Washington Township School District

The mission of the Washington Township Public Schools *The mission of the Washington Township Public Schools is to provide a safe, positive, and progressive environment that provides opportunity for all students to attain the knowledge and skills specified in the New Jersey Student Learning Standards at all grade levels, as to ensure their full participation in an ever-changing world as responsible, self-directed, and civic-minded citizens.*

Course Title:	**ELEMEnTS**

Grade Level(s):	3

Duration:	*Full Year:*	**X**	*Semester:*		*Marking Period:*	

Course Description:	The ELEMEnTS program will increase, improve, and make better use of advancement for intellectually gifted learners by providing a unique educational experience that is not available in the regular education classroom. Grade 3 ELEMEnTS- Exploration is designed to explore and develop the potential of identified gifted learners. Students receive 120 minutes of pull-out instruction which focuses on the affective needs of high ability students in addition, academic explorations that focus through incorporating the STEM themes in a fully integrated curriculum. This guide is designed to provide opportunities for these program goals: • Learn through experiences which challenge learners beyond the regular curriculum • Metacognitive skills aimed toward forward thinking • Promote, develop, and apply higher level thinking and problem-solving skills • Effectively communicate through writing, speaking and presenting • Address affective behaviors with opportunities to develop efficacy, autonomy, and character development
Grading Procedures:	Semester Progress Report
Primary Resources:	

Washington Township Principles for Effective Teaching and Learning

- Implementing a standards-based curriculum
- Facilitating a learner-centered environment
- Using academic target language and providing comprehensible instruction
- Adapting and using age-appropriate authentic materials
- Providing performance-based assessment experiences
- Infusing 21st Century skills for College and Career Readiness in a global society

Designed by:	Arlene Gerber, Therese Colligan, Christopher Janeczko

Under the Direction of:	Alisa Palazzi

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Unit Title: Social/Emotional Learning

Unit Description: Gifted learners tend to have unique social and emotional needs. They tend to be perfectionists that fear making mistakes which can lead them to shut down instead of trying new activities, especially those that are challenging. Compounding this is the ease at which they can excel in their regular classroom activities. When faced with a challenging, complicated task, some gifted learners can have strong anxiety which leads them to avoid that task due to a fear of failure and making mistakes. Gifted learners can also feel pressure from themselves and others due to these high expectations. This unit is designed to enable students to identify these pressures and discuss them in an open forum. Students will learn about the different kinds of mistakes and which ones can be helpful in academic and personal growth and which should be minimized. Students will also learn about well-known people who experienced personal failure but have overcome that failure to be very successful. This will be to demonstrate the need for resilience and that failure is not final.

This unit of study addresses:

- Academic pressure from self and others
- The different kinds of mistakes – which are valuable, and which are not
- How we can learn from failure, how failure is a part of learning and discovery
- Mindfulness skills
- The need for resilience

Unit Duration: 4 weeks

Desired Results

Standard(s): CRP3-Attend to personal health and financial well-being.

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

2.1 Wellness: All students will acquire health promotion concepts and skills to support a healthy, active lifestyle.

2.2 Integrated Skills: All students will develop and use personal and interpersonal skills to support a healthy, active lifestyle.

Indicators:

2.1.4.A.1- Explain the physical, social, emotional, and mental dimensions of personal wellness and how they interact.

2.2.6.C.1- Explain how character and core ethical values can be useful in addressing challenging situations.

Understandings:

Students will understand that…

- Not everything will come easy to them in school and if they are not challenged then they are not learning.
- It's acceptable to make mistakes if you learn from them and work to minimize sloppy mistakes.
- Mistakes that are made when you are stretching yourself due to a new or challenging situation are to be expected and are of more value than sloppy mistakes.
- Failure is not final and it can be a valuable learning experience. Great success does not come easily or quickly.
- Failure is a part of science.
- Deep learning takes time and effort.
- Performance can be improved with effort and insight into their learning process.
- Stress and anxiety can be addressed with mindfulness practices.

Essential Questions:

- What does it mean to be challenged in school and life and why is it important?
- Are all mistakes equal?
- When can mistakes be valuable?
- How can we learn from mistakes?
- Who are people who have overcome failure to become successes?
- How can we bounce back from failure?
- How is failure a part of science?
- Why do we feel pressure and how can we deal with that pressure in a positive way?
- Why does deep learning take time and effort?
- Are our abilities fixed, or can we improve with effort and reflection?
- What can we do to relieve stress and anxiety?

Assessment Evidence

Performance Tasks:

1. Students will learn about the different kinds of mistakes and create a small project to demonstrate their understanding.
2. Students will learn about a “famous failure” and describe this person to the class.
3. Students will learn and practice several mindfulness exercises and stress reduction techniques.

Other Evidence:

- Project performance

Benchmarks: N/A

Learning Plan

Learning Activities:

Learning Target

- Students will be able to describe the different kinds of mistakes and distinguish between valuable and sloppy mistakes and depict their understanding.
- Students will be able to describe details in the life of a “famous failure”. These are well-known successful people who overcame significant failures in their lives by showing resilience.
- Students will be able to describe the value of failure in science and the learning process and describe the relationship between mistakes and learning.
- Students will be able to describe the relationship between persevering when challenged and personal and academic growth.
- Students will be able to describe what a growth mindset is and its benefits.
- Students will be able to identify and describe stressors in their lives.
- Students will be able to identify and describe positive and negative reactions to stress.
- Students will be able to describe ways to handle and reduce stress.

Activity

- Students will read about the different kinds of mistakes. Class and teacher will discuss mistakes they’ve made and how they felt. Students will create a project of the teacher’s choosing to display what they’ve learned about the different kinds of mistakes and how they can be an important part of the learning process.
- Students will read a brief biography about a famous failure and create a small presentation project of the teacher’s choosing about this person and how they overcame mistakes and/or setbacks.
- Students will view ClassDojo videos about growth mindset and perseverance and discuss the main ideas. Students may also read articles about the role of mistakes in the scientific method.
- Students will discuss stressors they have in their lives, their causes and how they deal with their stress. Students will read about and discuss how to handle stress in positive ways. Students will read about and practice stress reduction strategies. If there is time, students can make a pamphlet or poster about these techniques to share with peers.

Resources:
Internet, ClassDojo, Topical articles

Interdisciplinary Connections

Indicators:
RI.CI.3.2. Recount in oral and written form the key details from a multi-paragraph informational text and explain how they support the main idea.
SL.PE.3.1A. 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.

Unit Modifications for Special Population Students	
Advanced Learners	Provide reading material at a more advanced reading level; increase rigor in assignment requirements/rubric. For example, students will present their final project to the class rather than just display it
Struggling Learners	Provide student support via visuals/videos for reading requirements Example: Students struggling in writing will have the opportunity to create a video project in place of the written project
English Language Learners	Coordinate with English Language Learner advisor to modify activities where appropriate. Example: Provide videos of biographies the student can listen to rather than read http://www.state.nj.us/education/modelcurriculum/ela/ELLSupport.pdf
Special Needs Learners	Follow IEP modifications and work with special education department to create modifications and use differentiated instructional activities. Example: The “mistake” project can be a creative drawing to depict what the student learned about mistakes rather than a written assignment

Integration of 21st Century Skills
Indicators: CRP3-Attend to personal health and financial well-being. CRP8- Utilize critical thinking to make sense of problems and persevere in solving them.

Unit Title: Simple Machines

Unit Description: Students will learn about multiple simple machines, their design, and how they affect work. Students will learn how mechanical advantage reduces effort and learn how to calculate it. Students will understand the relationship between distance, effort, and load.

Unit Duration: 1 semester

Desired Results

Standard(s): 3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object

Indicators:
Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object

Understandings:
Students will understand that…

- Cause and effect relationships are routinely identified and used to explain change
- Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion
- The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it.

Essential Questions:

- What are simple machines?
- Why do we use simple machines?
- What is mechanical advantage and how do you calculate it?
- What is the relationship between force, effort, and distance?
- What is work? How is it calculated?

Assessment Evidence

Performance Tasks:

1. Build a variety of simple machines – lever, wheel & axle, pulley, gear train, inclined plane, screw
2. Calculate mechanical advantage, force, effort and distance, circumference, gear ratio

Other Evidence:

- Hands On Activities
- Successful calculations

Benchmarks: N/A

Learning Plan

Learning Activities

Learning Target

- Understand what simple machines are
- Be able to identify examples of simple machines and how they work
- Construct a variety of simple machines

Activity

- View video and read printed introductory materials on simple machines
- Explore a variety of simple machines (lever, gear, pulley, wheel & axle, inclined plane
- Build simple machines freestyle and then with instructions
- Calculate force and effort, mechanical advantage, circumference, gear ratio

Resources: Bill Nye video, LEGO, K'Nex, Gizmos website, Simple Machines & PHET apps, math worksheets, internet, laptops

Interdisciplinary Connections

Indicators:
Science 3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion
Math 3.3.OA. A1: Interpret products of whole numbers, e.g., interpret 5 × 7 as the total number of objects in 5 groups of 7 objects each.
Math 3.3.OA. A2: Interpret whole-number quotients of whole numbers
Math 6.RP.3.a – Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.
MA.7.7. G.B.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Unit Modifications for Special Population Students

Advanced Learners	Provide opportunity for independent model building challenges without directions
Struggling Learners	Small group reinforcement through the use of printed building directions for all building assignments
English Language Learners	Coordinate with an English Language Learner advisor to modify activities where appropriate. Example: Provide student with videos depicting the simple machines being studied and their uses http://www.state.nj.us/education/modelcurriculum/ela/ELLSupport.pdf
Special Needs Learners	Follow IEP modifications and work with the special education department to create modifications and use differentiated instructional activities. Example: Allow student to build freestyle or with assistance depending on the student's strengths and needs

Integration of 21st Century Skills

Indicators:
CRP.K-12.CRP2.1: Make connections between abstract concepts with real-world applications.

Unit Title: Electricity and Circuits

Unit Description: Students will study the history of electricity. Students will learn about parallel and series circuits, about how batteries work, about static vs. current electrical current. Students will build circuits taking into account conductors, resistors, and insulators.

Unit Duration: 8 Weeks

Desired Results

Standard(s): 4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Indicators: Energy can be transferred in various ways and between objects.

Understandings:
Students will understand that…

- Energy can be moved from place to place by moving objects or through electric currents.
- Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.

Essential Questions:

- What is electricity?
- What is the difference between static and current electricity, alternating current, and direct current?
- What is a circuit?
- How do parallel and series circuits differ?
- What are conductors, insulators, loads, switches, and resistors?
- How do batteries generate electricity?

Assessment Evidence

Performance Tasks:

1. Students will build parallel and series circuits to power an object.
2. Students experiment with circuitry to determine if objects are conductors, insulators, or resistors.
3. Students will experiment with Snap Circuits to create a working circuit.
4. Students will research electricity pioneers and report on their findings.
5. Students will complete Gizmos electricity activity packet.

Other Evidence:

- Successful circuit project(s)
- Successful research and discussion report

Benchmarks:

Learning Plan

Learning Activities

Learning Target

- Students will understand what electricity is and how there are different types
- Students will build a circuit
- Students will understand the difference between a parallel circuit and a serial circuit
- Students will understand the difference between alternating current and direct current
- Students create a working project that is powered through a circuit

Activity

- Students discover the basics of electricity (static vs. current) through videos and discussion
- Using electricity kits, students build simple circuits freestyle and then with instructions
- Students discover the basics of batteries and perform activities interactively
- Students explore circuits using various resources

• Students will understand the meaning and conductors and resistors and be able to name examples of each • Students will research a topic and report on it	• Students utilize materials as well as online resources to test various objects to determine if they are conductors, insulators, or resistors • Students will research the history of electricity, the pioneers in that field and discuss their findings
Resources: Electricity kit, related electricity videos, Gizmo website, Snap Circuits	

Interdisciplinary Connections

Indicators:
SL.3.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.
SOC.6.1.4.C.16: Explain how creativity and innovation resulted in scientific achievement and inventions in many cultures during different historical periods

Unit Modifications for Special Population Students

Advanced Learners	Provide opportunity for independent extended challenge activities once the required activities are completed
Struggling Learners	Provide alternative resources for research (visuals, videos); small group remediation as needed through one-on-one assistance or teacher-created Nearpods
English Language Learners	Coordinate with an English Language Learner advisor to modify activities where appropriate. Example: Provide student with vocabulary visuals such as working models and/or videos of the basics of electrical circuits http://www.state.nj.us/education/modelcurriculum/ela/ELLSupport.pdf
Special Needs Learners	Follow IEP modifications and work with the special education department to create modifications and use differentiated instructional activities. Example: Provide students with low difficulty (less multi-step directions) project work

Integration of 21st Century Skills

Indicators:
CRP.K-12.CRP2.1: Make connections between abstract concepts with real-world applications.