

Standard Alignments for Glacial Geology Program for Physical Setting

Standards Type	Key Standards or Code	Standard Description	Instructional Activities
NYS Science Core Curriculum	Standard 1: Analysis, Inquiry and Design <i>Scientific Inquiry</i>	Key Idea 1: To develop explanations of natural phenomena in a continuing creative process. Key Idea 3: The observations made while testing proposed explanations provide new insights into phenomena	Students will use charts and topo maps to understand concepts such as contour isolines. Students will observe natural sorting and deposition through a transect study and witness tidal changes using simple markers.
	Standard 6 Interconnectedness: Common Themes <i>Magnitude/Scale; Patterns of Change</i>	Key Idea 3: The grouping of magnitudes of size, time, frequency and pressures or other units of measurement into a series of relative order provides a useful way to deal with the immense range and the changes in scale that affect the behavior and design of systems. Key Idea 5: Identifying patterns of change is necessary for making predictions about future behavior and conditions.	Students will use topographic map of Caumsett to determine distances and elevations. GPS units can be used to check for student accuracy. Students will interpret the nature of cyclic change: tides, tidal ranges.
	Standard 4 Physical Setting <i>Key Idea 1</i> <i>Key Idea 2</i> <i>Key Idea 3</i>	Performance Indicator 1.1f: The Earth and celestial phenomena can be described by principles of relative motion and perspective. 1.2g: Porosity, permeability, and water retention affect runoff and infiltration 1.2i and 1.2j: Fossil evidence indicates a wide variety of life forms existed and those preserved in rocks provide information about past conditions. 2.1q: Topographic maps represent landforms through the use of contour lines 2.1s thru 2.1w: Weathering; natural agents of erosion; patterns of deposition. 3.1a-3.1c: Explain the properties of materials in terms of the arrangement and properties of the atoms that compose them (Minerals- properties, identification).	1.1: Students will observe the effects of the Earth's position with regard to the Sun and Moon – tides, tidal ranges, storm tides. 1.2g: Students will test/compare the porosity of sand vs. soil. 1.2i and j: Using rock hammers, students will observe fossil evidence. 2.1q: Students will use topo maps to determine elevation and distances 2.1s thru 2.1w: Students will observe patterns of deposition; model the glacial formation of LI; quantify the sorting of natural materials; observe evidence of erosion. 3.1a-3.1c: Students will collect and classify rock samples based on type; discuss the rock cycle.
NYS Common Core	Supporting Standards	Description	Instructional Activities
Math	Geometry:	6.G 7.G 8.G Solve real-world and mathematical problems involving area, surface area, and volume.	Activities involving transect studies aid in the observation of natural sorting by wind and water action along the shoreline and involve the use of numerical data to propose ideas of patterns and relationships and distributions. Data collected may be used in the classroom for further interpretation.
Math	Statistics and Probability	Grade 6. SP: Develop understanding of statistical variability. Grade 7. SP Use random sampling to draw inferences about a population. Grade 8 SP: Investigate patterns of association in bivariate data. HS S-IC: Make inferences and justify conclusions from sample surveys, experiments, and observational studies	
Math	HS: Quantities	N-Q: Reason quantitatively and use units to solve problems.	
ELA College and Career Anchor Standards <i>Speaking and Listening</i> Grades 6-12	Comprehension & Collaboration	1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	Students will participate in conversations related to their observations and data collection.
	Presentation of Knowledge and Ideas	4. Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.	Students in pairs or in groups of 3-4 will be responsible for presenting their observations/collections of organisms to the larger group
	Vocabulary Acquisition and Use	4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	Students will use content-driven vocabulary throughout the program and practice the use of root words, prefixes and suffixes to determine meaning (example: macro, micro)