanic culture
- How to problem solve to make good business decisions

##### Skills

Students will be able to ...

- Identify menu items and research prices that are realistic
- Make a menu (use computer)
- Identify foods popular within Hispanic culture (sort ingredients used in these foods)
- Address interior logistics
- Share their restaurant
- Understand and apply combinatorial, statistical, mathematical-reasoning, and organizational skills

##### NJCCCS:

9.1 (Career and Technical Education) All students will develop career awareness and planning, employability skills, and foundational knowledge necessary for success in the workplace.

- 9.1.A.1-3, 9.1.B.1-3

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.1-4, 9.2.E.1-6

5.3 (Mathematical applications) All students will integrate mathematics as a tool for problem solving in science, and as a means of expressing and/or modeling scientific theories.

- 5.3.A.1-3, 5.3.C.1, 5.3.D.1

Quest  
Grade 3  
Project #3

Math on the Menu

**Stage 2-Assessment Evidence**

**Performance Tasks:**

- Research Hispanic culture and foods
- Create menu
- Determine costs and set prices
- Design the initial restaurant
- Brainstorm ideas for expansion of the restaurant

**Other Evidence:**

- Students' folders
- Students' file (on computer)
- Teacher observation

**Stage 3- Learning Plan**

**Learning Activities**

- Guest speaker from restaurant business
- Research Hispanic culture and foods
- Compare restaurants' menu pricing
- How to make menu using computer
- How to determine ingredients for items (flexibility, costs, pricing)
- How to set prices of items on menu
- What factors go into the design and expansion of a restaurant

**Resources:**

- Guest speaker
- Restaurant flyer's
- Computer

**Stage 1-Desired Results**

**Goals**

- Discover and apply scientific and mathematical principles using bubbles.
- Explore many different concepts utilizing the student's own sense of curiosity while conducting many experiments.

**Understandings**

- The students will understand and explore concepts in chemistry and physics that make up bubbles.
- The students will recognize and explain why bubbles are all different.
- The students will apply mathematical skills to determine the different characteristics of each bubble.

**Essential Questions**

- What characteristics identify bubbles?
- Why are bubbles different?
- How can you use an experiment to learn information about bubbles?
- What experiments will you conduct to find the information needed?
- How will you share this information with others?

**Knowledge**

Students will know...

- The different characteristics that make up a bubble: body, shape, sizes, color, etc.
- How to create their own activities to explore their own curiosity
- How to measure different mathematical concepts regarding bubbles

**Skills**

Students will be able to ...

- Record their observations
- Follow directions on activity cards posted at each station
- Create their own activities and record them by writing or drawing in their Bubble Booklet
- Have a class discussion on bubble behavior
- Make a graph of the different sizes of bubbles
- Write an experience story or poem

**NJCCCS:**

5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.

- 5.1.A.1-4, 5.1.B.1-2

5.3 (Mathematical applications) All students will integrate mathematics as a tool for problem solving in science, and as a means of expressing and/or modeling scientific theories.

- 5.3.A.1-3, 5.3.C.1, 5.3.D.1

Quest

Grade 3

## Bubble Festival

Project #4

### Stage 2-Assessment Evidence

**Performance Tasks:**

- Make bubbles, observe, and take notes
- Following directions
- Make a graph
- Write a story or poem

**Other Evidence:**

- Students' bubble booklets
- Students' discussions
- Teacher observation
- Students' creativity

### Stage 3- Learning Plan

**Learning Activities:**

- Make and explore bubbles, discuss
- Create bubble stations
- Create bubble book
- Make comparison graphs on computer
- Write story or poem about bubbles

**Resources:**

- GEMS Bubble Festival science kit
- Lawrence Hall of Science

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<div> <div>Quest- Grades 3 and 4</div> <div><u>Chess</u></div> </div>	
Stage 1-Desired Results	
<b>Goals</b> <ul style="list-style-type: none"> <li>Apply different strategies and tactics in order to play. <b>Chess</b> is a game played between two opponents on opposite sides of a board containing 64 squares of alternating colors. Each player has 16 pieces: 1 king, 1 queen, 2 rooks, 2 bishops, 2 knights, and 8 pawns. The <b>goal</b> of the game is to checkmate the other king.</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>The students will understand the placement and movement of every chess piece.</li> <li>The students will understand the names of the pieces and the power/point system they have.</li> <li>The students will understand the value and strategy of thinking ahead in their games.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>What will be your opening moves?</li> <li>What do you need to focus on when you are playing: are you playing on more of a defense or offense?</li> <li>How will you prepare and learn more tactics to implement into your level of play?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>The rules</li> <li>How to move their pieces</li> <li>Information of famous chess masters</li> <li>The value of the pieces</li> <li>Specific strategies that have been practiced</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>Develop their logical thinking</li> <li>Develop their memory</li> <li>Develop their imagination and creativity</li> <li>Improves concentration</li> <li>Inspires self-motivation</li> <li>As students count and use the ranks, files and diagonals on the chessboard, they apply numeration to identify how and how far the pieces move.</li> <li>Students use the algebraic grid of the chessboard to identify relative positions of the pieces on the quadrants of the board and apply this to the annotation, evaluation and description of best moves</li> <li>The chessboard pattern and the relationships of the pieces help students organize ideas to solve problems.</li> </ul>

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<b>CCCS:</b> <b>4.OA, 4.MD, 4.G</b> <b>5.1.4.A.2, 5.1.4.B.1, 5.1.4.B.4, 5.1.4.C.1, 5.1.4.C.2,</b> <b>5.1.4.C.3</b>	
<b>Stage 2-Assessment Evidence</b>	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Play students of similar ability</li> <li>• Become familiar with specific strategies that work</li> <li>• Perform certain chess tactics</li> <li>• Chess Tournament- students will participate in</li> </ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"> <li>• Teacher observation</li> </ul>
<b>Stage 3- Learning Plan</b>	
<b>Learning Activities</b> <ul style="list-style-type: none"> <li>• How to play the computer (Play as often as you can)</li> <li>• Chess websites they can research to help</li> <li>• Learning several tactics</li> <li>• Replay the games of better players</li> <li>• Record and review your games</li> </ul>	
<b>Resources:</b> <ul style="list-style-type: none"> <li>• Chess.com</li> <li>• Chess-kids</li> <li>• Chess books</li> <li>• Teacher made chess stories</li> </ul>	

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Quest Gr. 3 Investigating Artifacts	
Stage 1-Desired Results	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Apply anthropology, archaeology, and information about diverse Native American and world cultures.</li> <li>• Use this information to sort and classify material objects found on a walk, and then make masks from those materials.</li> <li>• Create stories to explain natural phenomena and learn how ancient peoples used folklore to explain and represent the natural world.</li> <li>• Make inferences drawn from varying evidence.</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• Students will use this opportunity to learn about broader social-science elements, focus on Native American wisdom, and connect the substantive science to real appreciation for collecting, preserving, and understanding clues to our varied past.</li> <li>• Students will apply this information to create maps, stories, and masks.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• What is the difference between anthropology and archaeology?</li> <li>• How will you use the objects found on the nature walk to make a mask?</li> <li>• What can you learn about a society from artifacts from their time period?</li> <li>• What will the topic be for your folklore?</li> <li>• How will you keep track of the excavating items found?</li> <li>• What will you infer about this society from the items found?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• The difference between archaeology and anthropology</li> <li>• How to make inferences</li> <li>• How to create stories</li> <li>• How to understand and interpret a map</li> <li>• How to use artifacts to explain the past</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>• Sort and classify material objects found on a walk, then make masks from those materials</li> <li>• Create masks</li> <li>• Create a map of an excavation site</li> <li>• Write a story</li> <li>• Share inferences with peers</li> </ul>
<b>CCCS:</b> 9.4.A.1 9.4.A.2 9.4.A.3 9.4.A.4 9.4.A.5 6.1.4.D.13 6.1.4.D.14 6.1.4.D.15	

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Stage 2-Assessment Evidence	
<b>Performance Tasks:</b> <ul style="list-style-type: none"><li>• Collect objects on a nature walk</li><li>• Create masks using those objects</li><li>• Sort and classify objects found in middens</li><li>• Create a map for the excavation site</li><li>• Write a folklore story</li><li>• Make inferences about people who lived in the past</li></ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"><li>• Student journals</li><li>• Teacher observations</li><li>• Students' collections</li><li>• Masks</li><li>• Maps</li><li>• Stories</li><li>• Students' discussions</li></ul>
Stage 3- Learning Plan	
<b>Learning Activities</b> <ul style="list-style-type: none"><li>• Discuss archaeology, anthropology, and way of life of Native Americans in the past</li><li>• Discussion on how objects are used to explain life in the past</li><li>• Gather items found in nature and create masks (Native Americans)</li><li>• Identify ways to sort and classify objects</li><li>• Make a map of excavation site (midden box)</li><li>• Discuss ideas for folklore stories.</li></ul>	
<b>Resources:</b> <ul style="list-style-type: none"><li>• Lawrence Hall of Science (Investigating Artifacts)</li><li>• Computer</li><li>• Maps</li></ul>	

## Medieval Times

### Stage 1-Desired Results

#### Goals

Students will be able to research life during the medieval times and recreate components prevalent to that time period.

#### Understandings

- The students will understand what life was like during the medieval times.

#### Knowledge

Students will know...

- About the various components of life during the Medieval Times, such as castles, monks, foods, knights, clothing, games, churches, weapons, etc.

#### Essential Questions

- When were the Medieval Times?
- What was life like during that time period?
- How is your life the same as/different from life then?

#### Skills

Students will be able to ...

- Research and record information about the components of life during the Medieval Times
- Determine which parts of this time period they would like to further study
- Create replicas of their chosen topic
- Share with the other students
- Compare and contrast life then to life now

#### CCCS:

9.4.A.1

9.4.A.2

9.4.A.3

9.4.A.4

9.4.A.5

K.4.9.1.4.A

K.4.9.1.4.B

K.4.9.1.4.C

K.4.9.1.4.D

K.4.9.1.4.E

K.4.9.1.4.F

LA.4.CCSS.ELA-Literacy.CCRA.W.10 LA.4.CCSS.ELA-Literacy.CCRA.SL1-

*\*Science standards to be added*

## **Stage 2-Assessment Evidence**

### **Performance Tasks:**

- Research the times of the Medieval Time Period
- Record information found on chosen topic
- Create projects specific to topic
- Share with students and parents when it is completed

### **Other Evidence:**

- Student kept records
- Teacher observation
- Dialogue
- Student journals
- Written report
- Presentation

## **Stage 3- Learning Plan**

### **Learning Activities:**

- Conduct web quest "Life in the Middle Ages"
- Record information from research
- Write a report from notes taken
- Create project (examples: design and build your own shield, model of a castle, design a dress that a queen would wear, create a skit that would represent the knighting ceremony, etc)

### **Resources:**

- Journals
- Reports
- Computer
- Several art materials needed to build replicas

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Quest Grade 1      Primary Education Thinking Skills (P.E.T.S.)	
<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Introduce problem-solving strategies and activities that are challenging and differentiated for every learner</li> <li>• Engage learners in high order thinking processes, including; brainstorming, critical analysis, and evaluative decision-making activities</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• Problems can be solved in a variety of ways.</li> <li>• Working with others can provide more ideas than when working alone.</li> <li>• Everyone has unique strengths.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• How do we solve a problem?</li> <li>• What strategies can we use to solve a problem?</li> <li>• How can working together help solve problems?</li> <li>• Is there more than one way to solve a problem?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• How to use the problem solving strategies of each thinker (listed above)</li> <li>• Creative brainstorming</li> <li>• Critical analysis</li> <li>• Evaluative decision-making</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>• Use clues to find one and only one right answer</li> <li>• Brainstorm to find many answers</li> <li>• Examine smaller parts of a whole</li> <li>• Use imagination to weave wonderful stories</li> <li>• Look for one solution that works</li> </ul>
<b>CCCS:</b>  9.1.A, 9.1.B, 9.1.C 5.1.A, 5.1.B, 5.1.C, 5.1.D	
<b>Stage 2-Assessment Evidence</b>	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Group problem solving</li> <li>• Critical thinking tasks</li> <li>• Creative solutions activities</li> </ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"> <li>• Written and verbal solutions to problems</li> <li>• Teacher observation</li> </ul>

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<b>Stage 3- Learning Plan</b>
<p data-bbox="235 262 495 304"><b>Learning Activities</b></p> <p data-bbox="235 336 446 378"><b><u>Units of Study-</u></b></p> <ul data-bbox="284 367 1039 556" style="list-style-type: none"><li>• Dudley the Detective (Convergent/Deductive Thinking)</li><li>• Isabel the Inventor (Divergent/Inventive Thinking)</li><li>• Sybil the Scientist- (Convergent/Analytical Thinking)</li><li>• Max the Magician- (Visual/Spatial Perception)</li><li>• Jordan the Judge- (Evaluative Thinking)</li></ul> <p data-bbox="235 661 381 703"><b>Resources:</b></p> <ul data-bbox="284 735 909 777" style="list-style-type: none"><li>• Primary Education Thinking Skills (P.E.T.S.)</li></ul>

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Quest Grade 2      Primary Education Thinking Skills (P.E.T.S.)	
<b>Stage 1-Desired Results</b>	
<b>Goals:</b> <ul style="list-style-type: none"> <li>• Continue to explore lessons that develop critical thinking skills</li> <li>• Utilize higher-level problem-solving strategies</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• Problems can be solved in a variety of ways.</li> <li>• Working with others can provide more ideas than when working alone.</li> <li>• Everyone has unique strengths.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• How do we solve a problem?</li> <li>• How can working together help solve problems?</li> <li>• What strategies can be used to solve puzzles?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• How to use the problem solving strategies of each thinker</li> <li>• Creative brainstorming</li> <li>• Critical analysis</li> <li>• Evaluative decision-making</li> <li>• Observing</li> <li>• Logical thinking</li> <li>• Problem-Solving</li> <li>• Collecting and Interpreting Data</li> <li>• Sorting and Classifying</li> <li>• Articulating Patterns</li> <li>• Collecting and Interpreting Data</li> </ul>	<b>Skills</b> Students will be able to solve... <ul style="list-style-type: none"> <li>• Logic elimination puzzles</li> <li>• Visual synthesis creations</li> <li>• Scamperations</li> <li>• Tangrams</li> <li>• Problem-solving matrices</li> </ul>
<b>CCCS:</b>  9.1.A, 9.1.B, 9.1.C 5.1.A, 5.1.B, 5.1.C, 5.1.D	
<b>Stage 2-Assessment Evidence</b>	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Group problem solving</li> <li>• Critical thinking tasks</li> <li>• Creative solutions activities</li> </ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"> <li>• Written and verbal solutions to problems</li> <li>• Teacher observation</li> </ul>

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**Stage 3- Learning Plan**

**Learning Activities**

**Units of Study-**

- Dudley the Detective (Convergent/Deductive Thinking)
- Isabel the Inventor (Divergent/Inventive Thinking)
- Sybil the Scientist- (Convergent/Analytical Thinking)
- Max the Magician- (Visual/Spatial Perception)
- Jordan the Judge- (Evaluative Thinking)
- Frog Math: Predict, Ponder, Play

**Resources:**

- Primary Education Thinking Skills (P.E.T.S.)
- Frog Math: Predict, Ponder, Play (Lawrence Hall of Science)

Quest

Grade 4

## Product Packaging

Project #1

### Stage 1-Desired Results

#### Goals

- Test different brands of the same product (student choice) to find out which one is better when being compared.

#### Understandings

- The students will use this information to find out which product is the best value for the consumer's dollar.

#### Knowledge

Students will know...

- Awareness of testing products with different brand names.
- Measurements of effectiveness
- How to display data in different forms
- The importance of a consumers dollar

#### Essential Questions

- How many brands of your product will you be testing?
- What instruments or tools will you be using to test the effectiveness of the product.
- How will you decide which product is better than the other one.

#### Skills

Students will be able to ...

- Select and use the appropriate tools to measure the effectiveness of specific products.
- Record their results
- Analyze results
- Create a report and chart/table to explain results
- Share results

#### CCCS:

9.4.A.1  
9.4.A.2  
9.4.A.3  
9.4.A.4  
9.4.A.5  
K.4.9.1.4.A  
K.4.9.1.4.B  
K.4.9.1.4.C  
K.4.9.1.4.D  
K.4.9.1.4.E  
K.4.9.1.4.F  
LA.4.CCSS.ELA-  
Literacy.CCRA.W.10  
LA.4.CCSS.ELA-  
Literacy.CCRA.SL1-

\*Science  
standards to be  
added

Quest

Grade 4

## Product Packaging

Project #1

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Make predictions
- Determine best method to test product effectiveness
- Conduct their experiment
- Draw conclusions based on results
- Explain and illustrate their findings

#### Other Evidence:

- Student kept records
- Teacher observation
- Tables, graphs, charts
- Dialogue
- Student journals
- Written report

### Stage 3- Learning Plan

#### Learning Activities:

- Predict
- Form a hypothesis
- Brainstorm and discuss ways of testing effectiveness for a product
- Conduct the tests needed to determine the effectiveness of the product
- Record and analyze the results
- Form conclusions
- Written report
- Tables and graphs using Microsoft Excel
- Share and display results

#### Resources:

- Different measurement tools
- Different products to test
- Computer
- Journals
- Reports

## Roller Coasters

### Stage 1-Desired Results

#### Goals

Students will be able build their own small-scale model roller coasters using pipe insulation and marbles.

#### Understandings

- In order to build working roller coasters, students must recognize the constraints placed on their designs and the design of real roller coasters by the fundamental laws of physics. Students learn that their ability to understand and work within these constraints is paramount to the success of their roller coasters.

#### Knowledge

Students will know...

- The top of the first hill must be the highest point on the roller coaster.
- Cars move fastest at the bottoms of hills and slowest at the tops of hills.
- Friction converts useful energy into heat and must be minimized.
- G-forces greater than 1 occur at the bottoms of hills.
- G-forces less than 1 occur at the tops of hills.
- To avoid falling, cars must have a certain velocity at the tops of loops

#### Essential Questions

- Why it is important for engineers to understand how roller coasters work?
- In physics terms, how do your model roller coasters work?
- How do you consider friction and gravity when developing your roller coaster?
- How can you use the principle of conservation of energy to explain the design and layout of roller coasters?
- Can you determine in a roller coaster track at which a car has maximum kinetic and potential energy?

#### Skills

Students will be able to ...

- Draw a sketch of their roller coasters
- Experiment with Forces and Motions
- Test their knowledge
- Using the computer, design a "test" roller coaster
- Construct a roller coaster based upon the research conducted

#### CCCS:

- 9.4.A.1
- 9.4.A.2
- 9.4.A.3
- 9.4.A.4
- 9.4.A.5

## Roller Coasters

K.4.9.1.4.A

K.4.9.1.4.B

K.4.9.1.4.C

K.4.9.1.4.D

K.4.9.1.4.E

K.4.9.1.4.F

LA.4.CCSS.ELA-  
Literacy.CCRA.W.10

LA.4.CCSS.ELA-  
Literacy.CCRA.SL1-

\*Science standards to be  
added

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Research roller coaster history
- Record information found on chosen topic
- Explore Forces and Motion as they complete 2 different experiments
- Test their knowledge as they are allowed on 2 different websites that allows them to build their own roller coasters digitally
- Design and build roller coasters

#### Other Evidence:

- Student kept records
- Teacher observation
- Dialogue
- Student journals
- Written report
- Presentation

### Stage 3- Learning Plan

#### Learning Activities:

- <http://www.learner.org/interactives/parkphysics/coaster.html>
- [http://www.bbc.co.uk/schools/scienceclips/ages/5\\_6/pushes\\_pulls.shtml](http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml)<http://tlc>
- [http://www.bbc.co.uk/schools/scienceclips/ages/6\\_7/forces\\_movement.shtml](http://www.bbc.co.uk/schools/scienceclips/ages/6_7/forces_movement.shtml)
- <http://tlc.howstuffworks.com/family/roller-coaster3.htm>
- <http://www.learner.org/interactives/parkphysics/coaster.html>
- <http://www.fossweb.com/modulesK-2/BalanceandMotion/activities/rollercoaster.html>

#### Resources:

- Journal
- Computer
- Websites

## Roller Coasters

Quest

Grade 4

## Product Packaging

Project #1

### Stage 1-Desired Results

#### Goals

- Test different brands of paper towels (or product of student choice) to find out which one will absorb the most liquid (or which brand is better).

#### Understandings

- The students will use this information to find out which product is the best value for the consumer's dollar.

#### Essential Questions

- How many brands of your product will you be testing?
- What instruments or tools will you be using to test the effectiveness of the product.
- How will you decide which product is better than the other one.

#### Knowledge

Students will know...

- Awareness of testing products with different brand names.
- Measurements of effectiveness
- How to display data in different forms
- The importance of a consumer's dollar

#### Skills

Students will be able to ...

- Select and use the appropriate tools to measure the effectiveness of specific products.
- Record their results
- Analyze results
- Create a report and chart/table to explain results
- Share results

#### NJCCCS:

4.2 (Geometry and measurement) All students will develop spatial sense and the ability to use geometric properties, relationships, and measurement to model, describe and analyze phenomena.

- 4.2.D.1-4

5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.

- 5.1.A.1-4, 5.1.B.1-2, 5.1.C.1-2

9.1 (Career and Technical Education) All students will develop career awareness and planning, employability skills, and foundational knowledge necessary for success in the workplace.

- 9.1.A.1-2, 9.1.B.1-3

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.1-4, 9.2.E.1-6

Quest

Grade 4

## Product Packaging

Project #1

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Make predictions
- Determine best method to test product effectiveness
- Conduct their experiment
- Draw conclusions based on results
- Explain and illustrate their findings

#### Other Evidence:

- Student kept records
- Teacher observation
- Tables, graphs, charts
- Dialogue
- Student journals
- Written report

### Stage 3- Learning Plan

#### Learning Activities:

- Predict
- Form a hypothesis
- Brainstorm and discuss ways of testing effectiveness for a product
- Conduct the tests needed to determine the effectiveness of the product
- Record and analyze the results
- Form conclusions
- Written report
- Tables and graphs using Microsoft Excel
- Share and display results

#### Resources:

- Different measurement tools
- Different products to test
- Computer
- Journals
- Reports

**Stage 1-Desired Results****Goals**

- Apply anthropology, archaeology, and information about diverse Native American and world cultures.
- Use this information to sort and classify material objects found on a walk, and then make masks from those materials.
- Create stories to explain natural phenomena and learn how ancient peoples used folklore to explain and represent the natural world.
- Make inferences drawn from varying evidence.

**Understandings**

- Students will use this opportunity to learn about broader social-science elements, focus on Native American wisdom, and connect the substantive science to real appreciation for collecting, preserving, and understanding clues to our varied past.
- Students will apply this information to create maps, stories, and masks.

**Essential Questions**

- What is the difference between anthropology and archaeology?
- How will you use the objects found on the nature walk to make a mask?
- What can you learn about a society from artifacts from their time period?
- What will the topic be for your folklore?
- How will you keep track of the excavating items found?
- What will you infer about this society from the items found?

**Knowledge**

Students will know...

- The difference between archaeology and anthropology
- How to make inferences
- How to create stories
- How to understand and interpret a map
- How to use artifacts to explain the past

**Skills**

Students will be able to ...

- Sort and classify material objects found on a walk, then make masks from those materials
- Create masks
- Create a map of an excavation site
- Write a story
- Share inferences with peers

**NJCCCS:**

5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.

- 5.1.A.1-4, 5.1.B.1-2

6.1 (Social Studies Skills) All students will utilize historical thinking, problem solving, and research skills to maximize their understanding of civics, history, geography, and economics.

- 6.1.A.1, 6.1.A.3, 6.1.A.6

3.3 (Speaking) All students will speak in clear, concise, organized language that varies in content and form for different audiences and purposes.

- 3.3.A.1-3, 3.3.B.3, 3.3.B.6, 3.3.D.1-7

Quest

Grade 4

## Investigating Artifacts

Project #2

3.2 (Writing) All students will write in a clear, concise, organized language that varies in content and form for different audiences and purposes.

- 3.2.A.1-11, 3.2.B.1-11, 3.2.C.1-11

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Collect objects on a nature walk
- Create masks using those objects
- Sort and classify objects found in middens
- Create a map for the excavation site
- Write a folklore story
- Make inferences about people who lived in the past

#### Other Evidence:

- Student journals
- Teacher observations
- Students' collections
- Masks
- Maps
- Stories
- Students' discussions

### Stage 3- Learning Plan

#### Learning Activities

- Discuss archaeology, anthropology, and way of life of Native Americans in the past
- Discussion on how objects are used to explain life in the past
- Gather items found in nature and create masks (Native Americans)
- Identify ways to sort and classify objects
- Make a map of excavation site (midden box)
- Discuss ideas for folklore stories.

#### Resources:

- Lawrence Hall of Science (Investigating Artifacts)
- Computer
- Maps

**Stage 1-Desired Results**

**Goals**

- Design a small zoo incorporating factors that include habitat, climate, compatibility, care and up keep of their zoo.
- Draw a map to scale of their zoo.

**Understandings**

- Many different factors must be considered while making a decision.
- Mathematical skills are used in many aspects of life

**Essential Questions**

- What needs to be considered in designing a zoo?
- What animals will you include in your zoo?
- What must you have in your zoo to have all your animals survive?
- How much space is needed for everything in your zoo?
- What will the floor plan be for your zoo?

**Knowledge**

Students will know...

- Animals and their habitats
- Food, equipment, and supplies needed for each animal
- Compatibility of different animals
- Measurement and spatial sense
- Floor plan design
- Draw to scale

**Skills**

Students will be able to ...

- Identify animals that are compatible
- Research animals and their habitats
- Measurement
- Create a floor plan to scale
- Present final product

**NJCCCS:**

5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.

- 5.1.A.1-4, 5.1.B.1-2

5.3 (Mathematical applications) All students will integrate mathematics as a tool for problem solving in science, and as a means of expressing and/or modeling scientific theories.

- 5.3.A.1-3, 5.3.C.1, 5.3.D.1

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.2, 9.2.A.4
- 9.2.C.1, 9.2.C.3, 9.2.C.5

Quest

Grade 4

## Create a Zoo

Project #3

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Research and select their animals for their zoo
- Identify the needs for each animal
- Compare and contrast the layouts for existing zoos
- Design their zoos
- Create the floor plan
- Draw the floor plan to scale

#### Other Evidence:

- Student notebooks
- Teacher observation
- Student explanations for their decisions made
- Floor plans

### Stage 3- Learning Plan

#### Learning Activities

- Research existing zoos
- Research animals including compatibility, needs, food, up keep habitat and climate
- Select amount and type of animals that will make up their zoo
- Share and peer conference ideas
- Design their floor plan
- Discuss and apply measurement in their plan
- Draw their zoo to scale

#### Resources:

- Design Templates
- Computer
- Measurement tools
- Research Materials

**Stage I-Desired Results**

**Goals**

- Research life in Medieval Times
- Recreate components prevalent to that time period.
- Compare and contrast life in the Medieval Times to life now.
- Share their projects.

**Understandings**

- The students will understand what life was like during the Medieval Times.

**Essential Questions**

- When were the Medieval Times?
- What was life like during this time period?
- How is your life the same as/different from life then?

**Knowledge**

Students will know...

- About the various components of life during the Medieval Times, such as castles, monks, foods, knights, dances, clothing, games, etc.

**Skills**

Students will be able to ...

- Research and record information about components of life during the Medieval times
- Determine which parts of this time period they would like to further study
- Create replicas, etc. of their chosen topic
- Share with other students
- Compare and contrast life then to life now

**NJCCCS:**

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.2, 9.2.A.4
- 9.2.C.1, 9.2.C.3, 9.2.C.5

6.1 (Social Studies Skills) All students will utilize historical thinking, problem solving, and research skills to maximize their understanding of civics, history, geography, and economics.

- 6.1.A.1, 6.1.A.3, 6.1.A.6

3.3 (Speaking) All students will speak in clear, concise, organized language that varies in content and form for different audiences and purposes.

- 3.3.A.1-3, 3.3.B.3, 3.3.B.6, 3.3.D.1-7

Quest  
Grade 4  
Project #4

## Medieval Times

### Stage 2- Assessment Evidence

**Performance Tasks:**

- Research the times of the Medieval Times period.
- Record information found on chosen topic
- Create projects specific to topic
- Share with students

**Other Evidence:**

- Students' notes and report (teacher will make into class book)
- Teacher observation
- Students' presentations

### Stage 3- Learning Plan

**Learning Activities**

- Conduct web quest "Life in the Middle Ages"
- Record important information from research
- Write report from notes taken
- Create project (examples: design and build your own shield, model of a castle, design an outfit, create a game, etc.)

**Resources:**

[www.webtech.kennesaw.edu/jcheeks3/middleages.htm](http://www.webtech.kennesaw.edu/jcheeks3/middleages.htm)  
[www.score.rims.k12.ca.us/activity/castle\\_builder/](http://www.score.rims.k12.ca.us/activity/castle_builder/)

## Mystery Festival

Stage 1 – Desired Results	
<b>Established Goals of the Unit:</b> <ul style="list-style-type: none"> <li>• Understand the difference between evidence and inference</li> <li>• Make real world connections with forensic science</li> <li>• Utilize deductive reasoning</li> <li>• Explore the mystery genre through literature</li> <li>• Write mystery stories using appropriate literary devices</li> </ul>	
<b>Understandings:</b> <i>Students will understand that...</i> <ul style="list-style-type: none"> <li>• Inferences are based upon evidence.</li> <li>• Science can be used to uncover evidence.</li> <li>• Mysteries incorporate literary devices unique to the genre.</li> </ul>	<b>Essential Questions:</b> <ul style="list-style-type: none"> <li>• What is the difference between evidence and inference?</li> <li>• How does forensic science utilize physical evidence to solve mysteries?</li> <li>• What literary devices are used in the mystery genre?</li> </ul>
<b>Knowledge:</b> <i>Students will know that...</i> <ul style="list-style-type: none"> <li>• Forensic science techniques for analyzing clues</li> <li>• The literary devices used in the mystery genre</li> </ul>	<b>Do:</b> <i>Students will be able to...</i> <ul style="list-style-type: none"> <li>• Conduct tests to analyze clues</li> <li>• Collect and analyze data</li> <li>• Make inferences</li> <li>• Solve mysteries</li> <li>• Write mysteries</li> <li>• Work collaboratively to solve mysteries</li> </ul>
Stage 2 – Assessment Evidence	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Group activities</li> <li>• Science labs</li> <li>• Reading responses and discussion</li> <li>• Written stories</li> </ul>	<b>Other evidence:</b> <ul style="list-style-type: none"> <li>• Student notebooks</li> <li>• Teacher observations</li> <li>• Student explanations</li> </ul>

**Mystery Festival****5<sup>th</sup> Grade Science Quest Timeline of Events****September**

- Team Building Activities – Students participate in various team-building activities aimed at building cooperation, teamwork, understanding, and respect.

**October/November**

- Critical and Lateral Thinking Puzzles/Games
  - Crossed/Uncrossed
  - Magic Watch
  - “I” Know
  - Johnny Whoops
  - Question Game
  - 9 Magazines
  - Mystery Numbers
  - Critical Thinking Puzzles - Silly Sally Summers, Flip Flop, Trying Triangles, Flipping Pairs, Trapezoid Trap, Coin Moves, Bagel for Five, Slip Sliding, Criss-Crossed.

**December**

- Minute Mysteries – (lateral thinking puzzles) The object is for students to unravel the mystery, based on very limited and somewhat ambiguous clues. Given a scenario, students deduce what has happened by asking question that can only be answered yes, no, maybe, or not relevant. There is no limit to the number of questions that can be asked.

**January****MYSTERY FESTIVAL**

- Observation Activities
  - Sharp Eyes
  - Find the Change
  - Mystery Stories
  - Composite Drawing

**February**

- Footprint Activities
  - Classifying Shoeprints
  - Find that Print
  - Footprint Concentration
  - Footprint Mysteries

**March**

- Scene of the Crime – Students discover the scene of the crime, then look for, and record clues.
- The Story – Background information on the crime and scene are presented. The suspects are introduced, and their alibis heard. This information is used to re-examine the crime scene clues

<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Understand the difference between evidence and inference</li> <li>• Make real world connections with forensic science</li> <li>• Utilize deductive reasoning</li> <li>• Explore the mystery genre through literature</li> <li>• Write mystery stories using appropriate literary devices</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• Inferences are based upon evidence.</li> <li>• Science can be used to uncover evidence.</li> <li>• Mysteries incorporate literary devices unique to the genre.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• What is the difference between evidence and inference?</li> <li>• How does forensic science utilize physical evidence to solve mysteries?</li> <li>• What literary devices are used in the mystery genre?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• Forensic science techniques for analyzing clues</li> <li>• The literary devices used in the mystery genre</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>• Conduct tests to analyze clues</li> <li>• Collect and analyze data</li> <li>• Make inferences</li> <li>• Solve mysteries</li> <li>• Write mysteries</li> <li>• Work collaboratively to solve mysteries</li> </ul>
<b>NJCCCS:</b> 3.2 (Writing) All students will write in clear, concise, organized language that varies in content and form for different audiences and purposes. <ul style="list-style-type: none"> <li>• 3.2 D 1-3</li> </ul> 5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results. <ul style="list-style-type: none"> <li>• 5.1.8A.3</li> </ul> 9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society. <ul style="list-style-type: none"> <li>• 9.2.A.1,2,4</li> <li>• 9.2.C.1-6</li> </ul>	

Stage 2-Assessment Evidence	
<b>Performance Tasks:</b> <ul style="list-style-type: none"><li>• Group activities</li><li>• Science labs</li><li>• Reading responses and discussion</li><li>• Written stories</li></ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"><li>• Student notebooks</li><li>• Teacher observation</li><li>• Student explanations</li></ul>
Stage 3- Learning Plan	
<b>Learning Activities</b> <ul style="list-style-type: none"><li>• Forensic Science Labs, fingerprint, hair, and ink analysis</li><li>• Read and discuss mysteries</li><li>• Write mysteries</li></ul>	
<b>Resources:</b> <ul style="list-style-type: none"><li>• GEMS Mystery Festival</li><li>• Various literature</li></ul>	

Inventions and Innovations  
Grade 6

Stage 1 – Desired Results	
<b>Established Goals of the Unit:</b> The program challenges students to invent solutions to self-identified problems. The program stresses the development of a wide variety of problem solving skills and encourages students to apply these skills to life situations. The students will research and identify a problem that can be solved with an invention or innovation.	
<b>Understandings:</b> <i>Students will understand that...</i>  The ability to recognize a problem and apply critical thinking and problem-solving skills to solve the problem is a lifelong skill that develops over time.	<b>Essential Questions:</b> How are innovations and inventions similar and different? Why are problem-solving skills essential for the future development of products, services, and technologies? How are innovations and inventions developed, tested, and marketed? What are trademarks and patents and how are they acquired?
<b>Knowledge:</b>  Students will know that... <ul style="list-style-type: none"> <li>• Innovators and inventors seek to solve problems using trial and error, critical-thinking skills, and a number of other cognitive skills</li> <li>• Innovation is essential in a progressive society</li> <li>• Technology is a powerful research tool</li> </ul>	<b>Do:</b>  Students will be able to... <ul style="list-style-type: none"> <li>• Collect and analyze data</li> <li>• Keep accurate records in a logbook</li> <li>• Conduct research</li> <li>• Build a working or non-working model</li> <li>• Prepare and deliver a presentation</li> <li>• Market a product</li> <li>• Take surveys</li> <li>• Use technology for research and development</li> <li>• Work collaboratively to solve a problem</li> </ul>
Stage 2 – Assessment Evidence	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Design a plan</li> <li>• Make schematics or diagrams</li> <li>• Build a model (working or otherwise)</li> <li>• Test their model</li> <li>• Keep and maintain a weekly journal</li> <li>• Prepare a short presentation</li> <li>• Present their inventions before a selected panel</li> </ul>	<b>Other evidence:</b>  Student performance and inventions will be evaluated based on: <ul style="list-style-type: none"> <li>• Usefulness</li> <li>• Market demand</li> <li>• Feasibility of the product</li> <li>• Marketability</li> <li>• Function</li> <li>• Potential profitability</li> <li>• Adherence to guidelines</li> <li>• Record keeping</li> <li>• Presentation skills</li> </ul>

## **Inventions and Innovations Grade 6**

The “Inventions and Innovations” program challenges students to invent solutions to self-identified problems. The program stresses the development of a wide variety of problem solving skills and encourages students to apply these skills to life situations. Students will research and report on important innovations and inventions, both past and present. The students will be developing their problem solving skills in science, engineering, and public speaking, while working to design, develop, and market an original innovation or invention.

### **Approximate Timeline:**

#### **Marking Period 1 – Inventions and Innovations background:**

##### **Students will:**

- **Introduce concepts and relevant vocabulary**
- **Learn about the patent and trademark processes through research**
- **Students research, identify, and debate important inventions and innovations throughout time**
- **Students choose an inventor/innovator to study, research, and present to the class**
- **Watch, analyze and discuss selected and screened clips of “Shark Tank”, a television show in which inventors present their ideas to investors**
- **Students create and present a multi-media presentation about their subject of research**

#### **Marking Period 2 - Planning and Research Unit:**

##### **Students will:**

- **Research and identify a problem that can be solved with an invention or innovation (The problem may be a teacher-designated problem or students may self-select))**
- **Conduct research to see if invention exists and is patented, etc.**
- **Conduct student surveys to assess demand for the product**
- **Students begin to implement plan for project completion**

#### **Marking Period 3 - Implement plan / Build Models / Prepare Presentations/ Present Projects**

##### **Students will:**

- **Design a plan**
- **Make schematics or diagrams**
- **Build models (working or otherwise)**
- **Test models**
- **Keep and maintain weekly journals**
- **Students will prepare a short presentation**

Stage 1-Desired Results	
<b>Goals</b> <ul style="list-style-type: none"><li>• Simulate the colonization of Mars</li><li>• Research conditions on Mars</li><li>• Create a solution to the specific biological or social problem assigned to them for the Martian Colony</li><li>• Collaborate with peers from other schools to create a habitat</li><li>• Communicate to peers from other schools via technology</li><li>• Physically create a habitat</li></ul>	
<b>Understandings</b> <ul style="list-style-type: none"><li>• Scientific technologies can be used to study that which we cannot directly touch.</li><li>• There are multiple ways to solve a problem.</li><li>• Working with others can provide more ideas than when working alone.</li><li>• Everyone has unique strengths</li></ul>	<b>Essential Questions</b> <ul style="list-style-type: none"><li>• Can life be sustained on Mars?</li><li>• How do you work with peers in different locations to solve biological and social problems?</li><li>• How do we study space?</li></ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"><li>• Factual information about Mars</li><li>• Factual information about space technology</li></ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"><li>• Collect and analyze data</li><li>• Make inferences</li><li>• Communicate with others</li><li>• Share findings</li><li>• Work collaboratively to solve problems</li><li>• Build a habitat</li></ul>
<b>NJCCCS:</b>  5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results. <ul style="list-style-type: none"><li>• 5.1.8A.3</li></ul>	

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.1,2,4
- 9.2.C.1-6

**Stage 2-Assessment Evidence**

**Performance Tasks:**

- Group activities
- Science labs
- Reading responses and discussion

**Other Evidence:**

- Student notebooks
- Teacher observation
- Student explanations
- Communication Logs

**Stage 3- Learning Plan**

**Learning Activities**

- Group activities and labs
- Complete Marsville activity sequence
- Communicate with sister schools
- Build habitat

**Resources:**

- Marsville Curriculum from the National Talent Network
- Various texts
- Websites

## Green Challenge

<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>Students will use science inquiry and integrated activities to solve real-world environmental problems using alternative energy sources</li> <li>Students will design experiments and collect data</li> <li>Students will understand the difference between evidence and inference</li> <li>Students will utilize deductive reasoning and problem-solving</li> <li>Students will construct proposals that outline solutions for environmental problems that have resulted from the overuse of fossil fuels</li> <li>Students will explore careers in alternative energy</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>Inferences are based upon evidence.</li> <li>Science can be used to uncover evidence.</li> <li>Importance of team work in conducting investigations.</li> <li>Systematic process to evaluate proposed solutions</li> </ul>	<b>Essential Questions</b> <ol style="list-style-type: none"> <li>What energy issues does the world currently face?</li> <li>What are some alternative energy sources to replace those currently in use?</li> <li>Which alternative energy sources are the most effective?</li> </ol>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>The engineering foundation of design using science concepts to solve a task/problem.</li> <li>The methods of science investigation.</li> <li>Teamwork and cooperative learning strategies.</li> <li>Scientific techniques for analyzing data, testing, revision and redesign of projects based on measurable outcomes.</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>Conduct tests</li> <li>Collect and analyze data</li> <li>Make inferences</li> <li>Work collaboratively to propose solutions</li> <li>Evaluate solutions</li> <li>Implement problem-solving strategies</li> </ul>
<b>NJCCCS:</b> 5.1.8.A. 1-3  5.1.8.B. 1-4  5.1.8.C. 1-3  5.1.8.D. 1-3  5.4.8.G. 1-2	<b>21<sup>st</sup> Century Life and Career Standards</b> 9.1.A-F

## Green Challenge

### “Green Challenge”

Students will be encouraged to think critically about climate change and to collaborate on devising solutions. Students will learn about climate change within a systems framework, examining interconnections among environmental, social and economic issues.

#### Unit 1

- Students will be introduced to the basic phenomena related to climate change including the carbon cycle, the Greenhouse Effect, fossil fuels and renewable energy systems.
- Using *K’Nex Education Renewable Energy Kits* students will compare and contrast the power and efficiency that can be realized from wind, solar and water powered machines. Students generate electricity to operate models as they experiment with renewable energy systems. Groups of students will work simultaneously on projects of real-world significance as they learn about issues and concepts that will impact our future.

**(6 Class periods/weeks)**

#### Unit 2

- Students will use “Using STEM to investigate issues in Alternative Energy” resources and “Environmental Situation Cards” to consider a variety of environmental topics including global warming, air and water pollution, alternative energy sources, conservation, recycling and landfills, endangered species, green gardening, composting and hazardous waste and related current events, their role in the problem and suggest ideas for improving the situation as they examine each issue.
- Students will prepare a professional presentation outlining their viewpoint on climate change backed up by research and data collected during their experimentation of alternative fuel sources.

**(2 class periods/weeks)**

#### Unit 3

- Community members working in green careers will be invited to speak to students about opportunities that exist in their field and the course of study required to enter the field.

**(2 class periods/weeks)**

<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Learn how to plan for long-term solutions in the green building industry and other related green technologies that promote a healthier way of life</li> <li>• Learn about sustainability, and how integrated design and conscientious planning allow for systems to work together maximizing efficiency</li> <li>• Bridge connections between students and green professionals</li> <li>• Conduct Action Research</li> <li>• Create and Implement an Action Plan</li> <li>• Promote higher order thinking skills and enhance student involvement and knowledge in Science, Technology, Engineering, and Mathematics...STEM Education</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• Green technologies promote a healthier way of life.</li> <li>• Small changes can make a big difference.</li> <li>• Everyone has a part in environmental problems and solutions</li> <li>• There are varying opinions regarding green technologies</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• What are Green technologies?</li> <li>• What implications does “going green” have on society?</li> <li>• How do you conduct action research?</li> <li>• How do you create an action plan?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• Ecology facts</li> <li>• Environmentally friendly alternatives</li> <li>• Parts of an Action Plan</li> <li>• Local environmental resources</li> </ul>	<b>Skills</b> Students will ... <ul style="list-style-type: none"> <li>• Keep journals</li> <li>• Write essays and letters</li> <li>• Collaborate with other students and green professionals</li> <li>• Conduct research</li> <li>• Develop action plans that result in sustainable changes in their school, home and community</li> </ul>
<b>NJCCCS:</b>  5.1 (Scientific Processes) All students will develop problem-solving, decision making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results. <ul style="list-style-type: none"> <li>• 5.1.8A.3</li> </ul>	

5.4 Earth Systems Science-Earth operates as a set of complex, dynamic, and interconnected part of the all-encompassing system of the universe.

- 5.4.8 G2

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.1,2,4
- 9.2.C.1-6
- 9.2 D 1,3,4

### Stage 2-Assessment Evidence

#### Performance Tasks:

- Group activities
- Science labs
- Reading responses and discussion
- Conduct Research
- Action Plans

#### Other Evidence:

- Student journals
- Teacher observation
- Student explanations
- Communication Logs
- Written essays and letters
- Action Plans

### Stage 3- Learning Plan

#### Learning Activities

- Group activities and labs
- Visit to local environmental agency
- Guest speakers
- Action research
- Reading and discussing articles

#### Resources:

- Green challenge Curriculum from the National Talent Network
- Various texts
- Articles
- Local environmental agencies and professionals
- Websites

### Junk Box Challenge

Stage 1-Desired Results	
<b>Goals</b> <ul style="list-style-type: none"> <li>Use science, mathematics, and technology concepts and principles by applying them to the engineering design process.</li> <li>Gather data, collect and organize data, draw conclusions, and then apply understandings to new situations.</li> <li>Recognize the need to design, test, redesign, and then implement solutions (engineering process).</li> <li>Use initiative and self-motivation to set agendas, develop and gain self-confidence, and work within time specified time frames.</li> <li>To apply rational and logical thought processes of science, mathematics, and engineering design to innovation and invention.</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>Methods of investigation</li> <li>Importance of the ability to work in teams to conduct investigations</li> <li>Applied problem solving abilities to conduct investigations (engineering foundation of design)</li> <li>Systematic process to evaluate design solutions</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>What are the steps involved in the engineering process?</li> <li>How does the collaboration of scientists impact the final outcome of a solution?</li> <li>Why is it important to take into account relevant scientific, mathematical and technological concepts to ensure a successful solution to a task?</li> <li>What data and tests should be conducted and analyzed to identify the best design solution?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>The engineering foundation of design using science concepts to solve a task/problem</li> <li>The methods of science investigation</li> <li>Teamwork and cooperative learning strategies</li> <li>Scientific techniques for analyzing data, testing, revision and redesign of projects based on measurable outcomes</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>Design and redesign building plans</li> <li>Conduct tests</li> <li>Collect and analyze data</li> <li>Make inferences</li> <li>Work collaboratively</li> <li>Evaluate solutions</li> <li>Implement problem-solving strategies</li> </ul>
<b>NJCCCS:</b> 9.1 A                      9.4.B(2) 9.1 B                      9.4.O (1) 9.1 C                      9.4.O (2) 9.4A(4) 9.4.B(1)	

Stage 2-Assessment Evidence	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>Group activities</li> <li>Science labs</li> <li>Reading responses and discussions</li> <li></li> </ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"> <li>Student notebooks</li> <li>Teacher observations</li> <li>Student explanations</li> </ul>
<b>Stage 3- Learning Plan</b> <b>Learning Activities</b> <ul style="list-style-type: none"> <li>Design challenge activities</li> <li>STEM activities</li> <li>Science Olympiad building events</li> </ul>	
<b>Resources:</b> <ul style="list-style-type: none"> <li>STEM kits</li> <li>Science Olympiad manual</li> <li>Discovery education</li> <li>Teacher Geek web-site</li> </ul>	

**Stage 1-Desired Results****Goals**

- Learn the role of representatives in Congress
- Learn the use of parliamentary procedure and nurture debating ability
- Learn research skills and the process of examining more than one point of view
- Understand role as a citizen in a representative government
- Develop the skills of communication by speaking and writing
- Develop self-confidence, self-awareness, and leadership skills
- Learn non-violent ways of resolving conflicting views

**Understandings**

- There are varying points of view.
- There are non-violent ways of resolving conflicting views.
- Citizens are the heart of a democratic government.

**Essential Questions**

- What is the role of citizens in a democratic government?
- How are laws created?
- How does one debate a point of view?

**Knowledge**

Students will know...

- Role of representatives in Congress
- Parliamentary procedure
- How laws are created

**Skills**

Students will ...

- Keep journals
- Research current events
- Collaborate with other students
- Write bills
- Debate
- Examine multiple points of view
- Participate in a simulated congress

**NJCCCS:**

6.2 (Civics) All students will know, understand and appreciate the values and principles of American democracy and the rights, responsibilities, and roles of a citizen in the nation and the world.

- 6.2A 1-6
- 6.2B. 2
- 6.2.D 1,2

9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society.

- 9.2.A.1,2,4
- 9.2.C.1-6
- 9.2 D 1,3,4

Stage 2-Assessment Evidence	
<b>Performance Tasks:</b> <ul style="list-style-type: none"><li>• Group activities</li><li>• Debate</li><li>• Reading responses and discussion</li><li>• Conduct research</li></ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"><li>• Teacher observation</li><li>• Research of current events</li><li>• Written bills</li></ul>
Stage 3- Learning Plan	
<b>Learning Activities</b> <ul style="list-style-type: none"><li>• Group activities and labs</li><li>• Writing bills</li><li>• Debate</li><li>• Reading and discussing articles</li><li>• Guest speakers</li><li>• Participation in the Mini-Model Congress</li></ul>	
<b>Resources:</b> <ul style="list-style-type: none"><li>• Mini-Model Congress Curriculum from the National Talent Network</li><li>• Roberts Rules of Order</li><li>• Various texts</li><li>• Articles</li><li>• Local politicians</li><li>• Websites</li></ul>	

## Mini-Model Congress

(From EIRC Manual)

"The EIRC Mini Model Congress helps students in grades six through eight understand the American political, legislative and legal processes. Students are introduced to the need for law, the different levels of government, and citizens' role in government, as well as the basic legislative process. The program requires students to use research and debating skills; to understand parliamentary procedure and use of by-laws (rules and procedures); to write legislative bills; and, at a one-day simulation of Congress, to "adopt" the role of a legislator by debating bills first in a committee and then during a full House or Senate debate. In addition to learning about government and citizenship, students gain self-confidence, are better able to express their ideas, and learn non-violent ways of resolving conflicting issues."

Through objectives for Mini Model Congress students will:

- Understand the process of forming and passing laws,
- Learn the role of representatives in Congress,
- Learn the use of parliamentary procedure,
- Learn research skills and the process of examining more than one point of view,
- Understand their role as a citizen in a representative government,
- Develop the skills of communication through speaking and writing,
- Enhance their debating ability,
- Cultivate self-confidence, self-awareness, and leadership skills,
- Learn non-violent ways of resolving conflicting views.

The Mini Model Congress objectives are met as students learn to research and debate issues in preparation for a one-day Congress simulation. In order to prepare for their roles as "legislators", students will:

- 1) Investigate issues and discuss them from "opposing" points of view. Students learn how to: research issues, collect relevant data, consider many aspects of an issue, develop logical arguments and consider effects of their opinions.
- 2) Write concise (one page) legislative bills which, if voted into law, would regulate an important national issue. Effective bill writing requires a full understanding of an issue, a clear use of language, knowledge of bill structure, and an ability to state an issue concisely.
- 3) Debate legislation. Students begin debating by discussing opposing views of an issue. They extend their debating skills through legislative committee work which requires understanding parliamentary procedure, responding to time constraints, developing a persuasive style, and cooperating with debaters who take the same position on an issue.
- 4) Identify and contact their legislators. Students become aware of their legislative representatives on a state and federal level.

<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Learn the role of representatives in Congress</li> <li>• Learn the use of parliamentary procedure and nurture debating ability</li> <li>• Learn research skills and the process of examining more than one point of view</li> <li>• Understand role as a citizen in a representative government</li> <li>• Develop the skills of communication by speaking and writing</li> <li>• Develop self-confidence, self-awareness, and leadership skills</li> <li>• Learn non-violent ways of resolving conflicting views</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• There are varying points of view.</li> <li>• There are non-violent ways of resolving conflicting views.</li> <li>• Citizens are the heart of a democratic government.</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• What is the role of citizens in a democratic government?</li> <li>• How are laws created?</li> <li>• How does one debate a point of view?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• Role of representatives in Congress</li> <li>• Parliamentary procedure</li> <li>• How laws are created</li> </ul>	<b>Skills</b> Students will ... <ul style="list-style-type: none"> <li>• Keep journals</li> <li>• Research current events</li> <li>• Collaborate with other students</li> <li>• Write bills</li> <li>• Debate</li> <li>• Examine multiple points of view</li> <li>• Participate in a simulated congress</li> </ul>
<b>NJCCCS:</b> 6.2 (Civics) All students will know, understand and appreciate the values and principles of American democracy and the rights, responsibilities, and roles of a citizen in the nation and the world. <ul style="list-style-type: none"> <li>• 6.2A 1-6</li> <li>• 6.2B. 2</li> <li>• 6.2.D 1,2</li> </ul> 9.2 (Consumer, Family, and Life Skills) All students will demonstrate critical life skills in order to be functional members of society. <ul style="list-style-type: none"> <li>• 9.2.A.1,2,4</li> <li>• 9.2.C.1-6</li> <li>• 9.2 D 1,3,4</li> </ul>	

**Stage 2-Assessment Evidence**

**Performance Tasks:**

- Group activities
- Debate
- Reading responses and discussion
- Conduct research

**Other Evidence:**

- Teacher observation
- Research of current events
- Written bills

**Stage 3- Learning Plan**

**Learning Activities**

- Group activities and labs
- Writing bills
- Debate
- Reading and discussing articles
- Guest speakers
- Participation in the Mini-Model Congress

**Resources:**

- Mini-Model Congress Curriculum from the National Talent Network
- Roberts Rules of Order
- Various texts
- Articles
- Local politicians
- Websites

## Junk Box Challenge

<b>Stage 1-Desired Results</b>	
<b>Goals</b> <ul style="list-style-type: none"> <li>• Use science, mathematics, and technology concepts and principles by applying them to the engineering design process.</li> <li>• Gather data, collect and organize data, draw conclusions, and then apply understandings to new situations.</li> <li>• Recognize the need to design, test, redesign, and then implement solutions (engineering process).</li> <li>• Use initiative and self-motivation to set agendas, develop and gain self-confidence, and work within time specified time frames.</li> <li>• To apply rational and logical thought processes of science, mathematics, and engineering design to innovation and invention.</li> </ul>	
<b>Understandings</b> <ul style="list-style-type: none"> <li>• Methods of investigation</li> <li>• Importance of the ability to work in teams to conduct investigations</li> <li>• Applied problem solving abilities to conduct investigations (engineering foundation of design)</li> <li>• Systematic process to evaluate design solutions</li> </ul>	<b>Essential Questions</b> <ul style="list-style-type: none"> <li>• What are the steps involved in the engineering process?</li> <li>• How does the collaboration of scientists impact the final outcome of a solution?</li> <li>• Why is it important to take into account relevant scientific, mathematical and technological concepts to ensure a successful solution to a task?</li> <li>• What data and tests should be conducted and analyzed to identify the best design solution?</li> </ul>
<b>Knowledge</b> Students will know... <ul style="list-style-type: none"> <li>• The engineering foundation of design using science concepts to solve a task/problem</li> <li>• The methods of science investigation</li> <li>• Teamwork and cooperative learning strategies</li> <li>• Scientific techniques for analyzing data, testing, revision and redesign of projects based on measurable outcomes</li> </ul>	<b>Skills</b> Students will be able to ... <ul style="list-style-type: none"> <li>• Design and redesign building plans</li> <li>• Conduct tests</li> <li>• Collect and analyze data</li> <li>• Make inferences</li> <li>• Work collaboratively</li> <li>• Evaluate solutions</li> <li>• Implement problem-solving strategies</li> </ul>
<b>NJCCCS:</b> 9.1 A                      9.4.B(2) 9.1 B                      9.4.O (1) 9.1 C                      9.4.O (2) 9.4A(4) 9.4.B(1)	

<b>Stage 2-Assessment Evidence</b>	
<b>Performance Tasks:</b> <ul style="list-style-type: none"> <li>• Group activities</li> <li>• Science labs</li> <li>• Reading responses and discussions</li> <li>•</li> </ul>	<b>Other Evidence:</b> <ul style="list-style-type: none"> <li>• Student notebooks</li> <li>• Teacher observations</li> <li>• Student explanations</li> </ul>
<b>Stage 3- Learning Plan</b>	
<b>Learning Activities</b> <ul style="list-style-type: none"> <li>• Design challenge activities</li> <li>• STEM activities</li> <li>• Science Olympiad building events</li> </ul>	
<b>Resources:</b> <ul style="list-style-type: none"> <li>• STEM kits</li> <li>• Science Olympiad manual</li> <li>• Discovery education</li> <li>• Teacher Geek web-site</li> </ul>	

# ENGLISH LANGUAGE SERVICE THREE-YEAR PROGRAM PLAN

## SCHOOL YEARS 2017-2020

NEW JERSEY DEPARTMENT OF EDUCATION  
Division of Learning Supports and Specialized Services  
Office of Supplemental Educational Programs  
Bureau of Bilingual/ESL Education  
P.O. Box 500  
Trenton, NJ 08625-0500

Email completed plan to: [ellreports@doe.state.nj.us](mailto:ellreports@doe.state.nj.us)

Save the plan using the following file name format:  
countycode-districtcode-districtname (e.g. 00-0000-sampledistrict.docx)

For a summary of Three Year Plan program review elements, consult:  
<http://www.nj.gov/education/bilingual/policy/ImplementingELLPrograms.pdf>

### District Information

Morris/27  
County Name/Code

Robert Koroski Director of Special Services  
Name and Title of Person Completing

(973) 543-7107  
Telephone Number of Person Completing Plan

rkoroski@mendhamtwp.org  
Email Address

18 West Main St.  
Street Address of District

Mendham Township Schools/3100  
District Name/Code

Robert Koroski Director of Special Services  
Name and Title of Contact Person

(973) 543-7107  
Telephone Number of Contact Person

rkoroski@mendhamtwp.org  
Email Address

Brookside, NJ 07926

City State Zip

**WIDA Screener****Score Report**

Test Date: 11/16/2017

Test Administrator/Scorer: \_\_\_\_\_

**Student Information**

First Name: _____	Last Name: _____
Birthdate: _____	Current Grade: 6 ▼
State ID: _____	School: MTMS
District: _____	State: _____ ▼
Home Language(s): French	

This report provides information about the student's scores on the WIDA Screener. The WIDA Screener is designed to provide a snapshot of an English Language Learner's general English language proficiency. This test is based on the WIDA English Language Development Standards and is used to determine a student's eligibility for English Language services. Please refer to state policy for making decisions about a student's eligibility for English Language services.

Scores are reported as Language Proficiency Levels. Proficiency levels are only reported as whole numbers and the composites are rounded to the nearest PL or half PL.

Language Domain Scores	Proficiency Level
Listening	4
Reading	5
Writing	1
Speaking	3
Composite Scores	Proficiency Level
Oral Language	3.5
Literacy	3
Overall*	3

\*Overall score is calculated only when all four domains have been assessed NA: Not attempted

## ESL/ELL Progress Update

Student Name:

Grade:

Teacher:

<b>4 - Reaching</b> <ul style="list-style-type: none"> <li>• Demonstrates superior understandings</li> <li>• Consistently applies and extends learned concepts and skills independently</li> </ul>	<b>3 – Bridging</b> <ul style="list-style-type: none"> <li>• Demonstrates and applies knowledge and understanding of learned concepts and skills</li> <li>• Completes work accurately and independently</li> </ul>	<b>2 - Expanding</b> <ul style="list-style-type: none"> <li>• Demonstrates partial understandings</li> <li>• Requires some extra time, instruction, assistance and/or practice</li> </ul>	<b>1 - Developing</b> <ul style="list-style-type: none"> <li>• Demonstrates some understandings</li> <li>• Requires an extended amount of time, instruction, assistance and/or practice</li> </ul>
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	1 <sup>st</sup> M.P.	2 <sup>nd</sup> M.P.	3 <sup>rd</sup> M.P.
<b>SPEAKING:</b>			
Vocabulary			
Grammar			
Fluency			
<b>LISTENING:</b>			
Understands Directions			
Social Interaction With Others			
Comprehends Content Area Material			
<b>READING:</b>			
Vocabulary			
Decoding			
Comprehension			
<b>WRITING:</b>			
Content			
Grammar			
Capitalization/Punctuation			
<b>COMMENTS:</b> 1 <sup>st</sup>  2 <sup>nd</sup>  3 <sup>rd</sup>			