BURCH CHARTER SCHOOL OF EXCELLENCE

2020-2021

5th Grade Science

Approved by the Burch Charter School of Excellence Board of Trustees

August 2020

MISSION STATEMENT OF BURCH CHARTER SCHOOL OF EXCELLENCE:

Burch Charter School of Excellence (BCSE) was founded in September, 2008. Our primal mission is to enable students to reach their intellectual and personal potential. We strive to instill integrity and respect in our students' in partnership with families and the community. We maintain a blended learning environment that enhances positive character traits that ensures our students become productive 21st century world citizens. The Burch Charter School of Excellence, a public school, is committed to providing best practices for educating our students in an environment that enables them to develop into critical thinkers that evolve into digital, life-long learners. Our curriculum emphasizes literacy and mathematics infused with technology.

We believe:

- Our students will be effective communicators, quality producers, self-directed lifelong learners, community contributors, collaborative workers and complex thinkers;
- All students are entitled to opportunities to maximize their talents and abilities;
- Our ethnic and cultural diversity is our strength and prepares students for success in a global society;
- Setting high expectations for students, teachers and administrators ensures that our students successfully meet or exceed the New Jersey Student Learning Standards.
- Parents are essential partners in the education of their children;
- Maintaining a strong partnership with the Irvington community is integral to student success;
- Understanding, implementing and responding to current trends in technology is intrinsic to success in a 21st century world; In ensuring that the district has a well-trained, highly qualified and competent staff; In maintaining a safe and secure learning environment.

The underlying values and principles that drive our mission and vision are our personal responsibility, a strong work ethic, cooperation, respect for others, honesty, integrity and the firm belief that every child can learn.

Burch Charter School of Excellence

5th Grade Science Model Curriculum Overview

Unit 1: Patterns of Change in in the Sky **Instructional Days: 15**

In this unit of study, students observe, describe, and predict some patterns in the movement of objects in the sky. The crosscutting concept of *patterns* is called out as an organizing concept for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *planning and carrying out investigations* and *analyzing and interpreting data*. Students are also expected to use these practices to demonstrate understanding of the core ideas.

This unit is based on 1-ESS1-1 and 1-ESS1-2.

Unit 2: Characteristics of Living Things

Instructional Days: 15

In this unit of study, students develop an understanding of how plants and animals use their external parts to help them survive, grow, and meet their needs, as well as how the behaviors of parents and offspring help offspring survive. The understanding that young plants and animals are like, but not exactly the same as, their parents is developed. The crosscutting concept of *patterns* is called out as an organizing concept for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *obtaining, evaluating, and communicating information* and *constructing explanations*. Students are also expected to use these practices to demonstrate understanding of the core ideas.

This unit is based on 1-LS3-1 and 1-LS1-2.

Unit 3: Mimicking Organisms to Solve Problems

Instructional Days: 25

In this unit of study, students develop an understanding of how plants and animals use their parts to help them survive, grow, and meet their needs. Students also need opportunities to *develop possible solutions*. As students develop possible solutions, one challenge will be to keep them from immediately implementing the first solution they think of and to instead think through the problem carefully before acting. Having students sketch

their ideas or make a physical model is a good way to engage them in shaping their ideas to meet the requirements of the problem. The crosscutting concept of *structure and function* is called out as an organizing concept for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *constructing explanations, designing solutions*, and in *developing and using models*. Students are expected to use these practices to demonstrate understanding of the core ideas.

This unit is based on 1-LS1-1 and K-2-ETS1-2.

Unit 4: Light and Sound

Instructional Days: 20

In this unit of study, students develop an understanding of the relationship between sound and vibrating materials as well as between the availability of light and the ability to see objects. The idea that light travels from place to place can be understood by students at this level by placing objects made with different materials in the path of a beam of light and determining the effect of the different materials. The crosscutting concept of *cause and effect* is called out as an organizing concept for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *planning and carrying out investigations*, *constructing explanations*, and *designing solutions*. Students are also expected to use these practices to demonstrate understanding of the core ideas.

This unit is based on 1-PS4-2, 1-PS4-3, and 1-PS4-1.

Unit 5: Communicating with Light and Sound

Instructional Days: 25

In this unit of study, students continue to develop their understanding of the relationship between sound and vibrating materials as well as between the availability of light and the ability to see objects. Students apply their knowledge of light and sound to engage in engineering design to solve a simple problem involving communication with light and sound. The crosscutting concepts of *structure and function and influence of engineering, technology, and science on society and the natural world* are called out as organizing concepts for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *constructing explanations and designing solutions, asking questions and defining problems,* and *developing and using models*. Students are also expected to use these practices to demonstrate understanding of the core ideas.

This unit is based on 1-PS4-4, K-2-ETS1-1, and K-2-ETS1-2.

Note: *The number of instructional days is an estimate based on the information available at this time. 1 day equals approximately 42 minutes of seat time. Teachers are strongly encouraged to review the entire unit of study carefully and collaboratively to determine whether adjustments to this estimate need to be made.*

Grade: 5		**Content: Science**
Unit 1: Properties of Matter		**Time Frame: 15 Days**
Next Generation Science Standards	**Skills**	I Can Statements
5-PS1-3: Make observations and measurements to identify materials based on their properties. **Essential Question:** ❖ How can properties be used to identify materials?	❖ Measure and describe physical quantities such as weight, time, temperature, and volume.	❖ I can make observations and measurements to identify materials based on their properties ❖ I can measure and describe physical quantities such as weight, time, temperature, and volume
5-PS1-1: Develop a model to describe that matter is made of particles too small to be seen. **Essential Question:** ❖ What kind of model would best represent/describe matter as made of particles that are too small to be seen?	❖ Develop a model to describe phenomena.	❖ I can develop a model to describe that matter is made of particles too small to be seen.
Resources		
Material Properties: The dangerous Androvax has crash-landed on Earth! Sabotage his escape plans by tricking him into building a space ship out of the wrong materials. http://www.bbc.co.uk/bitesize/ks2/science/materials/material_properties/play/ ❖ **https://learningcenter.nsta.org/products/symposia_seminars/NGSS/webseminar48.aspx** ❖ **Pearson Realize**: **https://www.savvasrealize.com/index.html#/**		

Connections to NJSLS – English Language Arts

RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

W.5.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

Connections to NJSLS – Math

MP.2: Reason abstractly and quantitatively.

MP.4: Model with mathematics.

MP.5: Use appropriate tools strategically.

5. NBT.A.1: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

A**5.NF.B.7: A**pply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

5. MD.C.3: Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

5. MD.C.4: Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft., and improvised units.

Grade: 5		**Content: Science**
Unit 2: Changes to Matter		**Time Frame: 15 days**
Next Generation Science Standards	**Skills**	I Can Statements
5-PS1-4: Conduct an investigation to determine whether the mixing of two or more substances results in new substances. **Essential Question:** ❖ *How can we make slime?*	❖ When two or more different substances are mixed, a new substance with different properties may be formed. ❖ Cause and effect relationships are routinely identified, tested, and used to explain change.	❖ I can identify, test, and use cause-and-effect relationships to explain change. ❖ I can conduct an investigation collaboratively to produce data that can serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials is considered. ❖ I can conduct an investigation to determine whether the mixing of two or more substances results in new substances.
5-PS1-2: Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. **Essential Question:** ❖ *How can baking soda and vinegar burst a zip-lock bag?*	❖ The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish. ❖ Measure and describe physical quantities such as weight, time, temperature, and volume.	❖ I can measure and describe physical quantities such as weight, time, temperature, and volume. ❖ I can measure and graph quantities such as weight to address scientific and engineering questions and problems. ❖ I can measure and graph quantities to provide evidence that regardless of the type of change that occurs when substances are heated, cooled, or mixed, the total weight is conserved.
Resources		

Time for Slime: Students combine water and borax to create slime. Be sure to read and follow all of the cautions on the borax box label.

Bubble Burst! How can baking soda and vinegar burst a zip-lock bag?

Flame Out: A candle flame is actually a chemical reaction in action! Candle wax is one of the chemicals in the reaction.

Pearson Realize: **https://www.savvasrealize.com/index.html#/**

Connections to NJSLS – English Language Arts

W.5.7: Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

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Connections to NJSLS – Math

MP.2: Reason abstractly and quantitatively.

MP.4: Model with mathematics.

MP.5: Use appropriate tools strategically.

5. MD.A.1: Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real-world problems.

Grade: 5		**Content: Science**
Unit 3: Energy and Matter in Ecosystems		**Time Frame: 15 Days**
Next Generation Science Standards	**Skills**	I Can Statements
5-LS1-1: Support an argument that plants get the materials they need for growth chiefly from air and water. **Essential Question:** ❖ *Where do plants get the materials they need for growth?*	❖ Matter is transported into, out of, and within systems. ❖ Plants acquire their material for growth chiefly from air and water.	❖ I can describe how matter is transported into, out of, and within systems. ❖ I can support an argument with evidence, data, or a model ❖ I can 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. **Essential Question:** ❖ *How does matter move among plants, animals, decomposers, and the environment?*	❖ A system can be described in terms of its components and their interactions. ❖ The food of almost any kind of animal can be traced back to plants. ❖ Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. ❖ Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as *decomposers*. ❖ Decomposition eventually restores (recycles) some materials back to the soil. ❖ Organisms can survive only in environments in which their particular needs are met.	❖ I can describe a system in terms of its components and interactions. ❖ I can develop a model to describe phenomena. ❖ I can develop a model to describe the movement of matter among plants, animals, decomposers, and the environment

5-PS3-1: Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. **Essential Question:** ❖ *How can energy in animals' food be traced to the sun?*	❖ Energy can be transferred in various ways and between objects. ❖ The energy released from food was once energy from the sun, which was captured by plants in the chemical process that forms plant matter (from air and water). ❖ Food provides animals with the materials they need for body repair and growth and the energy they need for motion and to maintain body warmth. .	❖ I can describe how energy can be transferred in various ways and between objects. ❖ I can use models to describe phenomena. ❖ I can use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Resources

Bottle Biology Terrarium: Students will create a terrarium, make observations of the terrarium, then develop a model to explain how matter transfers within the ecosystem. This resource describes the process of creating a terrarium (which will serve as the phenomena that the students observe), but does not include specific lesson details or instructional strategies.

Biodomes Engineering Design Project: This activity is a culmination of a 16 day unit of study where students explore the biosphere's environments and ecosystems. In this final activity, students apply what they learned about plants, animals, and decomposers to design and create a model biodome. Engaging in the engineering design process, students construct a closed (system) environment containing plants and animals existing in equilibrium. Provided with a variety of materials (constraints), teams of students will use their imagination and culminating knowledge to design a biodome structure following the criteria of the activity that models how plants, insects, and decomposers work together in a system. (The activity can be conducted as a structured or open-ended design. It is recommended to allow students the opportunity to be true engineers and follow the opened-ended design.)

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RI.5.9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Connections to NJSLS – Math

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Grade: 5		**Content: Science**
Unit 4: Water on the Earth		**Time Frame: 15 days**
Next Generation Science Standards	**Skills**	I Can Statements
5-ESS2-2: Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. **Essential Question:** ❖ *Where is water found on the Earth? What percentage of the Earth's water is fresh water?*	❖ Standard units are used to measure and describe physical quantities such as weight and volume. ❖ Nearly all of Earth's available water is in the ocean. ❖ Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere.	❖ I can describe physical quantities, such as weight and volume, in standard units. ❖ I can describe and graph quantities such as area and volume to address scientific questions. ❖ I can describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on earth.
5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. **Essential Question:** ❖ *How do individual communities use science ideas to protect Earth's resources and environment?*	❖ A system can be described in terms of its components and their interactions. ❖ Science findings are limited to questions that can be answered with empirical evidence. ❖ Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. ❖ Individuals and communities are doing things to help protect Earth's resources and environments.	❖ I can describe a system in terms of its components and interactions. ❖ I can obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem. ❖ I can obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Resources

Global Water Distribution: In this lesson sequence, students predict and model the availability of water on Earth and discuss methods that can be used to purify and conserve this critical resource. They also assess how much water they and their families typically use, and think about ways to reduce their water usage. Finally, students explore different techniques being employed for water management around the world, including the use of dams to create reservoirs. http://ngss.nsta.org/Resource.aspx?ResourceID=37

Simulating an Oil Spill to Understand Environmental Impact: This 8 minute instructional video provides a model for teachers to follow of a week long investigation of oil spills and the environmental impact they have on shorelines and creatures. Students take on the task of cleaning up a simulated oil spill. Educator uses the 5E curriculum model to engage students with fiction and non-fiction texts before exploring methods that simulate an oil spill and its cleanup. Video demonstrates the key portions of the activity and models appropriate teacher questioning and interactions with the students. http://ngss.nsta.org/Resource.aspx?ResourceID=65

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W.5.8: Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

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Grade: 5		**Content: Science**
Unit 5: Earth Systems		**Time Frame: 20 Days**
Next Generation Science Standards	**Skills**	I Can Statements
5-ESS2-1: Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. **Essential Question:** ❖ *In what ways do the geosphere, biosphere, hydrosphere, and/or atmosphere interact?*	❖ A system can be described in terms of its components and their interactions. ❖ Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). ❖ The Earth's major systems interact in multiple ways to affect Earth's surface materials and processes. ❖ The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. ❖ Winds and clouds in the atmosphere interact with landforms to determine patterns of weather.	❖ I can describe a system in terms of its components and interactions. ❖ I can develop a model using an example to describe a scientific principle. ❖ I can develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.
5-ESS3-1: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. **Essential Question:** ❖ *How do individual communities use science ideas to protect Earth's resources and environment?*	❖ A system can be described in terms of its components and their interactions. ❖ Science findings are limited to questions that can be answered with empirical evidence. ❖ Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. ❖ Individuals and communities are doing things to help protect Earth's resources and environments.	❖ I can describe a system in terms of its components and interactions. ❖ I can obtain and combine information from books and/or other reliable media to explain phenomena or solutions to a design problem. ❖ I can obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Resources

NOAA What-a-Cycle: Through role-playing as a particle of water, students gain an understanding of the complexity of the movement of water through earth's systems. Stations are set-up for nine different water reservoirs associated with the water cycle. On each turn, students roll the dice at each station and either stay in place or move to a different location. Students track their unique journey through the water cycle to later share and discuss the strengths and limitations of the game as a model for the movement of water through Earth's systems.

Shower Curtain Watershed: What is a watershed? How do our actions affect the health of a watershed? Students explore these questions by analyzing pictures and identifying watershed features. Students then make a watershed model using a plastic shower curtain, a spray bottle of water and themselves or classroom objects The objectives of the lesson are to: a) Identify nonliving and living features found in a watershed. b) Understand how human activities can affect watersheds.

Pearson Realize: **https://www.savvasrealize.com/index.html#/**

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RI.5.9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

W.5.9: Draw evidence from literary or informational texts to support analysis, reflection, and research.

SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Connections to NJSLS – Math

MP.2: Reason abstractly and quantitatively.

MP.4: Model with mathematics.

5. G.A.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Grade: 5		**Content: Science**
Unit 6: Interactions Within the Earth, Sun, and Moon System		**Time Frame: 20 Days**
Next Generation Science Standards	**Skills**	I Can Statements
5-PS2-1: Support an argument that the gravitational force exerted by Earth on objects is directed down. **Essential Question:** ❖ *What effect does Earth's gravitational force have on objects?*	❖ Cause-and-effect relationships are routinely identified and used to explain change. ❖ The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's center.	❖ I can identify cause-and-effect relationships in order to explain change. ❖ I can support an argument with evidence, data, or a model. ❖ I can support an argument that the gravitational force exerted by Earth on objects is directed down. ("Down" is a local description of the direction that points toward the center of the spherical Earth.)
5-ESS1-1: Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. **Essential Question:** ❖ *What effect does the relative distance from Earth have on the apparent brightness of the sun and other stars?*	❖ Natural objects exist from the very small to the immensely large. ❖ The sun is a star that appears larger and brighter than other stars because it is closer. ❖ Stars range greatly in their distance from Earth.	❖ I can support an argument with evidence, data, or a model. ❖ I can support an argument that differences in the apparent brightness of the sun compared to that of other stars is due to their relative distances from Earth.

5-ESS1-2: Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. **Essential Question:** ❖ *What patterns do we notice when observing the sky?*	❖ Similarities and differences in patterns can be used to sort, classify, communicate, and analyze simple rates of change for natural phenomena. ❖ The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its north and south poles, cause observable patterns. These include: ✓ Day and night ✓ Daily changes in the length and direction of shadows ❖ Different positions of the sun, moon, and stars at different times of the day, month, and year.	❖ I can sort, classify, communicate, and analyze simple rates of change for natural phenomena using similarities and differences in patterns. ❖ I can represent data in graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. ❖ I can represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

Resources

Gravity and Falling Objects: PBS Learning Media lesson where students investigate the force of gravity and how all objects, regardless of mass, fall to the ground at the same rate.

NASA's Solar System Exploration website contains several resources that educators and students can use to make sense of the night sky.

Our Super Star: PBS Learning Media lesson that guides students to understand the basic facts about the Sun, model the mechanics of day and night, and use solar energy to make a tasty treat.

Pearson Realize: **https://www.savvasrealize.com/index.html#/**

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RI.5.7: Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

RI.5.8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).

RI.5.9: Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.

W.5.1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

SL.5.5: Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

Connections to NJSLS – Math

MP.2: Reason abstractly and quantitatively. **MP.4:** Model with mathematics.

5. NBT.A.2: Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10.

5. G.A.2: Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

Differentiated Instruction

(content, process, product and learning environment)

At Risk Students	English Language Learners
Modifications for Classroom Pair visual prompts with verbal presentations Use of lab or experiments to give visual representation of concept Ask students to restate information, directions, and assignments. Work within group or partners Repetition and practice Model skills / techniques to be mastered. Use metacognitive work Extended time to complete class work Provide copy of class notes Student may request to use a computer to complete assignments. Use manipulatives to examine concepts Assign a peer helper in the class setting Provide oral reminders and check student work during independent work time	**Modifications for Classroom** Native Language Translation (peer, online assistive technology, translation device, bilingual dictionary) Preteach vocabulary Use graphic organizers or other visual models Use of manipulatives to visualize concept Highlight key vocabulary-chart or vocabulary bank Use of nonverbal responses (thumbs up/down) Use sentence frames Design questions for different proficiency levels Utilize partners and partner talk
Special Education	**Gifted and Talented**

Modifications for Classroom Pair visual prompts with verbal presentations Use of lab or experiments to give visual representation of concept Ask students to restate information, directions, and assignments. Preteach vocabulary Repetition and practice Model skills / techniques to be mastered. Use manipulatives and visual representation to examine Breakdown large assignments into smaller tasks Extended time to complete class work Provide copy of class notes Preferential seating to be mutually determined by the student and teacher Use of online component of book Extra textbooks for home. Student may request books on tape / CD / digital media, as available and appropriate. Assign a peer helper in the class setting Provide oral reminders and check student work during independent work time Assist student with long and short term planning of assignments	**Extension Activities** Conduct research and provide presentation of cultural topics. Design surveys to generate and analyze data to be used in discussion. Use of Higher Level Questioning Techniques Provide assessments at a higher level of thinking Create alternative assessment which requires writing, research and presentation