

Instructional Plan: Earth Balloon

The overlying objective of the Nassau BOCES Earth Balloon Program is to provide experiences to support NYS Science and Social Studies curricula while also providing real world applications for NYS ELA and Math Common Core Standards. Alignments are on reverse side of this document.

Vocabulary

adaptation biome canyon
continent diameter glacier
habitat longitude Pangea
peninsula plateau plate
tectonics scale time zone
other as suitable to program topic

Program Logistics:

- Group Size: up to 30 students/session
- 1 adult chaperone/student session
- 4.5 hour day with additional hourly rates possible.
- Generally, 5-6 sessions can be completed selected within the 4.5 hour day.
- Each grade level can select a specific focus – physical features; energy cycles; habitats/biomes; etc

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pricing and to schedule:**

516-396-2264

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www.nassauboces.org/outdoors



*We are more than
just a field trip...
we provide a
learning experience
for your students!*

The Earth Balloon awaits the next class of students for their "World Tour!"

Lesson Objectives: Students will be able to...

- Understand that Earth's extreme environments require unique adaptations for species to survive.
- Develop an understanding of scale.
- Become fluent in naming specific physical features (continents, oceans, bays, etc.)
- Visualize and understand the concept of Plate Tectonics
- Discuss the human elements: realities of living in a harsh climate; people's impact on the Earth; cultural migrations
- Understand the use of "political" lines, borders and zones (equator, time zones, lines of latitude/longitude)

Additional Objectives are unique to specific topics pre-selected by the teacher:

- Animals of our Earth (K-3)
- Land Forms & Oceans (K-3)
- Water Cycle & Extremes (3-5)
- Political Earth (5-8)
- Dynamic Earth (5- 10)

Assessment

The program will end with a summative "Q & A" focusing on the session's objectives. Students are guided in discussing ways to protect our Earth's resources.

- The teacher may elect to recall the session back in the classroom to reinforce concepts and for further research.
- See our website for more related content.



Standard Alignments for Earth Balloon

Standards Type	Key Standards or Code	Standard Description	Instructional Activities
NYS Standards for Social Studies	Standard 3: Geography Key Ideas 1, 2	Students will demonstrate their understanding of the geography of the world in which we live—local, national, and global—including the distribution of people, places, and environments over the Earth’s surface.	All Earth Balloon activities become the means of discussing geography content.
	Standard 4: Economics, Key Idea 1	Students will demonstrate their understanding of how the U.S. and other societies develop economic systems to allocate scarce resources, and how an economy solves the scarcity problem through market and nonmarket mechanisms.	Early trade routes, migrations of various cultures and how fluctuations in ocean currents can affect weather and thus world commerce can be discussed.
NYS Standards 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	The whole session is inquiry and discovery based. Students will use the Earth Balloon as a model to understand land forms, plate tectonics, time zones, animal adaptations to name a few.
	Standard 4 Living Environment	Key Idea 6: Plants and animals depend on each other and their physical environment.	Earth’s biomes and plant and animal adaptations are presented.
		Key Idea 7: Human decisions and activities have had a profound impact on the physical and living environment.	Global warming, land use, preserving resources, pollution are discussed
	Standard 4 Physical Setting	Key Idea 2: Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. Performance Indicator 2.1: Use the concepts of density and heat energy to explain observations of weather patterns, seasonal changes, and the movements of Earth’s plates.	2.1n Many of Earth’s surface features such as mid-ocean ridges/rifts, trenches, islands, mountain ranges, hot spots, can be visualized. Plate motion is discussed from inside the Earth Balloon.
	Standard 6 Interconnected-ness: Common Themes <i>Models</i> <i>Magnitude/Scale;</i> <i>Patterns of Change</i>	Key Idea 2: Models are simplified representations of objects, structures, or systems used in analysis, explanation, interpretation, or design.	Key Idea 2: Throughout the session, the Earth Balloon becomes the model for discussing geography related content
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 3: The concepts of scale and time (zones and in context of longitude) are discussed during the program	
NYS Common Core	Supporting Standards	Description	Instructional Activities
ELA Anchor Standards	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 geography and their observations of land features shown on the Earth Balloon.
	Presentation of Knowledge and Ideas	4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	
	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)
Math	Measurement and Data	Grade 3 - 5: Solve problems involving measurement and estimation of intervals. Represent and interpret data	Activities include measuring distances on the Earth Balloon and determining actual distances (scale).
	Ratios & Proportional Relationships	Grade 6-7: Understand ratio concepts and use ratio reasoning to solve problems.	Map scale is a practical use of ratios and used throughout the program
	Geometry	Students will use visualization and spatial reasoning to analyze characteristics and properties of geometric shapes.	Students become fluent in discussing circumference, diameter, and axis as they observe the Earth Balloon