



Grade 7 Science – Course 2
Unit # 1- Life Science
Topic 1 The Cell Systems – 23 Days

Unit Overview Students will understand and apply scientific concepts, principles, and theories pertaining to the living environment setting and recognize the historical development/multicultural involvement of the ideas in science. Main ideas include: living things are alike yet different, structures in living things are related to their function and living things interact with their environment. Students consider systems and how they interact as they investigate cell function and cellular processes as well as exploring the human body as a system model, driven by the flow of energy and the cycling of matter. This leads to the study of reproduction and the plant and animal structures that support it. Students consider stability and change as a core concept in the biosphere.

Topic Essential Question: How does the structure of cells determine their function?

Lessons

- Topic Launch/Quest Kickoff
- Lesson 1 Structure and Function of Cells
- Lesson 2 Cell Structures
- Lesson 3 Obtaining and Removing Materials
- Lesson 4 Cell Division
- Lesson 5 Photosynthesis
- Lesson 6 Cellular Respiration
- Topic Close –Assessment, Quest Findings

NYSSLS Performance Expectations

MS-LS1-1. Plan and conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. [Clarification Statement: Emphasis is on developing evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.]

MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. [Clarification Statement: Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall.] [Assessment Boundary: Assessment of organelle structure/function relationships is limited to the cell wall and cell membrane. Assessment of the function of the other organelles is limited to their relationship to the whole cell. Assessment does not include the biochemical details related to the functions of cells or cell parts.]

MS-LS1-3. Construct an explanation supported by evidence for how the body is composed of interacting systems consisting of cells, tissues, and organs working together to maintain homeostasis. [Clarification Statement: Emphasis should be on the function and interactions of the major body systems (e.g. circulatory, respiratory, nervous, musculoskeletal).] [Assessment Boundary: Assessment is focused on the interactions between systems not on the functions of individual systems.]

MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. [Clarification Statement: Emphasis is on tracing movement of matter and flow of energy.] [Assessment Boundary: Assessment does not include the biochemical mechanisms of photosynthesis.]

MS-LS1-7. Develop a model to describe how food molecules are rearranged through chemical reactions to release energy during cellular respiration and/or form new molecules that support growth as this matter moves through an organism. [Clarification Statement: Emphasis is on describing that molecules are broken apart and put back together and that in this process, energy is released.] [Assessment Boundary: Assessment does not include details of the chemical reactions for respiration or synthesis.]

MS-LS2-3. Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. [Clarification Statement: Emphasis is on describing the conservation of matter and flow of energy associated with the ecosystem, and on defining the boundaries of the ecosystem.] [Assessment Boundary: Assessment does not include the use of chemical reactions to describe the processes.]

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-ETS1-4. 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.

Topic Opener

PE: MS-LS1-1; MS-LS1-2; MS-LS1-3

DCI:

LS1.A - Structure and Function

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS1-1)
- Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2)
- In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions. (MS-LS1-3)

LS1.C – Organization of matter and Energy Flow in Organisms

- Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. (MS-LS1-6)
- Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. (MS-LS1-7)

CCC: Structure and Function

Savvas

Highlighted labs are important to the understanding of the instructional concepts in this lesson and must be completed during Science instructional time.

- Topic Readiness Test
- **uConnect Lab – What Can You See?**
- Quest Kickoff Video – How can you design a model exhibit for a science museum?

CLRI Connections:

- [Why is Henrietta Lacks Important?](#)
 - [TedEd Henrietta Lacks Video](#)

Henrietta Lacks was a poor African-American raised on a tobacco farm in Virginia. After she died in 1951, medical researchers collected her cells. They named these cells HeLa cells. These cells changed the course of medical research. In fact, some people argue that most of the world’s population has benefited from research using HeLa cells. Visit almost any cell culture lab and you will find millions, if not billions, of frozen HeLa cells.

Lesson 1 – Structure and Function of Cells

PE: MS-LS1-1; MS-LS1-2

SEP: Developing and Using Models; Planning and Carrying Out Investigations

DCI:

LS1.A - Structure and Function

- All living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). (MS-LS1-1)
- Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2)

CCC: Scale, Proportion, and Quantity; Structure and Function

zSpace Activities (code)

Cell Theory (A164)

[Cell Theory - Teacher Activity Plan](#)

How small is the smallest living organism? If you answered “as small as a cell,” then you are correct! Cells are the smallest unit of life. They can either work individually as a unicellular organism, or work together in a multicellular organism. In this activity, students will investigate how scientists developed the Cell Theory.

[Cell Theory - Student Worksheet](#)

[Cell Theory - Student Worksheet GoogleDoc](#)

Plant Cell vs. Animal Cell (A187)

[Plant Cell vs. Animal Cell - Teacher Activity Plan](#)

While animals and plants may look completely different, their building blocks share many similarities. Animal and plant cells are both complex eukaryotic cells with many of the same organelles. However, many differences in structure and function make these cell types distinct. In this activity, students will compare the structures of an animal cell with those of a plant cell.

[Plant Cell vs. Animal Cell - Student Worksheet](#)

[Plant Cell vs. Animal Cell - Student Worksheet](#)

[GoogleDoc](#)

Cell Differentiation (A079)

[Cell Differentiation - Teacher Activity Plan](#)

Did you know there are more cells in your body than there are humans in the entire world? Although the cells in our body work together to keep us alive, they often are specialized to perform particular functions. In this activity, students will investigate how the physical shapes of cells allow them to perform their tasks more efficiently.

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Guiding Objectives:

- Students will recognize and explore: The components of cell theory; that cells are the basic unit of life; that cells of all living things extract energy from food, get rid of waste, and reproduce.
- Students will conduct an investigation to: Provide evidence that all living things are made up of cells; distinguish between living and nonliving things based on the presence or absence of cells.

Literacy Connection

- Determine Central Idea

Vocabulary

- cell
- microscope
- cell theory

Academic Vocabulary

- distinguish

Connect - TE/SB p. 4

- Connect It!
- Quest Connection
- Write: In common

Investigate - TE/SB pp. 5-10

- ***u*Investigate Lab – Observing Cells**
- Video – Cell Theory
- Interactivity – Through a Microscope
- Interactivity – Functions of all Cells
- Virtual Lab – Living or Not?
- Reading Checks (pp.5; 8; 10)
- Literacy Connection (p.6)
- Plan It! (p.9)

Synthesize - TE/SB pp. 11

- Interactivity – A Strange Specimen
- Math Toolbox (p.11)

Demonstrate – TE/SB pp.12

- Lesson 1 Check
- Lesson Quiz 1

<p>Students will learn how different cells are organized into larger units to complete larger tasks. Cell Differentiation - Student Worksheet Cell Differentiation - Student Worksheet GoogleDoc</p>	
<p><u>Lesson 2 – Cell Structures</u> PE: MS-LS1-2 SEP: Developing and Using Models DCI: LS1.A - Structure and Function</p> <ul style="list-style-type: none"> ● Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2) <p>CCC: Structure and Function</p> <p>zSpace Activities (code) Plant Cell vs. Animal Cell (A187) Plant Cell vs. Animal Cell - Teacher Activity Plan While animals and plants may look completely different, their building blocks share many similarities. Animal and plant cells are both complex eukaryotic cells with many of the same organelles. However, many differences in structure and function make these cell types distinct. In this activity, students will compare the structures of an animal cell with those of a plant cell. Plant Cell vs. Animal Cell - Student Worksheet Plant Cell vs. Animal Cell - Student Worksheet GoogleDoc</p> <p>Chloroplasts and Mitochondria (A080) Chloroplasts and Mitochondria - Teacher Activity Plan In this activity, students will explore how chloroplasts and mitochondria contribute to overall cellular function through the processes of photosynthesis and cellular respiration. Chloroplasts and Mitochondria - Student Worksheet Chloroplasts and Mitochondria - Student Worksheet GoogleDoc</p>	<p>Savvas Guiding Objectives:</p> <ul style="list-style-type: none"> ● Students will develop and use a model to: Identify the parts of a cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane and cell wall; describe how each part of a cell contributes to the function of the cell as a whole. ● Students will compare and contrast the structure and function of major parts of plant and animal cells. <p>Literacy Connection</p> <ul style="list-style-type: none"> ● Integrate with Visuals <p>Vocabulary</p> <ul style="list-style-type: none"> ● organelle ● cell wall ● cell membrane ● cytoplasm ● nucleus ● mitochondria ● chloroplast ● vacuole <p>Academic Vocabulary</p> <ul style="list-style-type: none"> ● structure ● function <p>Connect - TE/SB p. 14-15</p> <ul style="list-style-type: none"> ● Connect It! ● Quest Connection ● Inquiry Warm-Up Lab – How Large Are Cells? <p>Investigate - TE/SB pp. 15-20</p> <ul style="list-style-type: none"> ● Video – Cell Structure ● Investigate Lab – Comparing Cells ● Interactivity – Build a Cell ● Interactivity – Structure Function Junction ● Literacy Connection ● Model It! (p.19) ● Reading Check (p.20) <p>Synthesize - TE/SB p. 21-23</p> <ul style="list-style-type: none"> ● Interactivity – Specialized Cells ● Quest Check-In Lab – Make a Cell Model ● Literacy Connection (p.21) ● Reading Check (p.22) ● Quest Check-In <p>Demonstrate – TE/SB p. 23</p> <ul style="list-style-type: none"> ● Lesson 2 Check ● Lesson 2 Quiz

<p><u>Lesson 3 – Obtaining and Removing Materials</u> PE: MS-LS1-2 SEP: Developing and Using Models DCI: LS1.A - Structure and Function</p> <ul style="list-style-type: none">• Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2) <p>CCC: Structure and Function</p>	<p>Savvas Guiding Objectives:</p> <ul style="list-style-type: none">• Students will develop and use a model to describe how cells obtain energy and remove waste materials through the cell membrane. <p>Literacy Connection</p> <ul style="list-style-type: none">• Integrate with Visuals <p>Vocabulary</p> <ul style="list-style-type: none">• selectively permeable• diffusion• osmosis• endocytosis• exocytosis <p>Academic Vocabulary</p> <ul style="list-style-type: none">• maintain <p>Connect - TE/SB pp. 24</p> <ul style="list-style-type: none">• Connect It!• Quest Connection• Class Discussion – Going In and Out <p>Investigate - TE/SB pp. 25 - 29</p> <ul style="list-style-type: none">• Investigate Lab – Egg-Speriment with a Cell*• Video – Obtaining and Removing Material• Interactivity – Cell Transport• Model It!• Reading Check (p 27)• Math Toolbox (p.27)• Model It! (p.28)• Literacy Connection (p.28) <p>Synthesize - TE/SB pp. 30-31</p>

	<ul style="list-style-type: none"> ● Interactivity – Entering and Learning the Cell ● Quest Check-In Interactivity –Put Your Cells in Motion ● Quest Check-In ● Reading Check (p.30) <p>Demonstrate – TE/SB p.31</p> <ul style="list-style-type: none"> ● Lesson 3 Check ● Lesson 3 Quiz <p>*Denotes accompanying lab video</p>
<p><u>Lesson 4 – Cell Division</u> PE: MS-LS1-2 SEP: Developing and Using Models DCI: LS1.A - Structure and Function</p> <ul style="list-style-type: none"> ● Within cells, special structures are responsible for particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. (MS-LS1-2) <p>CCC: Structure and Function</p> <p>zSpace Activities (code) Mitosis (A112) Mitosis - Teacher Activity Plan In this activity students will examine each phase of mitosis and learn how the cell transitions from one phase to another. Mitosis - Student Worksheet Mitosis - Student Worksheet GoogleDoc</p> <p>Mitosis vs. Meiosis (A213) Mitosis vs. Meiosis - Teacher Activity Plan In this activity, students will examine the similarities and differences between mitosis and meiosis. Mitosis vs. Meiosis - Student Worksheet Mitosis vs. Meiosis - Student Worksheet GoogleDoc</p>	<p>Savvas Guiding Objectives:</p> <ul style="list-style-type: none"> ● Students will use text evidence and visuals to: Restate the four functions of cell division; describe and explain each phase of the cell cycle; explain cause and effect relationships of cell division. ● Students will analyze and interpret data to: Identify patterns in the process of cell division; calculate the number of cells when provided the number of divisions. ● Students will use reasoning and evidence to ask questions related to cell division when provided an image of a cell. <p>Literacy Connection</p> <ul style="list-style-type: none"> ● Summarize Text <p>Vocabulary</p> <ul style="list-style-type: none"> ● cell cycle ● interphase ● replication ● mitosis ● cytokinesis <p>Academic Vocabulary</p> <ul style="list-style-type: none"> ● sequence <p>Connect - TE/SB pp. 32</p> <ul style="list-style-type: none"> ● Connect It! ● Quest Connection ● Write – Active Cell Division <p>Investigate - TE/SB pp. 33-38</p> <ul style="list-style-type: none"> ● uInvestigate Lab – Modeling Mitosis ● Video – Cell Division

	<ul style="list-style-type: none"> ● Interactivity – A Cell Divides ● Interactivity – How Does a Broken Bone Heal? ● Model It! ● Reading Check (pp. 33; 37) ● Math Toolbox (p.35) ● Literacy Connection (p.37) <p>Synthesize - TE/SB p. 38</p> <ul style="list-style-type: none"> ● Interactivity – The Cell Cycle ● Reading Check (p.38) ● Question It! (p.38) <p>Demonstrate – TE/SB p.39</p> <ul style="list-style-type: none"> ● Lesson 4 Check ● Lesson 4 Quiz
<p><u>Lesson 5 – Photosynthesis</u> PE: MS-LS1-6; MS-LS1-7; MS-LS2-3 SEP: Constructing Explanations and Designing Solutions DCI: LS1.C – Organization for Matter and Energy Flow in Organisms</p> <ul style="list-style-type: none"> ● Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. (MS-LS1-6) <p>CCC: Energy and Matter</p> <p>ZSpace Activities (code) Chloroplasts and Mitochondria (A080) Chloroplasts and Mitochondria - Teacher Activity Plan In this activity, students will explore how chloroplasts and mitochondria contribute to overall cellular function through the processes of photosynthesis and cellular respiration. Chloroplasts and Mitochondria - Student Worksheet Chloroplasts and Mitochondria - Student Worksheet GoogleDoc</p> <p>Exploring Plants: Plant Photosynthesis and Respiration (E426) Exploring Plants: Plant Photosynthesis and Respiration - Teacher Activity Plan</p>	<p>Savvas Guiding Objectives:</p> <ul style="list-style-type: none"> ● Students will construct an explanation for how plants and other organisms use photosynthesis to make food. ● Students will explain the roles of light, carbon dioxide, water, and chlorophyll in photosynthesis. ● Students will cite evidence to support the role of photosynthesis in the cycling of materials and energy through ecosystems <p>Literacy Connection</p> <ul style="list-style-type: none"> ● Summarize Text <p>Vocabulary</p> <ul style="list-style-type: none"> ● photosynthesis ● autotroph ● heterotroph ● chlorophyll <p>Academic Vocabulary</p> <ul style="list-style-type: none"> ● equation <p>Connect - TE/SB p. 40</p> <ul style="list-style-type: none"> ● Connect It! ● Quest Connection ● Poll: Food or Fiction? <p>Investigate - TE/SB pp. 41-46</p> <ul style="list-style-type: none"> ● Investigate Lab – Energy From the Sun* ● Video – Photosynthesis ● Interactivity – Making Food for Cells ● Model It! (p.43) ● Reading Check (pp. 43; 45; 46) ● Literacy Connection (p.42) <p>Synthesize - TE/SB p. 47</p>

<p>In this activity, students will take a closer look at the processes of photosynthesis and respiration. Students will learn how these two processes are responsible for the cycling of matter and the flow of energy into and out of plants.</p> <p>Exploring Plants: Photosynthesis and Respiration - Student Worksheet</p> <p>Exploring Plants: Plant Reproduction - Student Worksheet GoogleDoc</p>	<ul style="list-style-type: none"> ● Interactivity – Flower Food ● Math Toolbox (p.47) <p>Demonstrate – TE/SB p.48</p> <ul style="list-style-type: none"> ● Lesson 5 Check ● Lesson 5 Quiz <p>*Denotes accompanying lab video</p>
<p><u>Lesson 6 – Cellular Respiration</u></p> <p>PE: MS-LS1-7</p> <p>SEP: Developing and Using Models</p> <p>DCI:</p> <p>LS1.C – Organization for Matter and Energy Flow in Organisms</p> <ul style="list-style-type: none"> ● Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. (MS-LS1-7) <p>CCC: Energy and Matter</p>	<p>Savvas</p> <p>Guiding Objectives:</p> <ul style="list-style-type: none"> ● Students will construct an explanation using models for how organisms use cellular respiration to break down food to provide energy. ● Students will explain how cells can release energy by using oxygen. ● Students will cite evidence to support that living systems follow the Laws of Conservation of Mass and Energy. <p>Literacy Connection</p> <ul style="list-style-type: none"> ● Translate Information <p>Vocabulary</p> <ul style="list-style-type: none"> ● cellular respiration ● fermentation <p>Academic Vocabulary</p> <ul style="list-style-type: none"> ● produce ● source <p>Connect - TE/SB p. 50</p> <ul style="list-style-type: none"> ● Connect It! ● Quest Connection ● Inquiry Warm-Up Lab – Cellular Respiration <p>Investigate - TE/SB pp. 51 – 55</p> <ul style="list-style-type: none"> ● Investigate Lab – Exhaling Carbon Dioxide ● Video – Cellular Respiration ● Interactivity – Making Energy for Cells ● Math Toolbox (p.54) ● Reading Check (pp. 53; 54; 55) ● Literacy Connection (p.53) <p>Synthesize - TE/SB pp. 55 - 57</p> <ul style="list-style-type: none"> ● Interactivity – Energy to Food and Food to Energy

	<ul style="list-style-type: none"> ● Quest Check-In Lab – Accounting for Atoms ● Quest Check-In Interactivity: The Importance of Cells ● Plan It! (p.56) ● Quest Check-In <p>Demonstrate – TE/SB p.57</p> <ul style="list-style-type: none"> ● Lesson 6 Check ● Lesson 6 Quiz
<p>Topic Close</p> <ul style="list-style-type: none"> ● Topic 1 Assessment and Remediation TE/SB pp. 60-63 ● Quest Finding and Reflection TE/SB p. 63 	<p><u>Topic 1 Enrichment</u></p> <p>Topic 1 - Lesson 1 Enrichment</p> <ul style="list-style-type: none"> ● Extraordinary Science – Viewing Cells through a “Thermal Lens” p.13 ● Enrichment – Discovering Cells <p>Topic 1 - Lesson 2 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment Activity – Looking Inside Cells <p>Topic 1 - Lesson 3 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment Activity – Osmosis ● Engineer It – Gathering Speed with Superconductors p. 33 <p>Topic 1 Lesson 4 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment Activity – Cells and More Cells <p>Topic 1 Lesson 5 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment – Limits to Photosynthesis ● Little Bits – Robotics and Invention Activities p.49 <p>Topic 1 Lesson 6 Enrichment</p> <ul style="list-style-type: none"> ● Career Video – Biology Professor ● Enrichment – Oxygen Consumption ● Case Study – The Mighty Mole Rat – p.58
<p>English Language Learners (ELL) Enhancements To access hyperlinked material, you must be logged into</p>	<p><u>Listening</u></p> <ul style="list-style-type: none"> ● <u>Cross- Linguistic Practices:</u> Gives students opportunities to make connections between what they hear and their home language (For example, allow students to listen to a passage and identify cognates). ● <u>Activating Prior Knowledge</u> Activating prior knowledge means both eliciting from students what they already know and building initial knowledge that they need in order to access upcoming content. ● <u>Visuals</u> - GIFs, pictures- will assist students in understanding what they are listening to. Use <u>visual thinking strategies</u> to set the lens for learning. ● Video to review or introduce a topic – use <u>closed captioning</u> to help students see the words and pronunciations while they listen to the content.

<p>your BPS Google Drive</p>	<ul style="list-style-type: none"> ● Word stretching / Vowel stretching when instructing allows students to listen closely to the pronunciation of the word. ● Performance Level Descriptors this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of listening. Scroll for grade 7. <p>Speaking</p> <ul style="list-style-type: none"> ● Sentence Stems/Frames - to begin a sentence - such as <i>Evolution is...</i> or <i>I think that evolution is...</i> ● Academic Conversation Starters: Have a visual of a list of academic sentence starters that students can refer to in a discussion. ● Choral Reading - To build fluency, self-confidence and motivation with reading/speaking. ● Create movement to go with the word. Movement can be a motivating factor, as well as a kinesthetic tool for conceptualizing the rhythm and flow of fluent reading while triggering brain function for optimal learning. ● Performance Level Descriptors This document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of speaking. Scroll for grade 7. <p>Reading</p> <ul style="list-style-type: none"> ● Supplementary Text to help reinforce concepts. ● Visual Aids - Pictures or models to support vocabulary words and concepts ● Video to review or introduce a topic - use closed captioning to help students read along while they listen to the content. ● 4 Square / Frayer models to help students gain a deeper understanding of vocabulary. ● Highlighting important text to assist students in answering questions after the reading. ● Chunking-Break reading of text into chunks or paragraphs ● Vocabulary Morphology- Morphology relates to the segmenting of words into affixes (prefixes and suffixes) and roots or base words, and the origins of words. Understanding that words connected by meaning can be connected by spelling can be critical to expanding a student’s vocabulary. ● Performance Level Descriptors this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of reading. Scroll for grade 7. <p>Instructional Accommodations (depending on the student’s needs)</p> <ul style="list-style-type: none"> ● Extended time for tests in class, projects and assignments ● Directions read. Broken down as necessary ● Model how to complete the activity in the lesson ● Oral simplification of directions or questions ● Translated version of test when available. Student may have both version English and native language version ● Use of approved bilingual glossaries from NYS in each subject
<p>Special Education Modifications</p> <p>Special Education students must have</p>	<p>Instructional</p> <ul style="list-style-type: none"> ● Pre-teach vocabulary ● Use picture vocabulary ● Scaffold Depth of Knowledge questions ● Provide copy of notes/notes in “cloze” form ● Use of Think, Pair, and Share strategy to help process information ● Scaffold written assignments with the use of graphic organizers ● Allow for multiple ways to respond (verbal, written, response board)

Grade 7 Unit 1 Life Science

<p>accommodations as per Individual Educational Plan (IEP)</p>	<ul style="list-style-type: none"> ● Provide model of performance task ● Modify informational text to fit the needs of the students ● Provide a digital or paper interactive notebook ● Present complex tasks in multiple ways ● Provide mnemonic strategies for scientific concepts <p>Technology:</p> <ul style="list-style-type: none"> ● Audio reading of text ● Text to type functions ● Videos to clarify/visualize science concepts ● Record class lecture/discussions and make accessible to student ● Nearpod- interactive presentations of notes <p>In Class Assessments</p> <ul style="list-style-type: none"> ● Provide multiple options for projects ● Use of timer in class ● Break all complex tasks into chunks
<p>Step Up to Writing Step Up to Writing Materials can be found in BPS Science K-12 Schoology Folder □ Grade 5 Resources □ Grade 5 SUTW materials</p>	<ul style="list-style-type: none"> ● Easy Two-Column Notes ● Breaking Down Definitions ● Paragraph Frame- What I Learned ● Performance Level Descriptors this document provides teachers with a description of what output they can expect from students based on earned NYSESLAT levels in the modality of writing. Scroll for grade 7.
<p>Culturally and Linguistically Responsive Teaching (CLRT) in the Science Classroom</p>	<ul style="list-style-type: none"> ● Materials, resources, and/or discussions address diverse cultural backgrounds and real-world applications ● Artifacts (posters, charts, etc.) in the science classroom are representative of the cultures of the student population ● All students are given an opportunity to engage in science discourse ● Teacher demonstrates high expectations for all students