Chesterfield Elementary School
Gifted and Talented
2019
Curriculum

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Unit 1: Getting to Know Me

Content Area: Gifted and Talented

Grade Level: K

Unit Summary:

In this unit, students will engage in self-discovery and understand what makes people unique through verbal and written communication *(likes, dislikes, similarities, differences, hobbies, family traditions & values, etc.)*

Recommended Pacing:

3 classes - 45 minutes

State Standards Addressed:

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.SL2. Integrate and evaluate the information presented in diverse media and formats, including visually, quantitatively, and orally.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP12. Work productively in teams while using cultural global competence.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Recognize and appreciate the qualities that make everyone unique.

Meaning

UNDERSTANDINGS

Students will understand that …

- Each person is unique with different interests.
- Accepting the differences in others shapes the way we think and act.

ESSENTIAL QUESTIONS

- What makes everyone (me) unique?

Acquisition

Students will know ….

How to be able to recognize similarities and differences amongst others.

Students will be skilled at ...

Identifying unique qualities about one another.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will create a flag using pictures, words, symbols, etc. that represents themselves. They will verbally and visually present their unique facts on their flag to another student.

OTHER EVIDENCE:

- Completion of the “I’m Special...” book.
- Formal and informal teacher observations

Stage 3 - Learning Plan

- Discussion of the terms “special” and “unique”
- Complete an “I’m Special…” book
- Work with a partner to learn about each other’s special qualities
- Discuss similarities and differences
- Present the facts they learned about one another

Core Materials and Resources:

- “I’m Special…” printable book
- Optional read alouds:
    - “It’s Okay to be Different”, by Todd Parr
    - “What I Like About Me!”, by Allia Nolan
    - “Chrysanthemum”, by Kevin Henkes

- “Not Your Typical Dragon”, by Dan Bar-el

Differentiation:

English Language Learners -

While thinking about unique and special traits, celebrate the differences that this student may bring to the classroom
Allow access to new vocabulary words or concepts in native language to help the student relate the information and build their background knowledge
Option of drawing, writing or speaking
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide English terminology & pictures that correlate
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
While thinking about their unique and special traits, provide students with specific categories to help them categorize their traits (ex., talents, hobbies, things they like/dislike)
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Provide simple written and verbal instructions
Vary instructional pace
Provide preferential seating

Special Education -

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
While thinking about their unique and special traits, provide students with specific categories to help them categorize their traits (ex., talents, hobbies, things they like/dislike)
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information, vocabulary, and key words
Read aloud instructions to the student
Provide visual cues (anchor charts, post-it reminders)
Provide option of drawing, writing our speaking
Provide teacher example or model

Allow extra time if needed

Students At-Risk -

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
While thinking about their unique and special traits, provide students with specific categories to help them categorize their traits (ex., talents, hobbies, things they like/dislike)
Provide extra time
Model expectations
Provide necessary materials
Allow partner work
Provide simple written and verbal instructions
Modify or reduce the number of pages to complete

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. allow them to create their own page in the book)
Help student explore their personal interests and think about how they might relate to the topic

Unit 2: Exploring Our Senses

Content Area: Gifted and Talented

Grade Level: K

Unit Summary:

In this unit, students will identify and explore the five senses *(see, hear, touch, taste, & smell)* and observe how they help us understand the world around us.

Recommended Pacing:

2 classes = 45 minutes each

State Standards Addressed:

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Recognize how the ability to use their five senses can affect their perception of the world around them.

Meaning

UNDERSTANDINGS
Students will understand that …

- The use of all five of our senses helps us better understand our surroundings.
- Removing the ability to use one or more of the five senses can affect how we perceive the world around us.

ESSENTIAL QUESTIONS

- How do my five senses help me identify everyday objects ?
- How does removing one or more of my senses affect my ability to learn more about an object?

Acquisition

Students will know ….

The five senses and how they help us explore the world we live in.

Students will be skilled at …

Identifying the five senses and using them to explore/discover the world around them.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will work with groups to develop a presentation of a ‘Mystery Bag’ item using their knowledge of the five senses and descriptive vocabulary.

OTHER EVIDENCE:

- Completion of the “Mystery Bag” table

- Formal and informal teacher observations
- Individual/group discussions

Stage 3 - Learning Plan

- Identify and describe each of the five senses
- Play a “Five Senses Song” to review the senses and how we use them to learn
- Show picture cards and ask what senses we can use to explore that particular object
- Have students use their senses to explore “mystery bags”
- Complete & discuss a “Mystery Bag” graphic organizer using words and/or pictures to describe the unknown objects inside

Core Materials and Resources:

- “Five Senses Song|Songs for Kids|The Kiboomers”: https://www.youtube.com/watch?v=vXXiyIGqliE
- Possible read alouds:
    - “The Five Senses, by Nuria Roca
    - “The Bear Went Over the Mountain, by Iza Trapani
    - “The Listening Walk”, by Paul Showers
    - “Our Five Senses” by Lisa Trumbauer

Differentiation:

English Language Learners -

Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Preferential seating

504 -

Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace
Allow frequent breaks
Warn students prior to transitioning

Special Education -

Provide the option of drawing, writing, or speaking to convey understanding

Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion
Allow flexible grouping/collaborative group work

Students At-Risk -

Provide extra time
Model expectations
Provide necessary materials
Allow partner work
Provide visual aids
Provide simple written and verbal instructions
Introduce new vocabulary prior to the lesson

Gifted and Talented -

Focus on higher DOK questions and tasks
Use higher-level vocabulary

Unit 3: Ways of Thinking

Content Area: Gifted and Talented

Grade Level: K

Unit Summary:

In this unit, students will engage in divergent thinking, brainstorming, and analyzing objects from various viewpoints. This type of thinking generates diverse responses from students allowing them to understand and appreciate different perspectives.

Recommended Pacing:

3 classes = 45 minutes each

State Standards Addressed:

K.CC.A. Know number names and the count sequence.

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

diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP6. Demonstrate creativity and innovation.

CRP4. Communicate clearly and effectively and with reason.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Utilize their divergent thinking to brainstorm and see ordinary objects in new and unusual ways.

Meaning

UNDERSTANDINGS
Students will understand that …

- Your perception of something can change depending on your perspective.
- Things are not always what they seem.
- Looking at things differently can help you solve problems.

ESSENTIAL QUESTIONS

- How does changing my viewpoint help me interpret the world around me?

Acquisition

Students will know ….

How to brainstorm and see ordinary objects in new and unusual ways.

Students will be skilled at ...

Using various strategies (eliminating, adding, rotating) to brainstorm various ways to analyze ordinary objects around them.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will brainstorm and add details to the same rotated image based on their interpretations

("Rotation Creations").

OTHER EVIDENCE:

- Formal and informal teacher observations
- Completion of "Ten Black Dots" creation sheet
- Completion of "What's in the Clouds?" poster

Stage 3 - Learning Plan

- Discussion of the following terms: imagination, rotate, brainstorm, unique, and creative
- Read a given scenario and have students "imagine" they are looking at clouds
- Students use cotton balls, glue, and construction paper to create the image they see in the clouds
- Read "Ten Black Dots" and have students practice counting, as well as brainstorming using the given images in the book
- Student discussion of various objects that include dots and how many
- Have students brainstorm & create an object that includes a specific number of dots
- Whole-class discussion of strategies we can use to observe various images differently (add/eliminate details or rotate the image)
- Students complete "Rotation Creations" worksheet as a final assessment

Core Materials and Resources:

- "Ten Black Dots" by Donald Crews
- "Primary Education Thinking Skills 2" by Jody Nichols, Margaret Wolfe, Sally Thomson, & Dodie Merritt
- Optional Read Alouds:
    - "Not a Box" by Antoinette Portis

Differentiation:

English Language Learners -

Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Allow flexible grouping
Provide preferential seating

504 -

Provide structure throughout movement activities, but still giving students a chance to move around often
Vary the method of lesson presentation using multi-sensory techniques

Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas

Special Education -

Provide structure throughout movement activities, but still giving students a chance to move around often
Seat student near model (student/teacher)
Limit the number of items required to complete
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Reteach new vocabulary and key words
Provide teacher examples / model

Students At-Risk -

Provide extra time
Model expectations
Provide necessary materials
Allow partner work or flexible grouping
Provide visual aids or video demonstrations to stimulate background knowledge
Introduce new vocabulary prior to the lesson
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. create their own image to manipulate)
Provide student with advanced reading materials
Give student open ended questions
Help students reflect on their own learning

Unit 4: Seasons

Content Area: Gifted and Talented

Grade Level: K

Unit Summary:

In this unit, students will be able to identify and describe the four seasons and how they affect us *(clothing,*

weather, transportation, plants, animals, etc.).

Recommended Pacing:

2-3 classes = 45 minutes

State Standards Addressed:

K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.

K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

8.1.2.B.1. Illustrate and communicate original ideas and stories using multiple digital tools and resources.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Analyze and identify the needs of living things (humans, animals, and plants) for survival during a given season.

Meaning

UNDERSTANDINGS

Students will understand that ...

- The weather drives how living things (humans, animals, and plants) adapt to survive in their environment.

ESSENTIAL QUESTIONS

- How does the weather during each season impact the world around me?

Acquisition

Students will know ….

How the four seasons impact living things.

Students will be skilled at ...

Identifying the characteristics of each of the four seasons and how living things must adapt accordingly.

Stage 2 - Evidence

PERFORMANCE TASK(S):
Students will write and/or draw all of the things they see during a season of their choice. Based on the season they choose, they will select an animal and design and construct a home based on their needs.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Whole-class discussions
- “Pack a Suitcase For….” group activity

Stage 3 - Learning Plan

- Identify/explain the 4 seasons
- Read “Caps, Hats, Socks, and Mittens: A Book About the Four Seasons”
- Whole-class discussion and brainstorm a list of changes that occur when transitioning to each season
- Students independently draw pictures & write a list of what they would pack to prepare for a specific season (based on what they are assigned)
- Students complete a table using words and/or pictures listing things they see in a particular season of choice
- Students will select an animal based on the season they chose & design and create a home for them using Play Doh.
- Students will document their creations using a tablet

Core Materials and Resources:

- “Caps, Hats, Socks, and Mittens: A Book About the Four Seasons” by Louise Borden
- Optional Read Alouds/Videos:
    - https://www.youtube.com/watch?v=WhDJDIviAOg
    - “Snow Rabbit, Spring Rabbit: A Book of Changing Seasons”, by ll Sung Na
- The Four Seasons Online Game: https://www.turtlediary.com/game/seasons.html

Differentiation:

English Language Learners -

Allow access to new vocabulary words or concepts in native language to help the student relate the information and build their background knowledge

Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals (pictures, videos)
Model Think Alouds to increase student comprehension
Provide small group instruction
Preferential seating
Allow extra time
While discussing the different seasons, allow the student to share personal experiences so that they can make connections to the content

504 -

Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace
Allow frequent breaks
Preferential seating

Special Education -

Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders, video, pictures)
Reteach new vocabulary and key words
Allow partner/small group work
Provide sentence starters for discussion

Students At-Risk -

Provide simple written and verbal instructions
Provide extra time
Model expectations
Provide necessary materials
Allow partner work
Reduce or modify the amount of work to complete
Introduce new vocabulary terms prior to the lesson

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. predict weather in other parts of the world)
Offer many choices for students

Provide student with advanced reading materials
Help students reflect on their own learning

Unit 1: Getting to Know Me

Content Area: Gifted and Talented

Grade Level: 1st

Unit Summary:

In this unit, students will engage in self-awareness activities by exploring and identifying their talents, strengths, and interests. Students will be able to apply their unique talents by setting goals aligned to these strengths.

Recommended Pacing:

5-6 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP9. Model integrity, ethical leadership and effective management.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Recognize and apply talents and/or strengths in various scenarios, such as independent or group work and identify areas of interest based on these strengths.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Each person is unique and has different interests and goals for themselves.
- To be successful in life we must have a vision of what we would like to achieve.
- Each person has various abilities and strengths and it is okay for people to be strong in one area but

not in another.
- Various individuals shape the way we think and act.

ESSENTIAL QUESTIONS
- What makes me unique?
- How can I apply my strengths to reach a goal?

Acquisition

Students will know ….

The importance of self-awareness (recognizing likes/dislikes, strengths/weaknesses, talents, interests, etc.) and how it makes them special.

Students will be skilled at ...

- Identifying their unique characteristics.
- Applying their strengths/abilities when working independently or in a group.
- Recognizing personal interests in order to set short-term and/or long-term goals for themselves.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will choose a talent/special skill from the “Look What I Can Do!” page in their books and teach a classmate how to execute that talent/skill. They may draw and/or write a set of instructions in order to create a quick “How To…” manual and teach their classmates.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/group discussions
- “I like…” book

Stage 3 - Learning Plan

- Teacher and students will throw around “Question Cubes” in order to generate conversations and learn a little bit about each other.
- As a class we will discuss the importance of getting to know more about one another.
- Students will complete an “I like...” book that highlights their likes, dislikes, personal life, interests, short-term and/or long-term goals etc.

Core Materials and Resources:

- “I like...” book

- Question Cubes
- Optional Read Alouds:
    - “It’s Okay to be Different”, by Todd Parr
    - “What I Like About Me!”, by Allia Nolan
    - “Chrysanthemum”, by Kevin Henkes
    - “Not Your Typical Dragon”, by Dan Bar-el

Differentiation:

English Language Learners -

Celebrate the diversity that the student will bring to the classroom and put emphasis on the positivity of differences
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Preferential seating
Show student a teacher example of a completed book/manual prior to completing it

504 -

Show student a teacher example of a completed book/“How to…” manual and assist them in breaking it down into smaller steps
Preferential seating
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace
Allow frequent breaks

Special Education -

Show student a teacher example of a completed book/“How to…” manual and assist them in breaking it down into smaller steps
Provide the option of speaking, writing, or drawing
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion
Reduce or modify the number of items required to complete

Students At-Risk -

Show student a teacher example of a completed book/"How to…" manual and assist them in breaking it down into smaller steps
Provide extra time
Model expectations
Provide necessary materials
Allow partner work
Introduce the activity prior to the lesson

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. personal interest project)
Offer many choices for students
Teach students how to reflect on their own learning

Unit 2: Storybook STEAM

Content Area: Gifted and Talented

Grade Level: 1st

Unit Summary:

In this unit, students will understand three important steps in the engineering design process and apply it by trying to find solutions to given scenarios. This will allow the students to build upon skills in reading comprehension, vocabulary, technology, mathematics, science, and engineering.

Recommended Pacing:

7-9 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

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

NJSLSA.R2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

Technology Standards and 21st Century Practices
CRP2. Apply appropriate academic and technical skills.
CRP4. Communicate clearly and effectively and with reason.
CRP6. Demonstrate creativity and innovation.
CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.
CRP12. Work productively in teams while using cultural global competence.
8.2.2.A.1 Define products produced as a result of technology or of nature.
8.2.2.A.4 Choose a product to make and plan the tools and materials needed.
8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Use logical thinking and problem-solving skills when faced with a challenge.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Trying to solve a given problem requires critical thinking.
- It is important to read/listen carefully to important parts of a story.

ESSENTIAL QUESTIONS

- How do I solve a problem?

Acquisition

Students will know ….

- Three main steps in the engineering design process are think, create, and share.
- That sometimes you might have to go back to steps in the design process and try again.
- There can be more than one solution to a problem.
- A sketch, drawing, or model, shows how we would solve a problem.
- The importance of working together.

- That understanding background knowledge on a topic helps us in solving a problem.

Students will be skilled at ...

- Identifying and explaining three steps in the engineering design process.
- Working with a partner(s).
- Identify key details, events, and themes in a story.
- Recognizing flaws/ways to make something better.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will pretend to be toy makers and must design and build a brand new toy. Students must complete the following criteria:
    - Build a prototype of a new toy using materials of their choice
    - Create a poster advertising their toy (e.g. price, reviews, picture, age, slogan, etc.)
    - Present information about their toy and poster

OTHER EVIDENCE:

- Formal and informal teacher observations
- Informal/formal discussions
- Self-reflections
- STEM journals
- 3D models

Stage 3 - Learning Plan

- Students will be introduced to the unit by brainstorming ways on how they solve problems and why they use certain strategies. Teacher will read several scenarios and ask students to identify how other people solved a problem. Teacher will introduce and explain three steps in the engineering design process: think, create, share.
- **Storybook #1**: The teacher will read, *The Three Little* and present the challenge of building a house that the Big Bad Wolf can't blow down. As a class, we will walk through the steps in the design challenge using our STEM journals.
- Teacher will ask how we can solve the problem and introduce the three steps in the engineering design process: think, create, share. As a class, we will complete a STEM journal, identifying flaws in the different houses, what structures and materials would work better, drawing sketches, etc. Students will create a model of their new house using materials of their choice and test it by blowing.
- **Storybook #2:** In groups, students will complete a new design challenge and STEM journal about the book, *Goldilocks and the Three Bears.* Students must think about characters, main events, important details, etc. Students will brainstorm, plan, and share how they would make a sturdier item that Goldilocks broke or destroyed.

Core Materials and Resources:

- STEM journals
- Read alouds:
    - *The Three Little Pigs*
    - *Goldilocks and the Three Bears*

Differentiation:

English Language Learners -

Allow access to new vocabulary words or concepts in native language to help the student relate the information
Assist student in identifying and implementing the steps in the EDP
Retell content information in easier English
Extended time for processing, activities, and assessments
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Assist student in identifying and implementing the steps in the EDP
Preferential seating
Frequent breaks
Flexible grouping
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Assist student in identifying and implementing the steps in the EDP
Modify or reduce the number of items required to complete
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion
Allow extra time

Students At-Risk -

Assist student in identifying and implementing the steps in the EDP
Allow extra time
Model expectations
Provide necessary materials
Allow partner/group work
Introduce new vocabulary prior to the lesson
Provide simple written and verbal instructions

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. explain steps taken to solve a problem)
Allow alternate problem-solving techniques
Teach students how to begin research and give opportunities to research ideas

Unit 3: Magnets

Content Area: Gifted and Talented

Grade Level: 1st

Unit Summary:

In this unit, students will explore the forces of magnets through hands-on learning.

Recommended Pacing:

7-8 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP7. Employ valid and reliable research strategies.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP12. Work productively in teams while using cultural global competence.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…
Use magnets as a tool and demonstrate an understanding of its unique properties.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Magnets are attracted to different types of metals and can vary in strength.
- We can use objects in our environment to make our lives easier.

ESSENTIAL QUESTIONS

- What tools can we use to make our lives easier?

Acquisition

Students will know ….

- Magnets can have varying strengths.
- Magnets are attracted to different types of metals.
- All magnets have a magnetic field around them which can attract objects without touching it.
- Magnets have a north pole and a south pole.
- That magnetize means giving an object the properties of a magnet.

Students will be skilled at ...

- Understanding and identifying the unique properties of magnets.

Stage 2 - Evidence

PERFORMANCE TASK(S):
Using their knowledge of magnets and their properties, students will individually create a “Paper Plate Magnet Maze”. Students must create a maze for a magnet to complete, that includes a start, finish, and several obstacles. Students must demonstrate their understandings of magnets, by creating the maze, and then using to magnets to complete it. On the back of the plate, students must write and/or draw to explain how their magnet maze is able to work.

OTHER EVIDENCE:

- Formal and informal teacher observations

- Individual/class discussions
- Exit Ticket
- Self-reflections
- “Is it Magnetic?” - Bin Predictions
- “Magnets Word Bank”
- “Magnet Scavenger Hunt”
- “Magnet Powered Car” Design Challenge

Stage 3 - Learning Plan

- Teacher will introduce the unit by having students use a magnet to test whether objects inside of a bin are magnetic or not magnetic.
- Students will first make predictions about each of the items and then record their results.
- Students will go on a “Magnet Scavenger Hunt” around the classroom testing additional items and recording what specific items are magnetic or not.
- Teachers and students will discuss their findings and be introduced to and record the following terms and their definitions: attract, repel,magnet, magnetize, magnetic field, north pole, and south pole.
- In groups, students will be introduced to and complete the “Magnet Powered Car” design challenge. Students must create a maze that meets certain criteria, figure out how to make a “magnet powered car”, and have the car complete the maze.
- After completing their paper plate maze, they must respond to an exit ticket that asks them to use their knowledge of magnets and apply it by trying to find a solution to a given scenario.

Core Materials and Resources:

- Magnets
- Prediction Bin
- Optional Read Alouds:
    - “What Makes a Magnet?” by Franklyn M. Branley
    - “Magnet Max” by Monica Lozano Hughes
    - “Magnets Push Magnets Pull” by David A. Adler

Differentiation:

English Language Learners -

Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating
Introduce vocabulary and materials prior to the lesson

504 -

Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace
Preferential seating
Frequent breaks

Special Education -

Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion
Allow extra time
Modify or reduce the number of items required to complete

Students At-Risk -

Vary the method of lesson presentation using multi-sensory techniques
Provide extra time
Model expectations
Provide necessary materials
Allow partner work
Introduce new vocabulary words and materials prior to the lesson

Gifted and Talented -

Focus on higher DOK questions and tasks
Allow independent exploration and research

Unit 4: Changes Over Time - Fossils

Content Area: Gifted and Talented

Grade Level: 1st

Unit Summary:

In this unit, students will explore how Earth has changed over time by using prior knowledge, making predictions, and analyzing fossils. By studying fossils and their surroundings, students can learn about and classify living organisms that are now extinct.

Recommended Pacing:

6-8 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

8.2.2.D.5 Identify how using a tool (such as a bucket or wagon) aids in reducing work.

CRP2. Apply appropriate academic and technical skills.

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP7. Employ valid and reliable research strategies.

CRP12. Work productively in teams while using cultural global competence.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Observe and analyze how things can change over a period of time.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Changes are constantly taking places over periods of time.
- We learn about the past by collecting, recording, and analyzing fossils.
- Different types of living organisms have different needs in order to survive.

ESSENTIAL QUESTIONS

- How can we understand the past?
- How does understanding the past help us understand the present?

Acquisition

Students will know ….

- Fossils are the remains of plants and animals that lived a long time ago.
- That if a species is extinct, it no longer exists.
- Herbivores are animals that only eat plants
- Carnivores are animals that only eat meat
- Omnivores are animals that eat both meat and plants

Students will be skilled at ...

Analyzing and classifying fossils based on their characteristics.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will act as paleontologists and must analyze a new fossil. Students must complete the following:
    - Create a drawing of their unique fossil (e.g. tooth, horn, skull, leg, etc.).
    - Create a dinosaur “mask” based on their fossil and add characteristics to represent what kind of food it eats.
    - Label and explain the reasoning behind its characteristics.
    - Share with a partner.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/class discussions
- “Fossil Dig” graphic organizer

Stage 3 - Learning Plan

- Students will make a prediction about what Earth looked like a long time ago by drawing a picture (e.g. land, water, animals). Students will share their predictions with a partner and justify their reasoning.
- As a class, we will discuss how we know about what life was like a long time ago. Students will be introduced to the terms paleontologist and fossils. Students will write or draw one thing about what they think of when they hear the word “fossils”.
- Students will act as paleontologists and go on a “Fossil Dig” by working in groups and using tools to collect, analyze and record their fossils. Students will record their findings in a “Fossil Dig” journal by drawing a picture of each and using words or sentences to describe each one.
- Once students extract all the fossils, they will classify the fossils into groups. Each group will explain how they classified their fossils and explain their thinking. As a class we will discuss what we are able

to learn by analyzing fossils (diet, teeth, animal, plant, bones).
- Students will learn the terms: herbivore, carnivore, and omnivore and resort their fossils based on their diets.

Core Materials and Resources:

- Dinosaur Template
- Fossil Bins
- https://www.amnh.org/explore/ology/paleontology#all

Differentiation:

English Language Learners -

Allow access to new vocabulary words or concepts in native language to help the student relate the information
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Help student understand the concept of “change over time” by relating it to how they have personally changed since they were born
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace
Preferential seating
Frequent breaks
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas

Special Education -

Help student understand the concept of “change over time” by relating it to how they have personally changed since they were born
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words

Provide sentence starters for discussion
Reduce or modify the number of items required to complete
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Students At-Risk -

Help student understand the concept of “change over time” by relating it to how they have personally changed since they were born
Provide extra time
Model expectations
Provide necessary materials
Allow partner work
Introduce new vocabulary or materials prior to the lesson
Reiterate important points of information

Gifted and Talented -

Focus on higher DOK questions and tasks
Allow independent exploration and research
Provide student with advanced reading materials
Teach students how to reflect on their own learning

Unit 1: Getting to Know Me

Content Area: Gifted and Talented

Grade Level: 2nd

Unit Summary:

In this unit, students will engage in self-awareness activities by exploring and identifying their strengths, weaknesses, and interests through surveys and assessments.

Recommended Pacing:

5-6 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Recognize and apply talents and/or strengths in various scenarios, such as independent or group work and identify areas of interest based on these strengths.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Each person is unique and has different interests and goals for themselves.
- Each person has various abilities and strengths and it is okay for people to be strong in one area but not in another.
- To be successful in life we must have a vision of what we would like to achieve.
- Various individuals shape the way we think and act.

ESSENTIAL QUESTIONS

- What characteristics make me unique?

Acquisition

Students will know ….

The importance of self-awareness (recognizing likes/dislikes, strengths/weaknesses, talents, interests, etc.) and how it makes them unique.

Students will be skilled at ...

- Identifying their unique characteristics.
- Applying their strengths/abilities when working independently or in a group.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will use their “Read All About Me!” graphic organizer to create a digital collage on the iPad (take one fact from each section in order to create collage).

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/group discussions
- “Read All About Me!” Poster

Stage 3 - Learning Plan

- Teacher and students will throw around “Question Cubes” in order to generate conversations and learn a little bit about each other.
- As a class we will discuss the importance of getting to know more about one another.
- Students will complete a “Read All About Me!” poster that highlights their likes, dislikes, personal life, interests, etc.
- Students share their posters through a gallery walk.

Core Materials and Resources:

- Question Cubes
- Optional Read Alouds:
    - “It’s Okay to be Different”, by Todd Parr
    - “What I Like About Me!”, by Allia Nolan
    - “Chrysanthemum”, by Kevin Henkes
    - “Not Your Typical Dragon”, by Dan Bar-el

Differentiation:

English Language Learners -

While thinking about unique and special traits, celebrate the differences that this student may bring to the classroom
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions

Vary instructional pace

Special Education -

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Help student explore their personal interests and think about how they might relate to the topic
Help students reflect on their own learning
Offer many choices for students

Unit 2: Ways of Thinking

Content Area: Gifted and Talented

Grade Level: 2nd

Unit Summary:

In this unit, students will come to understand that not all problems require the same approach and knowing how to tackle certain problems starts by recognizing when to apply convergent and divergent thinking. By solving problems, students will develop an understanding of each type of thinking and then apply what they learned to create their own logic puzzles.

Recommended Pacing:

6-7 weeks

State Standards Addressed:

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Technology Standards and 21st Century Practices

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Apply logic and analytical thinking to solve problems.

Meaning

UNDERSTANDINGS
Students will understand that ...

- There are two types of thinking, convergent and divergent.
- Perseverance is needed to solve problems.
- Not all problems require the same approach.

ESSENTIAL QUESTIONS

- How can I solve a problem?

Acquisition

Students will know ….

How to recognize when to apply convergent and divergent thinking to solve a problem.

Students will be skilled at ...

Thinking critically to solve a problem.

Stage 2 - Evidence

PERFORMANCE TASK(S):

Students will work independently to create their own convergent thinking logic puzzle and divergent thinking image. A class 'book' of everyone's puzzles and images will be made and provided for their peers. Students will then try to solve each other's logic puzzles and analyze their peer's images, recording what they believe it looks like.

OTHER EVIDENCE:

- Group discussions
- Teacher observations
- Convergent Thinking 'book'
- Divergent Thinking 'book'

Stage 3 - Learning Plan

- Teacher will use two teacher-made logic puzzles to explain the difference between convergent and divergent thinking.
- Students will work collaboratively to deepen their understanding of convergent thinking by working to solve the logic puzzles outlined in the teacher-made booklet ('Convergent Thinking').
- Students will work collaboratively to deepen their understanding of divergent thinking by working to solve the logic puzzles outlined in the teacher-made booklet ('Divergent Thinking').

Core Materials and Resources:

- Teacher-made 'Divergent Thinking' student booklet
- Teacher-made ' Convergent Thinking' student booklet
- "Primary Education Thinking Skills 2", by Jody Nichols, Sally Thomson, Margaret Wolfe, and Dodie Merritt
- https://www.prodigygame.com/blog/convergent-divergent-thinking/
- https://www.prodigygame.com/

Differentiation:

English Language Learners -

Break down the directions into small, simple and direct steps
Allow access to new vocabulary words or concepts in native language to help the student relate the information and build their background knowledge
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words

Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Provide teacher model of logic puzzle and divergent thinking image
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Provide structure throughout movement activities, but still giving students a chance to move around often
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Provide teacher model of logic puzzle and divergent thinking image
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Provide structure throughout movement activities, but still giving students a chance to move around often
Repeat major points of information
Break the directions down into small, simple steps
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Provide teacher model of logic puzzle and divergent thinking image
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide structure throughout movement activities, but still giving students a chance to move around often
Provide extra time
Break the directions down into small, simple steps
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Offer many choices for students
Allow independent exploration and research

Learn about alternate ways of thinking
Help students reflect on their own learning
Higher-level application problems

Unit 3: All About Work: Money

Content Area: Gifted and Talented

Grade Level: 2nd

Unit Summary:

In this unit, students will investigate how their earning power affects their ability to satisfy their needs and wants. They will work to establish financial goals in order to increase their savings and learn how to manage their personal finances using checks, deposit slips, and a check register.

Recommended Pacing:

6-7 weeks

State Standards Addressed:

2.NBT.B.7. Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method

Technology Standards and 21st Century Practices

CRP3. Attend to personal health and financial well-being.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Manage their personal finances and establish goals to save money.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Your ability to save money depends on your understanding of a need and a want.
- There are many factors that affect your earning power.

- My values affect how I spend or save money.

ESSENTIAL QUESTIONS

- What role does money play in my life?
- What do I value?

Acquisition

Students will know ….

- How to manage their personal finances and establish financial goals.

Students will be skilled at ...

- Using their understanding of personal banking to manage their finances

Stage 2 - Evidence

PERFORMANCE TASK(S):

Students will pretend that they have a job in the profession they chose to research and participate in a "mock-auction", where they will purchase and make bids on items. Students will need to decide their spendings/savings based on how much money they have in "their" checking accounts due to their "job salary".

OTHER EVIDENCE:

- Individual lesson completions
- Teacher-made student pretest and posttest
- Teacher observations
- Student collaboration
- "Student Checkbooks"
- "My Money Goal" chart
- "Ways to Earn Money" graphic organizer
- Quiz
- "When I Grow Up I Want to Be…" research book

Stage 3 - Learning Plan

- Teacher will introduce the unit by asking students to compare and contrast needs and wants by using a Venn diagram, the different ways you can earn money, and setting goals for your money.
- Unit Lessons: (1) How to write a check (2) How to make a deposit (3) How to record and balance transactions on a check register.
- Lesson vocabulary: void, endorse, balance forward, signature line, credit, check, debit, account number, stub, amount line.

- Students will practice writing checks and balancing a checkbook by participating in a school-wide "Monopoly" game.
- Students will make a list of careers that they think they are interested in for what they want to do when they grow up.
- Students will then complete a circle map about themselves, listing all of the qualities/traits & interests that they have.
- By process of elimination, students will compare their circle map to the list of jobs and see if it fits their personalities.
- Students will choose a job to research and complete a "When I Grow Up I Want to Be…" research book.

Core Materials and Resources:

- Teacher-made lesson materials and assessments
- https://financeintheclassroom.org/downloads/CheckingUnitLessonPlans.pdf

Differentiation:

English Language Learners -

Allow access to new vocabulary words or concepts in native language to help the student relate the information and build their background knowledge *(money, needs, wants)*
Celebrate the diversity that the student will bring to the classroom and put emphasis on the positivity of differences
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use visual aids when necessary (money, debit/credit card, check register/checkbook, online tools,etc.).
Model Think Alouds to increase student comprehension
Small group instruction
Preferential seating
Read quiz to students
Provide opportunity for performance based assessments

504 -

Use visual aids when necessary (money, debit/credit card, check register/checkbook, online tools,etc.).
Help students make personal connections to needs vs. wants
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Use visual aids when necessary (money, debit/credit card, check register/checkbook, online tools,etc.).

Help students make personal connections to needs vs. wants
Allow students to show understanding using an interactive assignment or online game.
Provide students with created templates to allow for “fill-in-the-blank” activities.
Allow students to work on an assignment/project collaboratively with a peer for support.
Chunk material and assignment delivery.
Provide extended time for assignments and tests
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words

Students At-Risk -

Help students make personal connections to needs vs. wants
Use visual aids when necessary (money, debit/credit card, check register/checkbook, online tools,etc.).
Allow students to show understanding using an interactive assignment or online game.
Allow students to work on an assignment/project collaboratively with a peer for support.
Create/provide anchor charts to display lesson vocabulary.
Provide extra time
Model expectations
Provide necessary materials

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent research and exploration
Estimate the total cost of items (production, labor, distribution, etc.)
Peer-led activities
Allow for academic choice

Unit 4: Inventions

Content Area: Gifted and Talented

Grade Level: 2nd

Unit Summary:

Students will explore common household inventions that help make our lives easier. Throughout this unit, students will brainstorm possible solutions to a problem and work to design and create a prototype for their invention.

Recommended Pacing:
8-9 weeks
State Standards Addressed:
RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.
Technology Standards and 21st Century Practices
CRP6. Demonstrate creativity and innovation.
CRP11. Use technology to enhance productivity.
CRP12. Work productively in teams while using cultural global competence.
8.2.2.A.5 Collaborate to design a solution to a problem affecting the community.
8.2.2.C.1 Brainstorm ideas on how to solve a problem or build a product.
8.2.2.A.4 Choose a product to make and plan the tools and materials needed.
8.2.2.C.2 Create a drawing of a product or device that communicates its function to peers and discuss.
8.2.2.C.3 Explain why we need to make new products.
Stage 1 - Desired Results
Transfer
Students will be able to independently use their learning to… Collaborate with others to find a solution to a problem.
Meaning
UNDERSTANDINGS ***Students will understand that ...*** Inventions are products created to help solve a problem.
ESSENTIAL QUESTIONS How can you solve a problem?
Acquisition

Students will know ….

- That an invention is a process, device, or idea that is brand new
- An innovation is an improvement to a process, device, or idea that already exists
- About famous inventors and their contributions
- How inventions have changed over time
- Three steps to the engineering design process: think, create, share

Students will be skilled at ...

Working through the engineering design process to create an invention that solves a problem.

Stage 2 - Evidence

PERFORMANCE TASK(S):

Students will go through the engineering process and collaborate with their peers to

- brainstorm ideas for inventions that will solve a problem
- Create a sketch of the invention
- Build and name their invention
- Share their inventions with their peers

OTHER EVIDENCE:

- “What is an Invention?” activity
- Teacher observations
- Self-reflections
- Student collaboration

Stage 3 - Learning Plan

- Teacher will introduce the unit by reviewing the purpose of an invention and brainstorm what life/tasks would be like without certain common inventions (light bulb, telephone, cell phone, white out, etc.).
- Students will complete the “What is an Invention?” activity, where they will find & read information cards around the room and have to match the inventor with its invention based on each description.
- As a class, students will choose 3 inventions that they want to know more about (e.g. learn Morse code).

Core Materials and Resources:

- ‘ My Invention Booklet’ (teacher-made)
- ‘What is an Invention?’ activity
- https://www.youtube.com/watch?v=ORIDAmGf_yQ
- https://www.youtube.com/watch?v=75okexRzWMk&disable_polymer=true

- https://www.youtube.com/watch?v=Yr88rbWb-7E

Differentiation:

English Language Learners -

Provide teacher model of an “invention”
Allow access to new vocabulary words or concepts in native language to help the student relate the information *(invention, innovation)*
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Allow partner work
Preferential seating

504 -

Help students make a personal connection by thinking about what they wish existed to make their lives easier
Provide teacher model of an “invention”
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Frequent breaks
Vary instructional pace
Allow extended time on activities/projects

Special Education -

Help students make a personal connection by thinking about what they wish existed to make their lives easier
Provide teacher model of an “invention”
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion
Allow extended time on activities/projects

Students At-Risk -

Help students make a personal connection by thinking about what they wish existed to make their lives easier
Provide teacher model of an “invention”
Allow extended time on activities/projects
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Allow opportunities to research famous inventors/inventions
Brainstorm innovations to current inventions
Ask students to reflect on their own learning

Unit 1: Getting to Know Me

Content Area: Gifted and Talented

Grade Level: 3rd

Unit Summary:

In this unit, students will engage in self-awareness activities by exploring and identifying their strengths, weaknesses, and interests through surveys and assessments.

Recommended Pacing:

2-3 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others’ ideas and expressing their own clearly and persuasively.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP10. Plan education and career paths aligned to personal goals.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Recognize and appreciate the characteristics and life experiences that make them unique.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Each person is unique and has different interests and goals for themselves.
- To be successful in life we must have a vision of what we would like to achieve.
- Each person has various abilities and strengths and it is okay for people to be strong in one area but not in another.
- Various individuals shape the way we think and act.

ESSENTIAL QUESTIONS

- What characteristics make me unique?
- What goals can I set based on my interests?
- How can I achieve my goals?

Acquisition

Students will know ….

The importance of self-awareness (recognizing likes/dislikes, strengths/weaknesses, talents, interests, etc.) and how it will help them become successful in life.

Students will be skilled at ...

- Identifying their unique characteristics.
- Applying their strengths/abilities when working independently or in a group.
- Recognizing personal interests in order to set short-term and long-term goals for themselves.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will make a creative representation (drawing, sculpture, poem, cartoon, comic strip, etc.), which highlights or portrays a specific characteristic, talent, event, etc. that is important to them.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Circle Map
- Timeline
- Individual/group discussions
- Self-reflections
- Interest surveys/assessments
- "All About Me" circle map

Stage 3 - Learning Plan

- Students will complete an interest inventory identifying likes, dislikes, strengths, weaknesses, interests, etc.
- Students share their answers collaboratively through group discussions.
- Students will create a circle map and life timeline in order to highlight specific characteristics and events of importance to them.
- Students will participate in various partner discussions sharing important traits/events in their life.
- Students with similarities will be grouped together and discuss goals they want to achieve (both short-term and long-term).
- Students will independently make a creative representation that highlights a specific quality, goal, interest, etc. that describes or depicts them.

Core Materials and Resources:

- Interest Inventories/Assessments
- Question Cubes
- Circle Map
- Life Timeline
- Personality Test - http://www.personalitylab.org
- Optional Read Alouds:
    - "It's Okay to be Different", by Todd Parr
    - "What I Like About Me!", by Allia Nolan
    - "Chrysanthemum", by Kevin Henkes
    - "Not Your Typical Dragon", by Dan Bar-el

Differentiation:

English Language Learners -

When introducing the concept of a timeline/circle, provide several examples in order to practice reading one

and feel more comfortable creating one
Assist student in breaking down their life into major life events
While thinking about unique and special traits, celebrate the differences that this student may bring to the classroom
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Allow students to draw, write or speak to convey understanding
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

When introducing the concept of a timeline/circle map, provide several examples in order to practice reading one and feel more comfortable creating one
Assist student in breaking down their life into major life events
While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

When introducing the concept of a timeline/circle map, provide several examples in order to practice reading one and feel more comfortable creating one
Assist student in breaking down their life into major life events
While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

When introducing the concept of a timeline/circle map, provide several examples in order to practice reading one and feel more comfortable creating one
Assist student in breaking down their life into major life events

While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Help student explore their personal interests and think about how they might relate to the topic
Help students reflect on their own learning
Offer many choices for students

Unit 2: Bridges

Content Area: Gifted and Talented

Grade Level: 3rd

Unit Summary:

In this unit, students will learn about the several bridge types and their characteristics through engineering and research. They will have the opportunity to test and create these various structures while using the engineering design process.

Recommended Pacing:

7-8 weeks

State Standards Addressed:

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP11. Use technology to enhance productivity.

8.2.5.C.4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Identify and understand the purpose of structural design and their unique characteristics.

Meaning

UNDERSTANDINGS
Students will understand that ...

- A bridge is a structure that supports, joins, or connects other parts.
- There are barriers that prevent people from getting from one place to another.
- There are 6 main bridge types: suspension, arch, beam, truss, cantilever, and cable-stayed.
- Each bridge has their own unique characteristics and purpose.
- Live and dead loads affect the structure of a bridge.

ESSENTIAL QUESTIONS

- What is involved in designing a bridge?
- How does the structural design of an object affect its use?

Acquisition

Students will know ….

Various factors affect the structural design of a bridge (location, distance, purpose, etc.).

Students will be skilled at ...

- Identifying and naming the different types of bridges.
- Describing how the various types of bridges affect its use.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will pretend to be architects and make a proposal justifying why a specific bridge type should be built in response to a given scenario. Students will identify the unique characteristics of that bridge and argue why the other bridge types are not suitable.
- Students must complete the following:
    - Create a model of their specific bridge type
    - Create a presentation of their argument (e.g. written, verbally, visually)

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/partner/group discussions
- “Straw Bridge Design Challenge”
- Exit tickets
- Seesaw Application posts
- Self-reflections
- Completion of the “Bridge Book”
- K’Nex bridge
- Whole-class completion of *BrainPOP* Quizzes
- Research responses

Stage 3 - Learning Plan

- Students will be introduced to the unit through a “Straw Bridge Design Challenge”.
- Students will test, observe, and reflect on their straw bridges.
- Students will watch a video and teacher will guide the lesson using PowerPoint, which identifies/explains the 6 main bridge types: arch, beam, suspension, truss, cantilever, and cable-stayed.
- Students will record information in their “Bridge Book” when needed.
- Students will work in groups to record their learned knowledge on the Seesaw Application.
- Students will list the bridges in order of interest to them and be assigned a specific bridge type based on those results.
- Using a Jigsaw format, students will work with a partner(s) to research information about their bridge type and record their findings in their “Bridge Book”.
- Students will build their bridge type using K’Nex and a manual as a guide.
- Students will present both their K’Nex bridge and information to the class.
- Students will complete an exit ticket listing information learned about bridge types other than their own.

Core Materials and Resources:

- https://www.brainpop.com/technology/scienceandindustry/bridges/
- http://www.sciencekids.co.nz/videos/engineering/bridgebuilding.html
- "Bridges" PowerPoint
- K'Nex
- Straws
- Masking Tape
- Cup of 100 pennies
- Stopwatch

Differentiation:

English Language Learners -

Provide student with graphic organizers (or explicitly teach them how to create their own) when conducting research
Allow student to use audiobooks when conducting their research
Clear expectations for each component of research (type of bridge, characteristics, location, etc.)
If accessible, provide student with text in native language to conduct research
While discussing different structures that we see, allow the student to share personal experiences so that they can make connections to the content
Allow access to new vocabulary words or concepts in native language to help the student relate the information
Break instructions down into concrete and direct steps
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Preferential seating

504 -

Allow student to use audiobooks when conducting their research
Clear expectations for each component of research (type of bridge, characteristics, location, etc.)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Use pictures associated with vocabulary to reinforce concept
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Clear expectations for each component of research (type of bridge, characteristics, location, etc.)
Allow student to use audiobooks when conducting their research
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Clear expectations for each component of research (type of bridge, characteristics, location, etc.)
Allow student to use audiobooks when conducting their research
Assist student in delegating roles when working in groups and building
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Discuss STEAM concept behind various bridges/structures
Offer academic choice

Unit 3: Building a Miniature Golf Course

Content Area: Gifted and Talented

Grade Level: 3rd

Unit Summary:

In this unit, students will use their prior and acquired knowledge about shapes, lines, angles, and measurement to explore how they affect the game of miniature golf. Students will apply this knowledge in order to design and build their own miniature golf course.

Recommended Pacing:

9-10 weeks

State Standards Addressed:

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3.G.A Reason with shapes and their attributes.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

8.2.5.C.4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Know that games involve strategy and understand that there are concepts that can affect it.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Games of strategy, such as miniature golf, are appealing to people and require us to think critically

about outcomes.
- Knowledge of geometry can help people to achieve a hole-in-one or the best possible score.
- Several factors can make a course challenging.

ESSENTIAL QUESTIONS

- How is the game of golf affected by different types of angles?
- What factors can make a golf course more challenging?

Acquisition

Students will know ….

The importance of strategy, critical thinking, and understanding the concepts involved in the game of miniature golf.

Students will be skilled at …

- Identifying, describing, and measuring the following types of angles: right, straight, obtuse, acute, supplementary, complementary
- Identifying and describing straight, parallel, and perpendicular lines.
- Identifying, drawing, and measuring the following shapes: circle, triangle (isosceles, right, equilateral), square, rectangle, quadrilateral.
- Using a protractor to measure angles

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will work in groups to complete a STEAM project creating a miniature golf course with various criteria & constraints.
- Upon completion, students will test and present their mini golf course design and later self-reflect in groups.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Angles & Lines Quiz
- “Angles Game - Protractor Golf”
- Individual/class discussions
- Self-reflections
- Exit Ticket
- Seesaw application posts

Stage 3 - Learning Plan

- Students will complete a STEAM chart identifying the concepts, theories, equations, tools, etc. in each category that they believe are implemented in order to design/build a miniature golf course.
- In groups, students will write down what they know about the instructions on how to play miniature golf. Teacher and students will then research the actual instructions and compare.
- Students will be introduced to the different types of lines, angles, and how to measure them through videos and direct instruction.
- Students will work in groups to complete a scavenger hunt locating, identifying, and measuring the different types of angles and lines found in the classroom.
- Students will document their work on the Seesaw Application adding captions, labels, text, etc. to each type of line/angle.
- Students will practice identifying and measuring angles and lines independently by completing the "Angles Game - Protractor Golf" practice.
- Students will take an "Angles & Lines" quiz.

Core Materials and Resources:

- Golf ball and golf club
- Protractor and ruler
- https://www.brainpop.com/math/geometryandmeasurement/angles/
- "Angles Game - Protractor Golf" https://www.sgasd.org/cms/lib/PA01001732/Centricity/Domain/692/Angles%20Game%20Protractor%20Golf.pdf
- Teacher-made lesson materials and assessments

Differentiation:

English Language Learners -

While discussing rules of the game, allow the student to share personal experiences so that they can make connections to the content
Allow access to new vocabulary words or concepts in native language to help the student relate the information
Break instructions down into concrete and direct steps
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Preferential seating

504 -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps

Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Use pictures associated with vocabulary to reinforce concept
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Assist student in delegating roles when working in groups and building
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Discuss STEAM concept behind sports/games
Offer academic choice

Unit 4: Ancient Greece

Content Area: Gifted and Talented

Grade Level: 3rd

Unit Summary:

In this unit, students will explore and learn about the contributions of the Ancient Greeks and how it has impacted our world today. Students will also be able to compare, contrast, and self-reflect by understanding the Ancient Greeks way of life (alphabet, sports, entertainment, beliefs).

Recommended Pacing:

8-9 weeks

State Standards Addressed:

ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP12. Work productively in teams while using cultural global competence.

8.2.5.C.4 Collaborate and brainstorm with peers to solve a problem evaluating all solutions to provide the best results with supporting sketches or models.

Transfer

Students will be able to independently use their learning to…

Understand how past practices, beliefs, events, etc. have developed/changed over time & impacted our world today.

Meaning

UNDERSTANDINGS
Students will understand that ...

- The Ancient Greeks had a rich culture with their own alphabet, customs, and beliefs.
- The Ancient Greeks contributed the following to our modern culture: philosophy, democracy, and the

Olympics.
- Similarities and differences exist among different cultures.

ESSENTIAL QUESTIONS

- What impact do ancient civilizations have on our modern lives?

Acquisition

Students will know ….

The importance of history and how it has impacted our lives today.

Students will be skilled at ...

- Reciting the Greek alphabet
- Comparing and contrasting the Olympics games then vs. now
- Understanding the history of the Olympics
- Identifying and describing the main Greek gods and goddesses
- Identifying and explaining the contributions made by the Ancient Greeks

Stage 2 - Evidence

PERFORMANCE TASK(S):

Students will work in groups in order to create an Ancient Greek wing in a museum. In order to complete the museum the must do the following:

- Students will choose an Olympic game played in Ancient Greece and replicate it by constructing and/or simulating a 3D model. (ALL)

Choice:

- Students can analyze at least *one* contribution of the Ancient Greeks to our modern culture and present them using a tool of their choice.
- Students can create an original story about their own “god” or “goddess”.
- Students can rank the 12 gods/goddesses in order and justify their rankings of importance.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/class discussions
- The Greek alphabet song
- Seesaw Application posts
- Ancient Greece vs. Modern Day Olympics - Venn diagram and table

Stage 3 - Learning Plan

- Students will post on the Seesaw application what they know about Ancient Greece.
- Students will peer review posts and contribute any prior knowledge.

- To enhance student engagement, teacher will introduce the students to the Greek alphabet through song. Students will observe any similarities/differences between the Greek alphabet and English alphabet by trying to write their name in Greek.
- Students will watch a video about the Greek gods and goddesses, posting learned knowledge on the Seesaw Application (peer reviewing posts).
- Teacher will read, “G is for Gold Medal: An Olympics Alphabet” and students will compare and contrast the olympics then vs. now using graphic organizers.
- Students will choose an Ancient Olympic game of choice and create a 3D model.

Core Materials and Resources:

- https://www.brainpop.com/socialstudies/worldhistory/greekgods/
- “Ancient vs. Modern Olympics” graphic organizers
- “History Pockets: Ancient Greece” by Evan-Moor Corp.
- Optional Read Alouds:
    - “G is for Gold Medal: An Olympics Alphabet” by Brad Herzog

Differentiation:

English Language Learners -

Provide student with graphic organizers (or explicitly teach them how to create their own) when conducting research
Allow student to use audiobooks when conducting their research
If accessible, provide student with text in native language to conduct research
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Allow student to gather information from other sources besides text (ex., videos,)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Allow student to gather information from other sources besides text (ex., videos,)
Allow student to use audiobooks when conducting their research
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Allow student to gather information from other sources besides text (ex., videos,)

Allow student to use audiobooks when conducting their research
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Allow student to use audiobooks when conducting their research
Allow student to gather information from other sources besides text (ex., videos,)
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Extended independent research about Ancient Greek contributions
Advanced reading materials
Offer academic choice
Research of other ancient civilizations
Reflect on their own learning

Unit 1: Getting to Know Me

Content Area: Gifted and Talented

Grade Level: 4th

Unit Summary:

In this unit, students will develop self-awareness by exploring their strengths, weaknesses, and learning style(s) through interest surveys and assessments. By understanding their style of learning, they will be able to develop and create new strategies that will meet their learning needs.

Recommended Pacing:

2-3 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP12. Work productively in teams while using cultural global competence.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Recognize and implement strategies that help become better learners according to their specific needs/learning style.

Meaning

UNDERSTANDINGS
Students will understand that ...

- Each person is unique and has different interests and goals for themselves.
- Each person has various abilities and strengths and it is okay for people to be strong in one area, but not in another.
- Various individuals shape the way we act and think.
- Everyone learns differently and should make accommodations based on how they learn best.

ESSENTIAL QUESTIONS

- What strategies will help me, as a learner, based on my learning style results?
- Does my learning style affect my strengths/weaknesses, interests, etc.?

Acquisition

Students will know ….

The importance of self-awareness (recognizing likes/dislikes, strengths/weaknesses, talents, interests, learning style, etc.) and how it will help them become successful in life.

Students will be skilled at ...

Implementing strategies based on their learning style to help them learn best.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Based on their dominant learning strategy, students will develop a new tool to help that kind of learner.
- Independently or in groups, students will present and explain how their tool is beneficial to their learning style using a method of their choice (written, visual, verbal, etc.).

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/class discussions
- Interest survey
- Learning style assessments
- Exit Ticket

Stage 3 - Learning Plan

- Students will take an interest inventory to record information about themselves.
- With a partner, students will share their personal responses to questions.
- As a class, we will discuss similarities/differences amongst one another and students will present a fact learned about their partner.
- (Optional): Students will roll question cubes and respond to the question that it landed on to learn more information about each other.
- Students will take a learning style assessment, tally up their results, and find out what is their primary and secondary learning style.
- As a class, students will create a chart representing the results of the learning style assessment.
- Students with similar primary learning styles will be grouped together and reflect on behaviors they notice about themselves.
- In groups, students will brainstorm strategies that will benefit students with that specific learning style both inside and outside of the classroom.

Core Materials and Resources:

- Interest survey
- “Learning Style Assessment” https://www.slideshare.net/DodsDodong/learning-style-inventory
- https://www.how-to-study.com/learning-style-assessment/
- Personality Test - http://www.personalitylab.org

Differentiation:

English Language Learners -

While thinking about unique and special traits, celebrate the differences that this student may bring to the classroom
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Partner/group work
Provide preferential seating

504 -

Help delegate roles/tasks when thinking of a useful new tool
Assist student in brainstorming learning style strategies by modeling with an example
While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Assist student in brainstorming learning style strategies by modeling with an example
Help delegate roles/tasks when thinking of a useful new tool
While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Assist student in brainstorming learning style strategies by modeling with an example
Help delegate roles/tasks when thinking of a useful new tool
While thinking about their unique and special traits, give students examples of physical traits and assist them with brainstorming
Provide extra time

Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Develop a new learning style strategy not mentioned
Help student explore their personal interests and think about how they might relate to the topic
Help students reflect on their own learning
Offer many choices for students
Independent research and exploration

Unit 2: Mock Trials

Content Area: Gifted and Talented

Grade Level: 4th

Unit Summary:

In this unit, students will learn about and understand the law, justice system, and their rights and responsibilities as active citizens of the United States.

Recommended Pacing:

10-12 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

6.1.4.A.1 Explain how rules and laws created by community, state, and national governments protect the

rights of people, help resolve conflicts, and promote the common good.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

CRP12. Work productively in teams while using cultural global competence.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Understand their rights and responsibilities as a United States citizen and the steps that can be taken to protect them.

UNDERSTANDINGS
Students will understand that ...

- There are two types of court cases: civil and criminal.
- Their rights are governed by the laws already in place.
- Evidence will vary depending on the type of case: beyond a reasonable doubt and preponderance of the evidence.
- Recognizing your rights is an important part of being a citizen of the United States.
- A fair trial relies on a process of advocacy to decide guilt or innocence.

ESSENTIAL QUESTIONS

- How does the justice system protect our rights as United States citizens?

Acquisition

Students will know ….
That the justice system provides all citizens with the opportunity to defend him/herself when they are not fulfilling their civic responsibilities.

Students will be skilled at ...

- Identifying their civic responsibilities
- Identifying the differences between a civil and criminal trial
- Understanding the layout of a courtroom

- Understanding the roles and responsibilities of those involved in a court case/trial.
- Understanding the format of a case that has gone to trial (opening statements, witness testimonies, closing statements, verdict).

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will collaborate to develop and present an original mock trial case following specific guidelines: https://njsbf.org/wp-content/uploads/2019/07/Law-Fair-2019.pdf

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/class discussions
- "Mock Trial Journal"
- Google Document
- Vocabulary graphic organizers

Stage 3 - Learning Plan

- To introduce the unit, students will read a case about the "Three Little Pigs" and have to come to a conclusion about who is guilty or not guilty.
- They will have to choose a side and form groups based on their decision.
- Students will brainstorm questions to ask the opposing side in order to prove he/she is guilty/not guilty.
- Students can use vocabulary graphic organizers to learn new terms such as: court, judge, criminal case, civil case, plaintiff, defendant, attorney, etc.

Core Materials and Resources:

- "Mini-Court: Mock Trial Activities for Grades K-2" sponsored by the New Jersey State Bar Foundation
- "Educational Guide for Trial Jurors" sponsored by the New Jersey State Bar Foundation
- "Law Fair/Law Adventure Judges Checklist"
- "Putting on Mock Trials" by American Bar Association
- https://njsbf.org/wp-content/uploads/2019/07/Law-Fair-2019.pdf

Differentiation:

English Language Learners **-**

Help build background knowledge and make connections by thinking about a school rule that is already put into place and why the rule exists, and why some do not agree with it
Break instructions down into concrete and direct steps
Allow access to new vocabulary words or concepts in native language to help the student relate the

information
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Read and provide several scenarios/examples of mock trial cases
Allow student to gather information from other sources besides text (ex., videos,)
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Read and provide several scenarios/examples of mock trial cases
Allow student to gather information from other sources besides text (ex., videos,)
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Read and provide several scenarios/examples of mock trial cases
Allow student to gather information from other sources besides text (ex., videos,)
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Academic choice
Devise a plan to create and implement school-wide rules

Unit 3: Mystery Escape Room

Content Area: Gifted and Talented

Grade Level: 4th

Unit Summary:

In this unit, students will use the characteristics of a "mystery" to engage in problem-solving skills and utilize those skills to design and construct their own mystery escape room.

Recommended Pacing:

8-9 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Analyze and synthesize information to solve a problem.

Meaning

UNDERSTANDINGS
Students will understand that …

- There are multiple elements to a mystery such as: crime, detective, clues, suspects, motivation, etc.
- Solving a mystery is typically multi-step and involves problem-solving skills

ESSENTIAL QUESTIONS

- How can you solve a mystery?

Acquisition

Students will know ….

The importance of perseverance and using multiple strategies and resources in order to solve a problem.

Students will be skilled at ...

- Explaining the elements of a mystery and/or escape room.
- Developing their own mystery.
- Demonstrating critical thinking skills and perseverance to solve a problem.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will design and construct an escape room incorporating the elements of a mystery.
- In groups, students will create clues, tasks, activities, images, etc. using a method of their choice as part of their escape room.
- Students must include an answer sheet and answer key for others to participate in the escape room.
- Once the escape room is complete, students will identify mystery elements present and reflect as a group.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/group discussions
- “Dr. Seuss Crime”
- Fingerprinting Template

Stage 3 - Learning Plan

- To introduce the unit, students will solve a classroom mystery, “Who Stole Dr. Seuss?”.
- Students will create their own fingerprints and distinguish the different types of fingerprints by analyzing their own.
- Students will classify their fingerprints.
- As a class, students will brainstorm what they already know about the characteristics of a mystery and work as a group to analyze short mystery stories to identify the elements of a mystery.

- Using the Seesaw Application, students will post what they know about escape rooms.
- Students will use already made escape rooms to make observations and identify patterns used in creating one ("Escape the Mummy's Tomb" and "Ice Cream Truck Escape").

Core Materials and Resources:

- Dr. Seuss Fingerprint mystery slideshow
- Fingerprint template
- Pencils and post-its
- "Escape the Mummy's Tomb"
- "Ice Cream Truck Escape" digital escape room

Differentiation:

English Language Learners -

Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Break the directions down into small, simple steps
Flexible grouping/partner work
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information

Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Write their own mystery novel
Independent exploration and research (e.g. forensics)
Offer academic choice
Advanced reading materials

Unit 4: Simple Machines

Content Area: Gifted and Talented

Grade Level: 4th

Unit Summary:

In this unit, students will identify and explore the six simple machines and how they affect work, time, and effort in order to make our lives easier. Students will collaborate to understand how these machines can work together as well to carry out tasks.

Recommended Pacing:

9-10 weeks

State Standards Addressed:

NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are

appropriate to task, purpose, and audience.

NJSLSA.W6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

8.2.5.C.7. Work with peers to redesign an existing product for a different purpose.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Utilize simple machines in order to solve a problem.

Meaning

UNDERSTANDINGS
Students will understand that ...

- There are six simple machines (lever, screw, pulley, wheel & axle, inclined plane, and wedge)
- If two are more simple machines work together it is called a compound machine.
- Simple machines affect work, effort, and force applied to a given object.

ESSENTIAL QUESTIONS

- How do simple machines make our lives easier?

- What machines can we create to solve problems in our lives?

Acquisition

Students will know ….

The importance of simple machines and how they work in order to make our lives easier.

Students will be skilled at ...

- Identifying and describing the 6 simple machines.
- Researching and communicating how simple machines make our lives easier.
- Identifying compound machines.
- Identifying the characteristics of a Rube Goldberg Machine.
- Explaining how simple machines can affect work, force, and effort.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Working together, students will use their expert knowledge and the engineering process, to design and build their Rube Goldberg Machine.
- Students will carry out multiple tests in order to observe changes that must be made.
- Students will complete a self and group reflection.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Individual/class discussions
- Completion of simple machine expert research (jigsaw)

Stage 3 - Learning Plan

- Activate prior knowledge about simple machines and how they are used.
- Teacher will use a Google slideshow to review the simple machines and the key terms associated with them.(force, mechanical advantage, work, effort, etc.)
- Students practice identifying the uses of simple machines through a task card activity and discuss/explain their thinking.
- Using a jigsaw format, students will select a simple machine of their choice and research and record more about it to teach to their peers.
- Teacher will introduce compound machines and the Rube Goldberg Machine and its purpose.
- As a group, students will brainstorm simple tasks that will be accomplished through the creation of their Rube Goldberg Machine.

Core Materials and Resources:

- Rube Goldberg Machine Example: https://www.youtube.com/watch?v=RBOqfLVCDv8
- Simple Machine Pre-Test http://searkscience.pbworks.com/f/simple-machines-pre-test.pdf
- https://www.brainpop.com/search/?keyword=simple+machines
- Possible read alouds:
    - "What Do You Do With An Idea?", by Kobi Yamada
    - "Rosie Revere the Engineer", by Andrea Beaty

Differentiation:

English Language Learners -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction

Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Offer academic choice
Creation of a new simple machine
Reflect on their own learning

Unit 1: Investigating Careers

Content Area: Gifted and Talented

Grade Level: 5th

Unit Summary:

In this unit, students will self reflect to determine their interests and goals to identify, explore, and research a career/occupation of interest. They will then develop a resumé and accompanying cover letter, and utilize their interpersonal skills to participate in a job interview.

Recommended Pacing:

7-8 weeks

State Standards Addressed:

NJSLSA.R7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.

NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP10. Plan education and career paths aligned to personal goals.

8.1.5.A.1. Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.2. Format a document using a word processing application to enhance text and include graphics, symbols and/or pictures.

8.1.5.D.4. Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Analyze their individual goals and interests and use them to research an occupation and use the information obtained to go through a job application process.

Meaning

UNDERSTANDINGS
Students will understand that …

- Each person is unique and has different interests and goals for themselves.
- To be successful in life we must have a vision of what we would like to achieve.
- Each person has various abilities and strengths and it is okay for people to be strong in one area but not in another.

- Career choices will affect various aspects of your life such as schedule, economic security, socialization and happiness.
- Various individuals shape the way we think and act.

ESSENTIAL QUESTIONS

- How is understanding your personal interests and goals guide you to a desired career path?
- What does it mean to be successful?

Acquisition

Students will know ….

The importance of analyzing and researching a career to fulfill all of the requirements of a job application process for a career of their choice.

Students will be skilled at …

- Identifying the characteristics needed to be successful in a career.
- Developing a resumé and cover letter as part of a job application process.
- Responding accurately and coherently to standard job interview questions.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will act as potential employees in order to show their knowledge of the job they have researched.
- Students will complete the following: construct a resumé, cover letter, and “attend” a job interview for their desired career.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections

Stage 3 - Learning Plan

- Students will complete a self reflection task identifying their goals, career interests, etc.
- Students will discuss their reflections collaboratively and distinguish a career interest.
- Students will work to conduct research on their chosen career/occupation.

Core Materials and Resources:

- Personality Test - http://www.personalitylab.org

- Nonfiction career books
- Learning Style: http://www.educationplanner.org/students/self-assessments/learning-styles-quiz.shtml
- NJCAN - Reality Check https://njcis.intocareers.org/realitycheck/RC_Results.aspx
- Learn How to Become.. (Career Plan/Timeline) https://www.learnhowtobecome.org/
- Teacher-made worksheets, PowerPoints, and checklists

Differentiation:

English Language Learners -

Use visual aids when necessary (money, job descriptions, resume, online tools,etc.).
Allow students to show understanding using an interactive assignment or online game.
Allow students to work with a peer that has similar job interests for support.
Create/provide anchor charts to display lesson vocabulary
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Model Think Alouds to increase student comprehension
Provide small group instruction
Preferential seating

504 -

Allow students to show understanding using an interactive assignment or online game.
Provide students with created templates to allow for “fill-in-the-blank” activities (resume, cover letter, research)
Chunk material and assignment delivery
Modify assignments to reduce expectations as needed
Provide extended time for assignments and research
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Allow students to show understanding using an interactive assignment or online game.
Provide students with created templates to allow for “fill-in-the-blank” activities (resume, cover letter, research)
Chunk material and assignment delivery
Modify assignments to reduce expectations as needed

Provide extended time for assignments and research
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Allow students to show understanding using an interactive assignment or online game.
Provide students with created templates to allow for "fill-in-the-blank" activities (resume, cover letter, research)
Chunk material and assignment delivery
Modify assignments to reduce expectations as needed
Provide extended time for assignments and research
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent research and exploration (e.g. income rates, employment opportunities, etc.)
Brainstorm realistic ways to earn money
Advanced reading materials

Unit 2: Design a Carnival

Content Area: Gifted and Talented

Grade Level: 5th

Unit Summary:

In this unit, students utilize their knowledge of basic spatial and measurement concepts, persuasive, and explanatory writing to plan the design of an outdoor school carnival.

Recommended Pacing:

7-8 weeks

State Standards Addressed:

5.NBT.B. Perform operations with multi-digit whole numbers and decimals to hundredths.

NJSLSA.W1. Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

NJSLSA.W5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.

NJSLSA.SL1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.

NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

Technology Standards and 21st Century Practices

CRP6. Demonstrate creativity and innovation.

CRP12. Work productively in teams while using cultural global competence.

8.1.5.A.1. Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.A.2. Format a document using a word processing application to enhance text and include graphics, symbols and/or pictures.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…
Plan and develop scaled models in real-life scenarios.

Meaning

UNDERSTANDINGS
Students will understand that …

- Ratios are used in drawings to represent actual dimensions versus scaled dimensions.

ESSENTIAL QUESTIONS

- How does understanding spatial relationships aid in engineering design?

- What needs to be considered when planning/building?

Acquisition

Students will know ….

The importance of using scaled models in architectural design and how persuasive writing is beneficial in real-world situations.

Students will be skilled at …

- Calculating length, width, area and perimeter.
- Using a scale to create a blueprint design based on calculations of area and perimeter.
- Developing a prototype by following the engineering design process.
- Determining spatial relationships.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students/groups will design a carnival layout and create a scaled blueprint of their design.
- Students/groups will create a game, with step-by-step directions to be included in the carnival.
- Students/groups will either choose one of two options to complete below:
    - write a persuasive school announcement encouraging the school community to attend the carnival.
    - create a brochure advertising their carnival using catchy and concise descriptions of the carnival attractions.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections
- Student presentations

Stage 3 - Learning Plan

- Review area and perimeter.
- Review what it means to draw something to scale using ratios.
- Complete a graphic organizer detailing the length, width, area, and perimeter of the carnival games and entertainment to be used in each student's/group's carnival design.
- Students will research a game of their choice, determine scaled dimensions, and a plan for building.

Core Materials and Resources:

- "Designing a School Carnival" information packet

Differentiation:

English Language Learners -

Relate to personal experiences and activate background knowledge by thinking about/sharing their favorite game
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Limit or modify the number of items required to complete
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Limit or modify the number of items required to complete
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion
Provide use of graphic organizers

Students At-Risk -

Limit or modify the number of items required to complete
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Explanation of how each game works
Offer academic choice
Plan an estimated cost/budget for the carnival
Reflect on their own learning

Unit 3: City in the Cosmos

Content Area: Gifted and Talented

Grade Level: 5th

Unit Summary:

In this unit, students will work collaboratively to learn the answers to questions as they explore the needs for survival on another planet. They will work to understand what it means to discover, explore, and colonize a new world.

Recommended Pacing:

8-12 weeks

State Standards Addressed:

5.MD.C. Understand concepts of volume and relate volume to multiplication and to addition.

5.NBT.B. Perform operations with multi-digit whole numbers and decimals to hundredths.
5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.
5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.
NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.
NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.
NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
Technology Standards and 21st Century Practices
CRP5. Consider the environmental, social and economic impacts of decisions.
CRP6. Demonstrate creativity and innovation.
CRP12. Work productively in teams while using cultural global competence.
8.1.5.A.1. Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.
8.1.5.D.4. Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.
Stage 1 - Desired Results
Transfer
Students will be able to independently use their learning to… Understand the impacts of the environment on human survival.
Meaning
UNDERSTANDINGS ***Students will understand that …***

- In order for humans to survive there are biological life-supporting systems that must be in place and working properly (such as communication, transportation, food production, etc.).
- Communication and collaboration are important successfully solve problems as a team.

ESSENTIAL QUESTIONS

- How does the environment affect the way we live?
- How can humans use teamwork and communication to co-exist and succeed?

Acquisition

Students will know ….

- Teamwork and collaboration and key factors in promoting success in all aspects of one's life.

Students will be skilled at …

- Collaborating to solve a problem as a team with other students.
- Understanding the factors that affect colonization on other planets.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Design, build, and present a model of a life-support system to be used on the planet, Mars.
- Work collaboratively to erect a "habitat bubble" with other students.
- Students will review the requirements listed for the Space Ex project: create bonus cards, riddle posters, team uniforms, 3D models of specific life systems, respond to a "What If" scenario, communicate with students from other districts (email, letters, etc.), construct a habitat bubble, and calculate the weight/waste of a well-balanced meal.
- Students will present all of their work, collaborate and problem-solve with teams in their habitat at Link-Up day to construct their habitat bubbles.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections

Stage 3 - Learning Plan

- Students will record all of the information they know about the planet Mars.
- Students will watch a video about Elon Musk and "SpaceX".
- Students will learn about Mars ABC facts by using a vocabulary flip book (word, definition, picture, Earth facts vs. Mars facts).

Core Materials and Resources:

- Space Ex journal
- Mission Log
- Vocabulary flip book template
- Elon Musk video: https://www.youtube.com/watch?v=FbzegGHkk8c&disable_polymer=true

Differentiation:

English Language Learners -

Assist student in delegating roles when working in groups and building (e.g. habitat bubble, 3D life systems model, etc.)
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Assist student in delegating roles when working in groups and building (e.g. habitat bubble, 3D life systems model, etc.)
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Assist student in delegating roles when working in groups and building (e.g. habitat bubble, 3D life systems model, etc.)
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)

Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Assist student in delegating roles when working in groups and building (e.g. habitat bubble, 3D life systems model, etc.)
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Pick another planet we could live on and justify reasoning
Design alternate 3D model
Current events (e.g. NASA research/studies)
Advanced reading materials

Unit 4: Passion Projects

Content Area: Gifted and Talented

Grade Level: 5th

Unit Summary:

In this unit, students will tap into their interests and talents to research a topic of their choice. Independently, students will create a realistic set of goals/timeline for how they want to map out their learning. After researching, students will design and present their findings using a method of their choice.

Recommended Pacing:

4-6 weeks

State Standards Addressed:

NJSLSA.R10. Read and comprehend complex literary and informational texts independently and proficiently with scaffolding as needed.

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

NJSLSA.SL4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.

NJSLSA.SL5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.

Technology Standards and 21st Century Practices

CRP4. Communicate clearly and effectively and with reason.

CRP6. Demonstrate creativity and innovation.

8.1.5.A.1. Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.1.5.D.4. Understand digital citizenship and demonstrate an understanding of the personal consequences of inappropriate use of technology and social media.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Enhance their understanding of a topic by further exploring it and sharing what they learned using various media and digital displays.

Meaning

UNDERSTANDINGS
Students will understand that …

- People can be passionate about topics that are similar/different to you.
- Through various types of research, you can become more informed about a specific topic.
- There's more than one way to present information.
- They are in charge of their own learning.

ESSENTIAL QUESTIONS

- What do I feel passionate about?
- How can I creatively teach others about an idea/topic?

Acquisition

Students will know ….

The importance of following your dreams and utilizing the resources available to learn more about topics of interest and develop more questions about them to deepen their knowledge.

Students will be skilled at …

- Using digital media to enhance their understanding of a topic/idea.
- Finding ways to creatively teach others about a topic/idea.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will creatively choose a topic of interest to them. They will work to research and later present the information they learned using a method of their choice. (Power Point, 3D model, drawing, performance, etc.).

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections
- Google Documents
- Creative representation

Stage 3 - Learning Plan

- Students will generate a list of topics that they are passionate or want to learn more about.
- Students will share and narrow down their list as a class.
- Students with similar topics will be grouped together or choose to work independently.
- Students will research information about a specific topic and share their findings .
- Students will breakdown their facts into subcategories and decide how they wish to present their information.
- Groups/students will take turns presenting their project in a way that they choose.

Core Materials and Resources:

- Possible read aloud:

- “The Most Magnificent Thing”, by Ashlep Spires

Differentiation:

English Language Learners -

Provide student with graphic organizers while researching to help focus and organize ideas
Assist student in brainstorming by modeling how to list topics of interest and narrow it down
Help students build and expand upon their background knowledge
Allow access to new vocabulary words or concepts in native language to help the student relate the information and build their background knowledge
Flexible grouping/partner work
Break the directions down into small, simple steps
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Provide student with graphic organizers while researching to help focus and organize ideas
Assist student in brainstorming by modeling how to list topics of interest and narrow it down
Flexible grouping/partner work
Break the directions down into small, simple steps
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Frequent breaks
Vary instructional pace

Special Education -

Provide student with graphic organizers while researching to help focus and organize ideas
Assist student in brainstorming by modeling how to list topics of interest and narrow it down
Flexible grouping/partner work
Break the directions down into small, simple steps
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words

Provide sentence starters for discussion

Students At-Risk -

Provide student with graphic organizers while researching to help focus and organize ideas
Assist student in brainstorming by modeling how to list topics of interest and narrow it down
Flexible grouping/partner work
Break the directions down into small, simple steps
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks
Create more than one visual representation of information
Independent exploration and research
Reflect on their own learning
Offer academic choice

Unit 1: The Engineering Design Process

Content Area: Gifted and Talented

Grade Level: 6th

Unit Summary:

In this unit, students will explore, in detail, the steps completed in the engineering design process and apply that knowledge to solve a problem. Students must analyze a given scenario, identifying the criteria and constraints and how that affects their possible solution.

Recommended Pacing:

6-7 weeks

State Standards Addressed:

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

Technology Standards and 21st Century Practices

CRP6. Demonstrate creativity and innovation.

8.2.8.C.4. Identify the steps in the design process that would be used to solve a designated problem.

8.2.8.C.7**.** Collaborate with peers and experts in the field to research and develop a product using the design process, data analysis and trends, and maintain a design log with annotated sketches to record the developmental cycle.

8.2.8.C.8. Develop a proposal for a chosen solution that include models (physical, graphical or mathematical) to communicate the solution to peers.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Use and apply the steps in the engineering design process in order to respond to a given problem.

Meaning

UNDERSTANDINGS
Students will understand that …

- The engineering design process is cyclical.
- Problems may require multiple iterations.
- Given criteria or constraints can affect a possible solution.

ESSENTIAL QUESTIONS

- How do you solve a problem?

Acquisition

Students will know ….

- The engineering design is a process that requires collaboration, analyzing, planning, and testing of ideas to solve a problem.

Students will be skilled at …

- Collaborating with other students to solve a problem.
- Identifying and implementing the steps in the engineering design process.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- Students will be presented with a scenario where a solution to a problem was solved. Students will work as a group to identify and edit the steps of the engineering design process that were or were not implemented successfully.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections

Stage 3 - Learning Plan

- Students are introduced to the engineering design process through a simple design challenge ("Paper Tower Design Challenge").
- As a class, students will list what they did in order to solve the design challenge and work to classify them into steps.
- Teacher will use a Powerpoint as a visual aid to teach/review the six steps in the engineering design process, using the "Paper Tower Design Challenge" as an example.
- Students will be presented with an engineering design challenge using the given materials and assessed using a teacher made rubric.

Core Materials and Resources:

- Teacher PowerPoint/Slideshow.
- Paper Design Challenge instructions

Differentiation:

English Language Learners -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Use high frequency words
Provide concrete examples of vocabulary words through the use of visuals
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Provide students with created templates to allow for “fill-in-the-blank” activities (e.g. what information to include in the steps in the EDP)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Provide students with created templates to allow for “fill-in-the-blank” activities (e.g. what information to include in the steps in the EDP)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Provide students with created templates to allow for “fill-in-the-blank” activities (e.g. what information to include in the steps in the EDP)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. develop a prototype as a solution to a school problem)
Independent exploration and research

Redesign prototypes
Elaboration on steps in the EDP
Advanced reading materials

Unit 2: Roller Coasters

Content Area: Gifted and Talented

Grade Level: 6th

Unit Summary:

In this unit, students will explore how physics affects roller coaster design and construction. Students will become civil engineers to study different types of roller coasters and their history in order to create a brand new roller coaster that's fast, fun, and safe.

Recommended Pacing:

7-8 weeks

State Standards

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

Technology Standards and 21st Century Practices

CRP6. Demonstrate creativity and innovation.

CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

8.2.8.C.4. Identify the steps in the design process that would be used to solve a designated problem.

8.2.8.C.7**.** Collaborate with peers and experts in the field to research and develop a product using the design process, data analysis and trends, and maintain a design log with annotated sketches to record the developmental cycle.

8.2.8.C.8. Develop a proposal for a chosen solution that include models (physical, graphical or mathematical) to communicate the solution to peers.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Understand how different forces affect the motion of objects.

Meaning

UNDERSTANDINGS
Students will understand that …

- The following concepts affect the design, construction, and motion of a roller coaster: potential energy, kinetic energy, friction, force, energy, inertia, gravity, and speed.

ESSENTIAL QUESTIONS

- How do the unseen forces in our environment impact us?

Acquisition

Students will know ….

- That energy cannot be created nor destroyed.

Students will be skilled at …

- Collaborating to solve a problem as a team with other students.
- Understanding the different forces that affect an object.

Stage 2 - Evidence

PERFORMANCE TASK(S):

- In groups, students will act as civil/mechanical engineers and make a proposal for a new roller coaster at an amusement park that is fast, fun, and safe. Students will design, create, test, and explain their prototype using knowledge learned about the factors that affect roller coaster design.
- Students must complete the following:
    - Create a model of their roller coaster (foam pipe insulation, marble, tape, cardboard)
    - Present their proposal using a method of their choice (written, verbal, visual, etc.).

- Extension: Students will research and select a roller coaster cart and seat belt design. They will explain how their cart/seat belt keeps its riders safe and complete a computer-aided design.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections
- Graphic organizers

- Roller Coaster Design Book

Stage 3 - Learning Plan

- Students will complete a S.T.E.A.M. graphic organizer, identifying any concepts, theories, tools, equations, etc. involved in the design and construction of roller coasters.
- Students will then record any questions they have regarding roller coasters and as a class, research and discuss their findings.
- Students will explore the following concepts and how they affect a successful roller coaster run through an online simulator: mass, friction, speed, gravity, initial hill, hills, and loops.
- As a class, we will discuss how they were able to complete a successful roller coaster run and research any concepts they are still unsure of.

Core Materials and Resources:

- Online Roller Coaster Simulator: https://www.funderstanding.com/educators/coaster/
- Graphic organizers
- Types of roller coasters: https://science.howstuffworks.com/engineering/structural/roller-coaster8.htm
- "Design a Roller Coaster" https://www.learner.org/exhibits/parkphysics/coaster/

Differentiation:

English Language Learners -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals (e.g. roller coaster, seatbelt, ride, gravity, etc.)
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Provide students with created templates to allow for "fill-in-the-blank" activities (e.g. what information to include in the steps in the EDP)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques

Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Provide students with created templates to allow for "fill-in-the-blank" activities (e.g. what information to include in the steps in the EDP)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Provide students with created templates to allow for "fill-in-the-blank" activities (e.g. what information to include in the steps in the EDP)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials
Allow partner work

Gifted and Talented -

Focus on higher DOK questions and tasks (e.g. develop an online 3D model of roller coaster)
Create a budget for the cost of roller coaster design and construction
Independent exploration and research
Redesign prototypes
Elaboration on steps in the EDP
Advanced reading materials

Unit 3: Small Business- 'Shark Tank'

Content Area: Gifted and Talented

Grade Level: 6th

Unit Summary:

In this unit, students will work as entrepreneurs to develop and understand the components of a business plan in order to pitch an idea for a product or service, marketing plan and how it will make money. They will investigate marketing, finance costs, and profit to determine the success of their business.

Recommended Pacing:

8-9 weeks

State Standards Addressed:

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

NJSLSA.W8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

Technology Standards and 21st Century Practices

CRP5. Consider the environmental, social and economic impacts of decisions.

CRP11. Use technology to enhance productivity.

9.1.12.A.6. Summarize the financial risks and benefits of entrepreneurship as a career choice.

9.1.8.A.5. Relate how the demand for certain skills determines an individual's earning power.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Understand the needs of consumers and develop a business plan for a product or service that meets those needs.

Meaning

UNDERSTANDINGS
Students will understand that …

- A business plan allows you to plan out various aspects of a business.

- Entrepreneurs need to think about the costs associated with starting a business.

ESSENTIAL QUESTIONS

- What makes my product or service unique and profitable?
- How can entrepreneurs meet the needs of consumers?

Acquisition

Students will know ….

- That a business plan includes the following components: idea, marketing, finances, pricing, and profit.
- Marketing plans include estimates for revenue, expenses, and how to make a profit.
- A pitch is a short presentation of a business idea to potential investors.
- Outsourcing is when you obtain a good or service from an outside supplier or company.
- A contract is an agreement between two people or companies.

Students will be skilled at …

- Collaborating to solve a problem as a team with other students
- Determining how scientific facts are utilized to solve the problem of human colonization on other planets

Stage 2 - Evidence

PERFORMANCE TASK(S):

- In partners or groups, students will act as entrepreneurs and participate in a “Shark Tank Project”.
- Students will complete the following:
    - Create a written business plan for a unique good or service (optional: create outsourcing contract).
    - Create/present a pitch to potential investors (e.g. website, PowerPoint, 3D model, etc.).

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections
- Entrepreneur rubric

Stage 3 - Learning Plan

- Teacher will introduce the unit by showing a brief pitch from the show “Shark Tank”.
- Students will work in groups to discuss their observations of the video: format, language, presentation,product/service, etc.
- As a class, we will discuss what is involved in creating a new business, product, or service and what

makes it successful.

- Teacher will explain the “Shark Tank Project” by having students generate a list of topics they are interested in, along with products/services that they wish existed in order to make their lives easier.
- Students will research the items on their list to see if they already exist or how they can change them to make them different.
- Students will group themselves based on their interests, and brainstorm ideas for a new product/service.

Core Materials and Resources:

- Business Plan Template - Biz Kids: http://bizkids.com/wp/wp-content/uploads/Kids-Business-Plan.pdf

Differentiation:

English Language Learners -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)
Provide concrete examples of vocabulary words through the use of visuals (product, money, business)
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Provide students with created templates to allow for “fill-in-the-blank” activities (business plan, contract)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Provide students with created templates to allow for “fill-in-the-blank” activities (business plan, contract)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps

Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Provide students with created templates to allow for "fill-in-the-blank" activities (business plan, contract)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Design a working model/prototype
Follow stock market
Advanced reading materials

Unit 4: Robotics: Lego Mindstorms

Content Area: Gifted and Talented

Grade Level: 6th

Unit Summary:

In this unit, students will design, build, program, and test robots. Teams will develop creativity and problem-solving skills in order to work together on guided and open-ended engineering projects.

Recommended Pacing:

5-6 weeks

State Standards Addressed:

NJSLSA.W7. Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating an understanding of the subject under investigation.

Technology Standards and 21st Century Practices

8.1.5.A.1. Select and use the appropriate digital tools and resources to accomplish a variety of tasks including solving problems.

8.2.8.D.3. Build a prototype that meets a STEM-based design challenge using science, engineering, and math principles that validate a solution.

Stage 1 - Desired Results

Transfer

Students will be able to independently use their learning to…

Work collaboratively and solve real world problems.

Meaning

UNDERSTANDINGS
Students will understand that …

- There are many ways to look at a problem.
- Collaboration and communication between people is critical when working as a team.
- Robots can be designed and programmed to carry out various tasks to assist humans.

ESSENTIAL QUESTIONS

- How are robots being used to solve problems today?

Acquisition

Students will know ….

- That there are five fundamental parts of a robot: control system, actuators, power supply, sensors, and end effectors.
- The parts of the NXT robot and their functions: NXT Brick, touch, sound, light, and ultrasonic sensors.
- Programming is a series of instructions to control the operation of a robot or machine.

Students will be skilled at …

- Collaborating to solve a problem as a team with other students

- Understanding and explaining the main components of a robot

Stage 2 - Evidence

PERFORMANCE TASK(S):

- After exploring the functions, students will write their own set of instructions for the Lego Mindstorm Robot to complete. Students will write a quick instruction manual on how to put together, operate, and perform the instructions for the robot.

OTHER EVIDENCE:

- Formal and informal teacher observations
- Peer discussions and collaboration
- Self reflections

Stage 3 - Learning Plan

- Teacher will introduce the unit by asking students to list the robots they know of and their purpose.
- Students will research the five fundamental parts of all robots.
- Students will explore the Lego Mindstorms manual, highlighting the main parts and their functions.
- In groups, students will reference the manual in order to put their robots together.
- Once robots are constructed, they will use the guided programs to instruct their robots to complete simple tasks.

Core Materials and Resources:

- www.MINDSTORMSeducation.com
- “LEGO Mindstorms NXT: The Mayan Adventure” by James Floyd Kelly
- “The LEGO Mindstorms NXT Idea Book: design, invent and build” by Boogarts, Daudelin, Davis, Kelly, Levy, Morris, F. Rhodes, R. Rhodes, Scholz, Smith, & Torok
- “The LEGO Mindstorms NXT Zoo!: an unofficial, kid-friendly guide to building robotic animals with LEGO Mindstorms NXT” by Fay Rhodes
- “The Unofficial LEGO Mindstorms NXT Inventor’s Guide” by David J. Perdue

Differentiation:

English Language Learners -

Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Retell content information in easier English
Use simple sentence structure (verb-subject-object)

Provide concrete examples of vocabulary words through the use of visuals (robot, programming, sensors)
Model Think Alouds to increase student comprehension
Provide small group instruction
Provide preferential seating

504 -

Provide students with created templates to allow for “fill-in-the-blank” activities (parts of the robot, what they do)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Vary the method of lesson presentation using multi-sensory techniques
Ask students to repeat/paraphrase context to check understanding
Simplify and repeat instructions
Vary instructional pace

Special Education -

Provide students with created templates to allow for “fill-in-the-blank” activities (parts of the robot, what they do)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Seat student near model (student/teacher)
Seat student near instruction
Repeat major points of information
Provide visual cues (anchor charts, post-it reminders)
Reteach new vocabulary and key words
Provide sentence starters for discussion

Students At-Risk -

Provide students with created templates to allow for “fill-in-the-blank” activities (parts of the robot, what they do)
Assist student in delegating roles when working in groups and building
Flexible grouping/partner work
Break the directions down into small, simple steps
Utilize multisensory approaches such as songs, videos, games and pictures to help students reinforce ideas
Provide extra time
Model expectations
Provide necessary materials

Gifted and Talented -

Focus on higher DOK questions and tasks
Independent exploration and research
Idea for a new robot
Current event report
Advanced reading materials