Essential Questions

One meaning of *essential* includes the terms "important" and "timeless." Essential questions in this sense arise naturally and recur throughout one's life.

A second connotation for *essential* refers to "elemental" or "foundational." Essential questions in this sense reflect the key inquiries within a discipline. Such questions point to the big ideas of a subject and to the frontiers of technical knowledge.

A third and important connotation for the term *essential* refers to what is vital or necessary for personal understanding—in the case of schooling, what students need for learning core content.

Student Expectation	Essential Questions
*8.10A recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents	Why do weather stations often give wind (gale) warnings or ocean current warnings during the summer? Why is summer so crucial for violent wind and ocean currents?
*8.10C identify the role of the oceans in the formation of weather systems such as hurricanes	How are the dates of June 1st – November 1st related and so important to Hurricane development and Hurricane preparations? Why are months of November – February so insignificant for Hurricane development?
*8.10B identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts	How can a weather map be so important for Winter Texans traveling down from northern states to Texas? Why should we refer to weekly or daily weather maps when we travel and how do we know there will be good, fair, or bad weather?
*8.9A describe the historical development of evidence that supports plate tectonic theory	Defend why an archaeologist from South America and an archaeologist from African CAN find fossils of the same species. Justify why the supercontinent Pangea DID exist over a million years ago. What's the proof? How do you know?
**8.9B relate plate tectonics to the formation of crustal features	Geologists now know that there will ALWAYS be NEW volcanoes, volcanic arcs, mountains, earthquakes, rift valleys, and CONTINUE to be ocean trenches, fault lines, and mid-ocean ridges. Defend why this statement is true.
**8.9C interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering	Why and how do armed forces use topographic maps and satellite views to analyze before and after features of landforms?
*7.8C model the effects of human activity on groundwater and surface water in a watershed.	Why is it important to always recycle, not litter, and help farmers not use too much fertilizer or pesticides on the land?