Exploratory STEM

Eighth Grade

Prepared by:

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Superintendent of Schools:

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Approved by the Midland Park Board of Education on

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Born on **06/2022**

Exploratory STEM

Course Description:

Exploratory STEM is taught in three units during a single quarter of the school year. The curriculum is a hands-on, open-ended and sequential process of investigating the biological and physical world. As part of the hands-on curriculum, aspects of physical science, life science, earth & space science, and engineering; technology & applications of science are taught and explored throughout the quarter. A guided inquiry program gives students the opportunity to explore topics and concepts though investigations. Participating in this hands-on program helps students:

1. To foster a life-long enjoyment of learning science.
2. To observe science in the world around them.
3. To further meet the science standards for New Jersey Public Schools.

Course Sequence:

Unit 1: Engineering Design and Simple Machines

Unit 2: Energy and Alternative Energy

Unit 3: Biology and Chemistry

Pre-requisite:

None

Midland Park Public Schools

Unit # 1 - Overview
Content Area: Science
Unit Title: Engineering Design and Simple Machines
Grade Level: 8th
Core Ideas: In this unit of study, students will tackle hands-on problem solving/design challenges. In doing so they will explore the Engineering Design Process and incorporate concepts of simple machines and their use in engineering design. This unit will build from analyzing singular simple machines to combining them to create complex machines and structures.

Unit # 1 - Standards	
Standards (Content and Technology)**:**	
CPI#:	**Statement:**
Performance Expectations (NJSLS)	
MS-ETS1-1.	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
MS-ETS1-3	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
MS-ETS1-4	Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
Career Readiness, Life Literacies, and Key Skills	
9.3.ST-ET.2	Display and communicate STEM information.
9.3.ST-ET.3	Apply processes and concepts for the use of technological tools in STEM.
9.4.8.CI.3	Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
9.4.8.GCA.2	Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose
Computer Science and Design Thinking	
8.2.8.ED.2	Identify the steps in the design process that could be used to solve a problem.
8.2.8.ITH.2	Compare how technologies have influenced society over time.
8.2.8.ED.7	Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches).
Cross-cultural Statements/Mandates (Amistad, Holocaust, LGBT, etc...)	
Highlighting Diverse Scientists who have contributed to the field:	Subrahmanyan Chandrasekhar – Astrophysicist Narinder S. Kapany – Physicist Chien-Shiung Wu – Physicist Mae Carol Jemison – NASA Astronaut Edward Bouchet – Physicist Isaac Newton – Physicist Sally Ride - Physicist

CASEL Framework: Responsible Decision Making	• Demonstrating curiosity and open-mindedness, • Learning to make a reasoned judgment after analyzing information, data, facts
ELD Standard 4	English language learners communicate information, ideas, and concepts necessary for academic success in the content area of Science
ELD-SC 6-8 Explain Interpretive	Defining investigable questions or design problems based on observations, information, and/or data about a phenomenon ● Determining central ideas in complex evidence and information to help explain how or why a phenomenon occurs ● Evaluating scientific reasoning that shows why data or evidence adequately supports conclusions
Interdisciplinary Connection	

Math	Use abstract and quantitative reasoning to analyze and interpret data in order to determine similarities and differences in findings of how well designed methods meet the criteria and constraints of solutions that could reduce a problem.
Math	While analyzing data to determine how well designed methods meet the criteria and constraints of solutions that could reduce a problem, solve multi step mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
Companion Standards ELA/L	
RST.6-8.3.	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
RST.6-8.10.	By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.
NJSLA.W7.	Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.

Unit Essential Question(s): How do engineers design solutions to problems? How are simple machines used as the basis for complex machine building and engineering design**?**	**Unit Enduring Understandings:** • Engineers utilize the Engineering Design Process to create solutions to problems. • The Engineering Design Process is a circular system that is never truly over, allowing and encouraging redesign. • Simple machines are the basis of complex machinery and are essential parts of engineering design.
Evidence of Learning	

Formative Assessments:
Observational assessment from following through the engineering design process and group participation.

Summative/Benchmark Assessment(s):
Apply Scientific and engineering principles to design and create solutions to engineering design challenges. (i.e. Fidget spinner, aluminum foil boats, catapults, trebuchets, bridges.)

Alternative Assessments:
Create a pamphlet displaying the design process behind engineering design challenge solutions.

Resources/Materials:	**Key Vocabulary: Engineering Design Process, Prototype, Redesign, Simple Machine, Levers, Fulcrums, Axles, Trebuchet**
- Building kits - Aluminum foil - Paper - Balsa Wood - https://www.sciencebuddies.org/blog/engineering challenges-middle-school - https://pbskids.org/designsquad/pdf/parentseducators/DS_Act_Guide_complete.pdf	

Suggested Pacing Guide

Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete Entire Unit: 15 Days
Engineering Design	**Identify and describe the steps of the Engineering Design Process through hands-on design challenges.**	- Scientific Method Comparison activity - Fidget Spinner creation	5 Days

Process Intro		- Aluminum foil boat creation and competition.	
Design Problem Solutions	**· Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**		(Incorporated in above days)
Evaluate Solutions	**· Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**		(Incorporated in above days)

Testing Solutions	**· Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**		(Incorporated in above days)
Simple Machines	**· Analyze the various simple machines and their purpose is complex machine and engineering design.**	- Levers - Wheels, Axels - Catapult - Trebuchet - Paper Bridge - Balsa Wood Bridge	10 Days
Design Problem Solutions	**· Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**		(Incorporated in above days)
Evaluate Solutions	**· Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**		(Incorporated in above days)
Testing Solutions	**· Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**		(Incorporated in above days)
Teacher Notes:			
Additional Resources: https://www.state.nj.us/education/modelcurriculum/sci/7.shtml			

https://www.state.nj.us/education/modelcurriculum/sci/8.shtml
Differentiation/Modification Strategies

Students with Disabilities	English Language Learners	Gifted and Talented Students	Students at Risk	504Students
• Consult with Guidance Counselors and follow plan procedures/action plans • Allow extended time to answer questions and permit drawing as an explanation • Accept participation on any level, when necessary and appropriate	•Assign a buddy, same language or English speaking •Allow errors in speaking •Rephrase questions, directions, and explanations •Allow extended time to answer questions •Accept participation at any level, even one word	•Provide extension activities •Build on students' intrinsic motivation •Consult with parents to accommodate students' interests in completing tasks at their level of engagement	•Provide extended time to complete tasks •Consult with other members of the 8th grade team for specific behavior interventions •Provide rewards as necessary	•Allow errors •Rephrase questions, directions, and explanations •Allow extended time to answer questions and permit drawing as an explanation •Accept participation on any level, even one word •Consult with Case Managers and follow IEP accommodations/modifications

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Unit # 2- Overview
Content Area: Science
Unit Title: Energy and Alternative Energy
Grade Level: 8th
Core Ideas: In this unit of study, students will utilize their understanding of the engineering design process to problem solve and create structures having to do with energy transformations and alternative energy sources. Students will analyze the challenges of harnessing alternative sources from nature, as well as how an understanding of energy transformations are needed in everyday building and structure design.
Unit # 2- Standards

Standards (Content and Technology)**:**	
CPI#:	**Statement:**
Performance Expectations (NJSLS)	
MS-ETS1-1.	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
MS-ETS1-3	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
MS-ETS1-4	Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
Career Readiness, Life Literacies, and Key Skills	
9.3.ST-ET.2	Display and communicate STEM information.
9.3.ST-ET.3	Apply processes and concepts for the use of technological tools in STEM.
9.4.8.CI.3	Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
9.4.8.GCA.2	Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose
Computer Science and Design Thinking	
8.2.8.ED.2	Identify the steps in the design process that could be used to solve a problem.
8.2.8.ITH.2	Compare how technologies have influenced society over time.
8.2.8.ED.7	Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches).
Cross-cultural Statements/Mandates (Amistad, Holocaust, LGBT, etc...)	
Highlighting Diverse Scientists who have contributed to the field:	Subrahmanyan Chandrasekhar – Astrophysicist Narinder S. Kapany – Physicist Chien-Shiung Wu – Physicist Mae Carol Jemison – NASA Astronaut Edward Bouchet – Physicist Isaac Newton – Physicist Sally Ride - Physicist
CASEL Framework: Self Management	• Identifying and using stress-management strategies. • Exhibiting self-discipline and self-motivation. • Using planning and organizational skills.

ELD Standard 4	English language learners communicate information, ideas, and concepts necessary for academic success in the content area of Science
ELD-SC 6-8 Explain Interpretive	Defining investigable questions or design problems based on observations, information, and/or data about a phenomenon ● Determining central ideas in complex evidence and information to help explain how or why a phenomenon occurs ● Evaluating scientific reasoning that shows why data or evidence adequately supports conclusions
Interdisciplinary Connection	

Math	Use abstract and quantitative reasoning to analyze and interpret data in order to determine similarities and differences in findings of how well designed methods meet the criteria and constraints of solutions that could reduce a problem.
Math	While analyzing data to determine how well designed methods meet the criteria and constraints of solutions that could reduce a problem, solve multi step mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.
Companion Standards ELA/L	
RST.6-8.3.	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
RST.6-8.10.	By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.
NJSLA.W7.	Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.

Unit Essential Question(s): **Where does energy come from?** **Can energy be created or destroyed?** **How does energy transfer affect design?** **Can we harness natural energy?**	**Unit Enduring Understandings:** - Energy cannot be created or destroyed, only transferred from one place to another, or transformed from one type to another. - All energy in the universe must remain constant. - Energy transfer affects the performance of structures like buildings and bridges over time. - Incorporating energy transfer into design allows for more structural sound and efficient creations, like planes. - Natural energy can be harnessed using alternative energy design solutions like wind generators, solar ovens, and hydroelectric dams.

Evidence of Learning

Formative Assessments:
Observational assessment from following through the engineering design process and group participation.

Summative/Benchmark Assessment(s):
Apply Scientific and engineering principles to design and create solutions to engineering design challenges. (i.e. Egg drop structure, paper airplanes, paper rocket, paper roller coaster, junk bot, solar oven.)

Alternative Assessments:
Create a pamphlet displaying the design process behind engineering design challenge solutions.

Resources/Materials:	**Key Vocabulary: Potential Energy, Kinetic Energy, Drag, Force, Alternative Energy, Solar Oven**
- Building kits - Styrofoam - Paper - Cardboard - Eggs - Aluminum Foil - Thermometers - https://www.sciencebuddies.org/blog/engineering challenges-middle-school - https://pbskids.org/designsquad/pdf/parentseducators/DS_Act_Guide_complete.pdf	

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Suggested Pacing Guide

Lesson Name/Topic	**Student Learning Objective(s)**	**Suggested Tasks/Activities:**	**Day(s) to Complete Entire Unit: 20 Days**
Energy Transfer	**· Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.**	- Egg Drop - Paper Airplanes - Paper Rocket - Paper Roller Coaster - Junk Bot	10 Days
Design Problem Solutions	**· Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**		(Incorporated in above days)
Evaluate Solutions	**· Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**		(Incorporated in above days)

Testing Solutions	**· Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**		(Incorporated in above days)
Alternative Energy	**Analyze the use and practicality of natural energy sources to power human structures and modern day technologies.**	- Wind generators - Solar Oven - Photovoltaic Cells - Hydroelectric Dams - Tidal Generators	10 Days
Design Problem Solutions	**Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**		(Incorporated in above days)
Evaluate Solutions	**Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**		(Incorporated in above days)
Testing Solutions	**Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be**		(Incorporated in above days)

	combined into a new solution to better meet the criteria for success.		

Teacher Notes:

Additional Resources: https://www.state.nj.us/education/modelcurriculum/sci/7.shtml
https://www.state.nj.us/education/modelcurriculum/sci/8.shtml

Differentiation/Modification Strategies

Students with Disabilities	English Language Learners	Gifted and Talented Students	Students at Risk	504Students

• Consult with Guidance Counselors and follow plan procedures/action plans • Allow extended time to answer questions and permit drawing as an explanation • Accept participation on any level, when necessary and appropriate	•Assign a buddy, same language or English speaking •Allow errors in speaking •Rephrase questions, directions, and explanations •Allow extended time to answer questions •Accept participation at any level, even one word	•Provide extension activities •Build on students' intrinsic motivation •Consult with parents to accommodate students' interests in completing tasks at their level of engagement	•Provide extended time to complete tasks •Consult with other members of the 8th grade team for specific behavior interventions •Provide rewards as necessary	•Allow errors •Rephrase questions, directions, and explanations •Allow extended time to answer questions and permit drawing as an explanation •Accept participation on any level, even one word •Consult with Case Managers and follow IEP accommodations/modifications

Unit # 3- Overview	
Content Area: Science	
Unit Title: Biology and Chemistry	
Grade Level: 8th	
Core Ideas: In this unit of study, students will explore the disciplines of Biology and Chemistry through hands-on labs and engineering design challenges. Students will see the cross-cutting concepts of Science in action by combining various disciplines of Science with Engineering. The concept of the human body as a biological machine will be explored, and the ability of engineering to play a role in fixing issues with the body will be incorporated.	
Unit # 3- Standards	
Standards (Content and Technology)**:**	
CPI#:	**Statement:**

Performance Expectations (NJSLS)	
MS-ETS1-1.	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.
MS-ETS1-2	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.
MS-ETS1-3	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.
MS-ETS1-4	Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
Career Readiness, Life Literacies, and Key Skills	
9.3.ST-ET.2	Display and communicate STEM information.
9.3.ST-ET.3	Apply processes and concepts for the use of technological tools in STEM.
9.4.8.CI.3	Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
9.4.8.GCA.2	Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose
Computer Science and Design Thinking	
8.2.8.ED.2	Identify the steps in the design process that could be used to solve a problem.
8.2.8.ITH.2	Compare how technologies have influenced society over time.
8.2.8.ED.7	Design a product to address a real-world problem and document the iterative design process, including decisions made as a result of specific constraints and trade-offs (e.g., annotated sketches).
Cross-cultural Statements/Mandates (Amistad, Holocaust, LGBT, etc...)	
Highlighting Diverse Scientists who have contributed to the field:	Isabella Aiona Abbott – Ethnobiologist Min Chueh Chang – Biologist Roseli Ocampo-Friedmann – Microbiologist George Washington Carver – Botanist/Inventor Sir Francis Bacon – Scientific Method Peter Tsai – Materials Scientist Percy Julian – Research Chemist Walter Lincoln Hawkins – Inventor
CASEL Framework: Responsible Decision Making	• Demonstrating curiosity and open-mindedness, • Learning to make a reasoned judgment after analyzing information, data, facts
ELD Standard 4	English language learners communicate information, ideas, and concepts necessary for academic success in the content area of Science

ELD-SC 6-8 Explain Interpretive	Defining investigable questions or design problems based on observations, information, and/or data about a phenomenon ● Determining central ideas in complex evidence and information to help

	explain how or why a phenomenon occurs ● Evaluating scientific reasoning that shows why data or evidence adequately supports conclusions
Interdisciplinary Connection	
Math	Use abstract and quantitative reasoning to analyze and interpret data in order to determine similarities and differences in findings of how well designed methods meet the criteria and constraints of solutions that could reduce a problem.
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Companion Standards ELA/L	
RST.6-8.3.	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.
RST.6-8.10.	By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.
NJSLA.W7.	Conduct short as well as more sustained research projects, utilizing an inquiry-based research process, based on focused questions, demonstrating understanding of the subject under investigation.

Unit Essential Question(s): **How is the body like a biological machine? How can Engineering play a role in Biology? Why are elements in different phases of matter? How can Engineering play a role in Chemistry?**	**Unit Enduring Understandings:** - The human body is a complex system made up of individual systems working together. - All things are made of particles vibrating at varying speeds. The speed of the particles determines that phase of matter a material is in. - All disciplines of Science are interrelated, allowing human design through engineering to solve problems in the Biological and Chemical worlds.

Evidence of Learning

Formative Assessments:
Observational assessment from following through the engineering design process and group participation.

Summative/Benchmark Assessment(s):
Apply Scientific and engineering principles to design and create solutions to engineering design challenges. (i.e. Hydroponics, robot hand, phases, crystals, chemical reactions.)

Alternative Assessments:
Create a pamphlet displaying the design process behind engineering design challenge solutions.

Resources/Materials:	**Key Vocabulary: Chemical Reactions, Acids, Bases, pH, Crystalline Structure, Hydroponics, Forensics**
- Building kits - Paper - pH Indicator - Plants - Hydroponics setup - Assorted Chemicals - https://www.sciencebuddies.org/blog/engineering challenges-middle-school - https://pbskids.org/designsquad/pdf/parentseducators/DS_Act_Guide_complete.pdf	

Suggested Pacing Guide

Lesson Name/Topic	**Student Learning Objective(s)**	**Suggested Tasks/Activities:**	**Day(s) to Complete Entire Unit: 15 Days**

Chemistry	**- Analyze various chemistry concepts such as chemical reactions, acids and bases, phases, and crystal formation through hands-on design challenges.**	- Chemical Reactions - Acids and Bases - Phases - Crystals	10 Days
Design Problem Solutions	**· Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**		(Incorporated in above days)
Evaluate Solutions	**· Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**		(Incorporated in above days)

Testing Solutions	**· Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**		(Incorporated in above days)
Biology	**- Analyze various aspects of body systems and biological concepts through hands-on design challenges.**	- Viruses and Soap - Body Temperatures - Washing Hands - Hydroponics - Broken Bones - Building Robotic Hands	5 Days
Design Problem Solutions	**Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.**		(Incorporated in above days)
Evaluate Solutions	**Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.**		(Incorporated in above days)
Testing Solutions	**Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.**		(Incorporated in above days)

Forensics	**Analyze concepts of forensic science through hands-on design challenges.**	- Document analysis	**Extra if time allows
Teacher Notes:			
Additional Resources: https://www.state.nj.us/education/modelcurriculum/sci/7.shtml https://www.state.nj.us/education/modelcurriculum/sci/8.shtml			
Differentiation/Modification Strategies			

Students with Disabilities	English Language Learners	Gifted and Talented Students	Students at Risk	504Students
• Consult with Guidance Counselors and follow plan procedures/action plans • Allow extended time to answer questions and permit drawing as an explanation • Accept participation on any level, when necessary and appropriate	•Assign a buddy, same language or English speaking •Allow errors in speaking •Rephrase questions, directions, and explanations •Allow extended time to answer questions •Accept participation at any level, even one word	•Provide extension activities •Build on students' intrinsic motivation •Consult with parents to accommodate students' interests in completing tasks at their level of engagement	•Provide extended time to complete tasks •Consult with other members of the 8th grade team for specific behavior interventions •Provide rewards as necessary	•Allow errors •Rephrase questions, directions, and explanations •Allow extended time to answer questions and permit drawing as an explanation •Accept participation on any level, even one word •Consult with Case Managers and follow IEP accommodations/modifications