Earth as a System Learning Activities are divided into two major sections: Seasons Learning Activities and Exploring the Connections Learning Activities

Seasons Learning Activities

Introduction to the Seasons Activities

What Can We Learn About Our Seasons?

Students develop a qualitative understanding of the characteristics and patterns of seasons and highlight the relationship of seasons to physical, biological and cultural markers.

What Are Some Factors That Affect Seasonal Patterns? (located in the Atmosphere Investigation)

Students use GLOBE data and graphing tools to compare the influence of latitude, elevation, and geography on seasonal patterns.

How Do Seasonal Temperature Patterns Vary Among Different Regions of the World?

(located in the Atmosphere Investigation)

Students use GLOBE visualizations to display student data on maps and to learn about seasonal changes in regional and global temperature patterns.

Modeling the Reasons for Seasonal Change

Students use color visualizations and a 3-D paper model of the Earth to explore the causes of seasons, with a focus on Earth's tilt and its spherical shape.

Seasonal Change on Land and Water

Students use visualizations to compare the effects of incoming solar energy in the two hemispheres, furthering their understanding of seasonal change and climatic effects of land and water.

Exploring the Connections Learning Activities

Introduction to the Exploring the Connections Activities

Local Connections

LC1: Connecting the Parts of the Study Site

Students visit the study site, observe the different components of the Earth system and predict how they are connected to and affect each other.

LC2: Representing the Study Site in a Diagram

Students, either individually or in small groups, use their knowledge of their study site develop a diagram that illustrates the most important connections between the different components of the Earth system.

LC3: Using Graphs to Show Connections

Students use GLOBE student data to explore, understand, and communicate the connections between the components of the Earth system exist at the study site they are investigating.

LC4: Diagramming the Study Site for Others

Students compare and contrast the diagrams of their study site developed by individuals or small groups, and develop a class diagram of their study site that best communicates the most important connections between the components of the Earth system that exist there.

LC5: Comparing the Study Site to One in Another Region

Students compare and contrast diagram of their study site with a diagram developed for a region that is biogeographically different than their own.

Regional Connections

RC1: Defining Regional Boundaries

Students broaden their understanding of the Earth system by expanding their view of the Earth system from the local site to a regional system by identifying the boundaries of a regional Earth system.

RC2: Effects of Inputs and Outputs on a Region

Students examine the inputs and outputs of a regional scale Earth system and predict what would happen to that system if any of those inputs or outputs were changed.

Global Connections

GC1: Your Regional to Global Connections

Using global scale maps of winds and ocean currents students predict what region(s) in other parts of the world might be affected by their region.

GC2: Components of the Earth System Working Together

Using data about the components of the Earth system at the global scale, students discuss how the components interact to form the Earth system as a whole and use the water cycle to explore this in more detail.