



Grade 8 Science – Course 3 Unit 2 – Life Science

Topic 5 Natural Selection and Change Over Time – 18 Days

Unit Overview - Students will explore patterns of reproduction and inheritance through investigation of advances in the fields of genetics and inheritance. Students will discover how inherited alleles are related to an organism's traits and how probability is related to inheritance. Students will then explore the relationship between genes, chromosomes, and inheritance. Models such as a pedigree chart will be used to track inheritance. DNA replication, protein synthesis, trait variations due to changes in DNA and RNA will be introduced. Artificial selection, mutations, and the engineering of new traits will be investigated. Students will then use this information to explore the process that explains how organisms change over time. Students will investigate factors that drive natural selection and learn about evidence that supports the scientific theory of evolution. This will lead into the investigation of how genetics and trait variations influence a population as well as how species interactions affect evolution. Studying fossil evidence and modern technologies and DNA will provide new evidence about the theory of evolution.

Topic Essential Question: How do characteristics change over time?

Lessons

- Topic Launch/Quest Kickoff
- Lesson 1 Early Study of Evolution
- Lesson 2 Natural Selection
- Lesson 3 The Process of Evolution
- Lesson 4 Evidence in the Fossil Record
- Lesson 5 Other Evidence of Evolution (enrichment)
- Topic Close – Assessment, Quest Findings

NYSSLS Performance Expectations

MS-LS4-1. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past. [Clarification Statement: Emphasis is on finding patterns of changes in the level of complexity of anatomical structures in organisms and the chronological order of fossil appearance in the rock layers.] [Assessment Boundary: Assessment does not include the names of individual species or geological eras in the fossil record.]

MS-LS4-2. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships. [Clarification statement: Emphasis is on explanations of the evolutionary relationships among organisms in terms of similarity or differences of the gross appearance of anatomical structures as evidence of common ancestry.]

MS-LS4-3. Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy. [Clarification Statement: Emphasis is on inferring general patterns of relatedness among embryos of different organisms by comparing the macroscopic appearance of diagrams or pictures.] [Assessment Boundary: Assessment of comparisons is limited to gross appearance of anatomical structures in embryological development.]

MS-LS4-4. Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment. [Clarification Statement: Emphasis is on using simple probability statements and proportional reasoning to construct explanations.]

MS-LS4-5. Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms. [Clarification Statement: Emphasis is on synthesizing information from reliable sources about the influence of humans on genetic outcomes in artificial selection (such as genetic modification, selective breeding, gene therapy); and, on the impacts these technologies have on society.]

MS-LS4-6. Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. [Clarification Statement: Emphasis is on using mathematical models, probability statements, and proportional reasoning to support explanations of trends in changes to populations over time.] [Assessment Boundary: Assessment does not include Hardy Weinberg calculations.]

Topic Opener

PE: MS-LS4-1; MS-LS4-2; MS-LS4-5; MS-LS4-4

SEP: Analyzing and Interpreting Data; Engaging in Argument from Evidence

DCI:

LS4.B – Natural Selection

- (NYSED) Natural selection can lead to an increase in the frequency of some traits and the decrease in the frequency of other traits. (MS-LS4-4)

CCC – Cause and Effect

Lesson 1 – Early Study of Evolution

PE:MS-LS4-4

SEP: Constructing Explanations

DCI:

LS4.B – Natural Selection

- (NYSED) Natural selection can lead to an increase in the frequency of some traits and the decrease in the frequency of other traits. (MS-LS4-4)

CCC: Cause and Effect

zSpace Activities (code)

Comparing Ocean Creatures (A529)

[Comparing Ocean Creatures - Teacher Activity Plan](#)

In this activity, students will dive deep below the ocean’s water to see how a few of these uniquely fascinating ocean animals can survive over generations in this one-of-a-kind environment.

[Comparing Ocean Creatures - Student Worksheet](#)

[Comparing Ocean Creatures - Student Worksheet](#)

[GoogleDoc](#)

Birds of a Feather: Part 1 (A160)

[Birds of a Feather: Part 1 - Teacher Activity Plan](#)

In this activity, students will compare birds and learn about the features that make them unique.

[Birds of a Feather: Part 1 - Student Worksheet 1](#)

[Birds of a Feather: Part 1 - Student Worksheet 2](#)

[Birds of a Feather: Part 1 - Student Worksheet GoogleDoc](#)

Birds of a Feather: Part 2 (A161)

[Birds of a Feather: Part 2 - Teacher Activity Plan](#)

In this activity, students will compare birds and learn about the features that make them unique.

[Birds of a Feather: Part 2 - Student Worksheet 1](#)

[Birds of a Feather: Part 2 - Student Worksheet 2](#)

[Birds of a Feather: Part 2 - Student Worksheet GoogleDoc](#)

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 – Walking Whales?**
- Quest Kickoff Video – Why is the migration pattern changing for some European bird population?

Savvas

Guiding Objectives:

- Students will identify and describe evidence that explains how organisms can change over time.
- Students will construct explanations using reasoning to support the theory of evolution

Literacy Connection

- Determining Central Ideas

Vocabulary

- species
- evolution
- fossil
- adaptation
- scientific theory

Academic Vocabulary

- hypothesis

Connect - TE/SB p.238

- Connect It!
- Quest Connection
- Inquiry Warm-Up Lab – Flowery Traits, Seedy Variations

Investigate - TE/SB pp.239-245

- **uInvestigate Lab – How Do Species Change Over Time?**
- Video – Early Study of Evolution
- Interactivity – Mystery on the Galapagos Islands
- Interactivity – Animal Feeding Adaptions
- Virtual Lab – Natural Selection in Butterfly Behavior
- Question It! (p.245)
- Reading Checks (pp.241; 242; 245)

Synthesize - TE/SB pp. 246-247

- Interactivity – Adaptations and Variations
- Quest Check-In Interactivity – Meet the Blackcaps
- Quest Check-In
- Literacy Connection (p.246)
- Reading Check (p.246)

Demonstrate – TE/SB p.247

- Lesson 1 Check
- Lesson Quiz 1

Lesson 2 – Natural Selection**PE:** MS-LS4-4; MS-LS4-5; MS-LS4-6**SEP:** Using Mathematics and Computational Thinking; Constructing Explanations; Obtaining, Evaluating, and Communicating Information**DCI:****LS4.B** – Natural Selection

- (NYSED) Natural selection can lead to an increase in the frequency of some traits and the decrease in the frequency of other traits. (MS-LS4-4)
- In artificial selection, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits determined by genes, which are then passed on to offspring. (MS-LS4-5)

LS4.C – Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS4-6)

CCC: Cause and Effect**zSpace Activities (code)****Changes in Birds Beaks (A512)**[Changes in Birds Beaks - Teacher Activity Plan](#)

In this activity, the students will investigate the beaks of many different birds and draw conclusions about how these birds live based on their observations.

[Changes in Birds Beaks - Student Worksheet](#)[Changes in Birds Beaks - Student Worksheet GoogleDoc](#)**Natural Selection (A559)**[Natural Selection - Teacher Activity Plan](#)

In this activity, students will learn how natural selection drives evolution, and how natural variations help species adapt to changing conditions.

[Natural Selection - Student Worksheet 1](#)[Natural Selection - Student Worksheet 2](#)[Natural Selection - Student Worksheet GoogleDoc](#)**Peppered Moth (A065)**[Peppered Moth - Teacher Activity Plan](#)

Students will create models and a presentation demonstrating their understanding of adaptations and how organisms survive in certain environments.

[Peppered Moth - Student Worksheet 1](#)[Peppered Moth Student Worksheet 2](#)[Peppered Moth - Student Worksheet GoogleDoc](#)**Savvas****Guiding Objectives:**

- Students will construct explanations using evidence to describe how natural selection leads to change over time in organisms.
- Students will gather and synthesize information to explain the roles of genes, mutations, and the environment in natural selection.

Literacy Connection

- Cite Textual Evidence

Vocabulary

- mechanism
- natural selection
- competition

Academic Vocabulary

- expression

Connect - TE/SB p. 248

- Connect It!
- Quest Connection
- Poll – Squirrel Color and Survival

Investigate - TE/SB pp.249-255

- Video – Natural Selection
- ***uInvestigate Lab – Variation in a Population****
- Interactivity – Mice Selection on a Prairie
- Model It! (p.253)
- Reading Check (pp.251; 252)
- Math Toolbox (p.252)
- Literacy Connection (p.250)

Synthesize - TE/SB p.255

- Interactivity – Lessons From the Potato Famine
- Reading Check (p.255)

Demonstrate – TE/SB p.256

- Lesson 2 Check
- Lesson 2 Quiz

***Denotes accompanying lab video**

Lesson 3 – The Process of Evolution

PE: MS-LS4-4

SEP: Using Mathematics and Computational Thinking;
Constructing Explanations

DCI:

LS4.B – Natural Selection

- (NYSED) Natural selection can lead to an increase in the frequency of some traits and the decrease in the frequency of other traits. (MS-LS4-4)

LS4.C – Adaptation

- Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes. (MS-LS4-6)

CCC: Cause and Effect

Savvas

Guiding Objectives:

- Students will use mathematical representations to support explanations of how natural selection and inherited variations influence a population.
- Students will construct explanations based on evidence to describe the influence sexual selection has on a population’s genetic variation.
- Students will investigate the cause-and-effect relationship between species interaction and its influence on evolution.

Literacy Connection

- Determine Conclusions

Vocabulary

- fitness
- sexual selection
- coevolution

Academic Vocabulary

- randomly
- interactions

Connect - TE/SB p.258

- Connect It!
- Quest Connection
- Write: Frog Jump

Investigate - TE/SB pp. 259 – 262; 263-664

- **Investigate Lab – Adaptations of Birds**
- Video – The Process of Evolution
- Interactivity – Mutations Aren’t All That Bad
- Literacy Connection (p.260)
- Reading Check (pp.260; 261; 263)

Synthesize - TE/SB pp. 262; 264

- Interactivity – Separated Species
- Quest Check-In Interactivity – Evolution of the Blackcaps
- Reading Check (p.262)
- Model It! (p.264)

Demonstrate – TE/SB p.264

- Lesson 3 Check
- Lesson 3 Quiz

Lesson 4 – Evidence in the Fossil Records**PE:** MS-LS4-1; MS-LS4-2; MS-LS4-3; MS-LS4-6**SEP:** Analyzing and Interpreting Data; Using Mathematics and Computational Thinking; Constructing Explanations**DCI:****LS4.A** – Evidence of Common Ancestry and Diversity

- The collection of fossils and their placement in chronological order (e.g., through the location of the sedimentary layers in which they are found or through radioactive dating) is known as the fossil record. It documents the existence, diversity, extinction, and change of many life forms throughout the history of life on Earth. (MS-LS4-1)
- Anatomical similarities and differences between various organisms living today and between them and organisms in the fossil record, enable the reconstruction of evolutionary history and the inference of lines of evolutionary descent. (MS-LS4-2)
- Comparison of the embryological development of different species also reveals similarities that show relationships not evident in the fully-formed anatomy. (MS-LS4-3)

CCC: Patterns**zSpace Activities (code)****Homologous Structures (A562)**[Homologous Structures - Teacher Activity Plan](#)

Homologous structures are bones or organs that are present in different animals, share anatomical similarities, and provide evidence of descent from a common ancestor. While the functions may be different, many of the animals' structures are actually more similar than we think. In this activity, students will compare the anatomy of many different organisms.

[Homologous Structures - Student Worksheet 1](#)[Homologous Structures - Student Worksheet 2](#)[Homologous Structures - Student Worksheet GoogleDoc](#)**Mammoths and Elephants (A025)**[Mammoths and Elephants - Teacher Activity Plan](#)

In this activity, students will compare the anatomies of the mammoth and the elephant and identify and describe similarities and differences in their features. They will discover that organisms sharing a pattern of anatomical features are closely related and share a common ancestor.

[Mammoths and Elephants - Student Worksheet 1](#)[Mammoths and Elephants - Student Worksheet 2](#)[Mammoths and Elephants - Student Worksheet](#)[GoogleDoc](#)**Savvas****Guiding Objectives:**

- Students will analyze and interpret data that supports evidence for the scientific theory of evolution.
- Students will apply scientific ideas to construct an explanation of how fossils show change over time.
- Students will analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify what the early development of different organisms tells us about evolution.
- Students will use mathematical representations to support explanations of how failure to adapt to environmental changes can lead to species extinction.

Literacy Connection

- Summarize Text

Vocabulary

- fossil record
- embryo
- homologous structure
- extinct

Academic Vocabulary

- evidence

Connect - TE/SB p.266

- Connect It!
- Quest Connection
- Class Discussion – Choose the Right Organism

Investigate - TE/SB pp. 267-275

- *Investigate Lab – Finding Proof**
- Interactivity – Along the Canyon Wall
- Interactivity – Legs, Arms, Wings, and Flippers
- Video – Evidence in the Fossil Record
- Reading Check (pp.271; 272; 274)
- Literacy Connection (p.270)
- Math Toolbox (p.273)
- Question It! (p.271)

Synthesize - TE/SB pp.275-276

- Interactivity – Fossils Around the World
- Reading Check (p.276)

Demonstrate – TE/SB p.277

- Lesson 4 Check
- Lesson 4 Quiz

*Denotes accompanying lab video

<p>How are Birds and Reptiles Related? (A174) How are Birds and Reptiles Related? - Teacher Activity Plan In this activity, students will learn how birds and reptiles, specifically crocodiles, share many of the same characteristics due to their evolution from common ancestors. How are Birds and Reptiles Related? - Student Wkst 1 How are Birds and Reptiles Related? - Student Wkst 2 How are Birds and Reptiles Related? - Student Wkst GoogleDoc</p> <p>Marine Mammals (A521) Marine Mammals - Teacher Activity Plan In this activity, students will explore the evolutionary relationship between marine and terrestrial mammals using fossil evidence. Marine Mammals - Student Wkst 1 Marine Mammals - Student wkst 2 Marine Mammals - Student Wkst 3 Marine Mammals - Student Worksheet GoogleDoc</p> <p>Comparing Skeletons (A085) Comparing Skeletons - Teacher Activity Plan In this activity students will analyze different vertebrate skeletons and predict how some of these organisms are related. Comparing Skeletons - Student Worksheet 1 Comparing Skeletons - Student Worksheet 2 Comparing Skeletons - Student Worksheet GoogleDoc</p>	
<p><u>Lesson 5 – Other Evidence of Evolution</u> (enrichment) PE: MS-LS4-2; MS-LS4-6 SEP: Using Mathematics and Computational Thinking; Constructing Explanations DCI: LS4.A – Evidence of Common Ancestry and Diversity</p> <ul style="list-style-type: none"> Anatomical similarities and differences between various organisms living today and between them and organisms in the fossil record, enable the reconstruction of evolutionary history and the inference of lines of evolutionary descent. (MS-LS4-2) <p>CCC: Patterns</p>	<p>Savvas Guiding Objectives:</p> <ul style="list-style-type: none"> Students will use mathematical representations to support explanations of how modern technology provides evidence that all organisms have a common ancestor. Students will apply scientific ideas to construct an explanation of how modern technology has made new discoveries about evolution possible. <p>Literacy Connection</p> <ul style="list-style-type: none"> Read and Comprehend <p>Vocabulary</p> <ul style="list-style-type: none"> protein endosymbiosis <p>Academic Vocabulary</p> <ul style="list-style-type: none"> transfer <p>Connect - TE/SB p.280</p> <ul style="list-style-type: none"> Connect It! Quest Connection Write – Technology Over Time <p>Investigate - TE/SB pp. 281-284; 286</p> <ul style="list-style-type: none"> Investigate Lab – Evidence of Evolution

<p>zSpace Activities (code) Biotechnology and Corn (A202) Biotechnology and Corn - Teacher Activity Plan In this activity, students will gather and synthesize information about how humans have influenced the inheritance of desired traits in corn. Biotechnology and Corn - Student Worksheet 1 Biotechnology and Corn - Student Worksheet 2 Biotechnology and Corn - Student Worksheet GoogleDoc</p> <p>Biotechnology and Bananas (A173) Biotechnology and Bananas - Teacher Activity Plan In this activity, students will gather and synthesize information about how humans have influenced the inheritance of desired traits in bananas. Biotechnology and Bananas - Student Worksheet Biotechnology and Bananas - Student Worksheet GoogleDoc</p>	<ul style="list-style-type: none"> ● Interactivity – Tiny Clues ● Interactivity – Species Adaptation ● Video – Other Evidence of Evolution ● Reading Check (p.284) ● Literacy Connection (p.281) ● Math Toolbox (p.285) ● Design It! (p.286) <p>Synthesize - TE/SB pp. 285; 287-288</p> <ul style="list-style-type: none"> ● Interactivity – Long Necks and Hoofed Feet ● Quest Check In Interactivity – Prepare your Report ● Reading Check (p.287) ● Quest Check In <p>Demonstrate – TE/SB p.288</p> <ul style="list-style-type: none"> ● Lesson 5 Check ● Lesson 5 Quiz <p>CLRI Connections:</p> <ul style="list-style-type: none"> ● Article: “Where did the first people in the Caribbean come from?” <p>The first modern humans (Homo sapiens) evolved in Africa around 200,000 years ago and then migrated (moved) to almost every corner of the globe! Using both archaeology and ancient DNA, it was determined that the first settlers of the Caribbean came from Central or South America. They used stone tools and probably gathered wild plants and hunted animals. Another group of people moved into the Caribbean thousands of years later from South America and brought clay pots and farming. Ancient DNA can help tell the story of people who lived thousands of years ago. And it can help us understand how they are connected to people living today.</p>
<p><u>Topic Close</u></p> <ul style="list-style-type: none"> ● Topic 5 Assessment and Remediation TE/SB pp. 290-293 ● Quest Finding and Reflection TE/SB p. 293 	<p><u>Topic 5 Enrichment</u></p> <p>Topic 5 - Lesson 1 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment – Variations Within Species <p>Topic 5- Lesson 2 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment – Caterpillar Camouflage ● uEngineer It! – Fossils From Bedrock <p>Topic 5- Lesson 3 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment – Genetic Drift and Gene Flow <p>Topic 5 – Lesson 4 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment – The Horse Fossil Record ● Case Study – Could Dinosaurs Roar? <p>Topic 5 – Lesson 5 Enrichment</p> <ul style="list-style-type: none"> ● Enrichment – Evidence of Evolution in Proteins and DNA ● Extraordinary Science – DNA, Fossils, and Evolution <p>Topic 5 Close</p> <ul style="list-style-type: none"> ● uDemonstrate Lab – A Bony Puzzle (pp.230-233)
	<p><u>Listening</u></p>

<p>English Language Learners (ELL) Enhancements</p> <p>To access hyperlinked material, you must be logged into your BPS Google Drive</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. ● <u>Word stretching / Vowel stretching</u> when instructing allows students to listen closely to the pronunciation of the word. ● <u>Performance Level Descriptors</u> 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 8.
	<p><u>Speaking</u></p> <ul style="list-style-type: none"> ● <u>Sentence Stems/Frames</u> - to begin a sentence - such as <i>Evolution is...</i> or <i>I think that evolution is...</i> ● <u>Academic Conversation Starters</u>: Have a visual of a list of academic sentence starters that students can refer to in a discussion. ● <u>Choral Reading</u> - To build fluency, self-confidence and motivation with reading/speaking. ● Create <u>movement</u> 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. ● <u>Performance Level Descriptors</u> 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 8.
	<p><u>Reading</u></p> <ul style="list-style-type: none"> ● Supplementary Text to help reinforce concepts. ● <u>Visual Aids</u> - Pictures or models to support vocabulary words and concepts ● Video to review or introduce a topic - use <u>closed captioning</u> to help students read along while they listen to the content. ● <u>4 Square / Frayer models</u> to help students gain a deeper understanding of vocabulary. ● <u>Highlighting</u> important text to assist students in answering questions after the reading. ● <u>Chunking</u>-Break reading of text into chunks or paragraphs ● <u>Vocabulary Morphology</u>- 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. ● <u>Performance Level Descriptors</u> 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 8.
	<p><u>Instructional Accommodations (depending on the student’s needs)</u></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

	<ul style="list-style-type: none"> ● 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 accommodations as per Individual Educational Plan (IEP)</p>	<p><u>Instructional</u></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) ● 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><u>Technology:</u></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><u>In Class Assessments</u></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</p> <p>Step Up to Writing Materials can be found in BPS Science K-12 Schoology Folder □ Grade 8 Resources □ Grade 8 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 8.
<p>Culturally and Linguistically Responsive Teaching (CLRT) in the Science</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

Classroom	
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