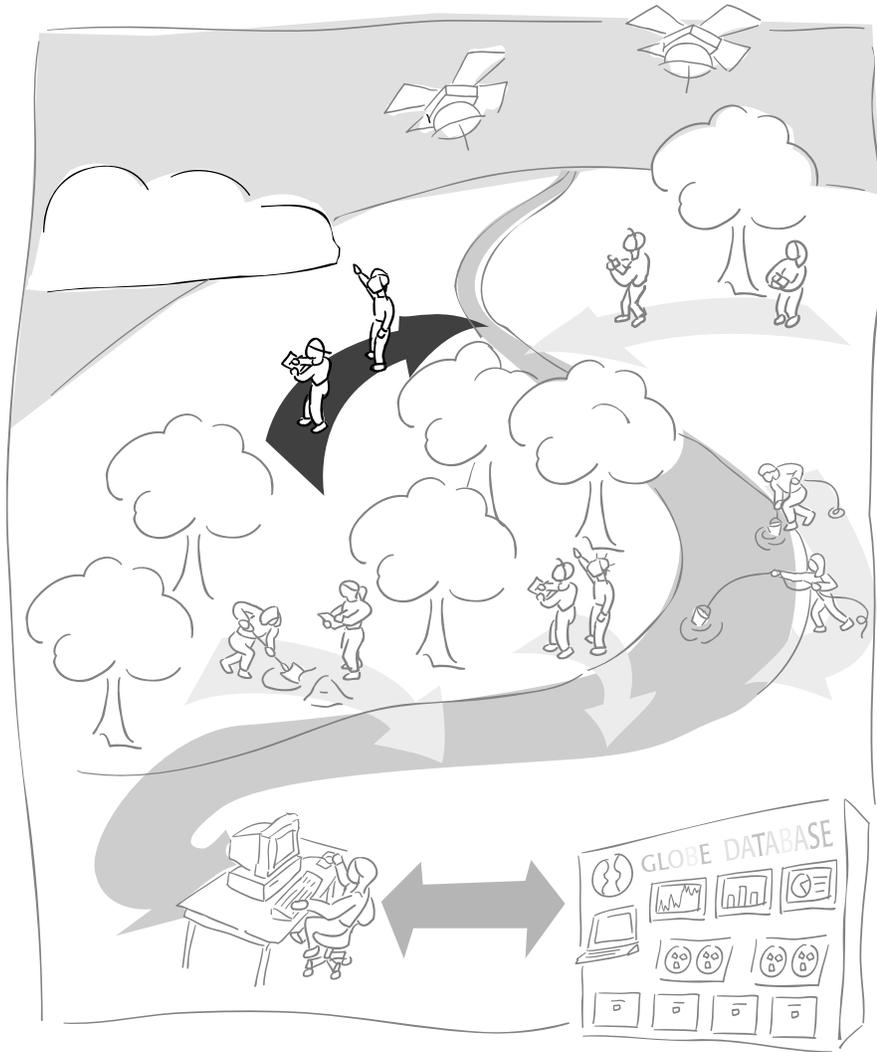


Earth System Science Investigation



A GLOBE® Learning Investigation



Earth System Science Investigation at a Glance

Suggested Activities

- Read the *Introduction* to become familiar with studying Earth system science at different space and time scales.
- [*What Can We Learn About Our Seasons*](#), [*What Are Some Factors That Affect Seasonal Patterns \(Atmosphere Investigation\)*](#), [*How Do Seasonal Temperature Patterns Vary Among Different Regions of the World \(Atmosphere Investigation\)*](#) learning activities introduce students to characteristics and patterns of seasons.
- [*Modeling the Reasons for Seasonal Change and Seasonal Change on Land and Water*](#) learning activities helps students understand factors that cause seasonal patterns.
- [*Connecting the Parts of the Study Site*](#), [*Representing the Study Site in a Diagram*](#), [*Using Graphs to Show Connections*](#), [*Diagramming the Study Site for Others*](#), and [*Comparing the Study Site to One in Another Region*](#) learning activities allow students to explore Earth system connections at the local scale.
- [*Defining Regional Boundaries*](#) and [*Effects of Inputs and Outputs on a Region*](#) learning activities allow students to explore Earth system connections at the regional scale.
- [*Your Regional to Global Connections*](#) and [*Components of the Earth System Working Together*](#) learning activities allow students to explore Earth system connections at the global scale.



Table of Contents

Introduction

Why Study Earth System Science?	Introduction 1
The Big Picture	Introduction 2
The Earth as a System	Introduction 9
The Seasonal Cycle.....	Introduction 9
The Earth System through the Seasonal Cycle.....	Introduction 17
The Earth System on Different Spatial Scales.....	Introduction 28

Learning Activities

Introduction to Seasons

- [What Can We Learn About Our Seasons?](#)
- [Modeling the Reasons for Seasonal Change](#)
- [Seasonal Change on Land and Water](#)

[Introduction to Exploring the Connections](#)

Local Connections

- [Connecting the Parts of the Study Site](#)
- [Representing the Study Site in a Diagram](#)
- [Using Graphs to Show Connections](#)
- [Diagramming the Study Site for Others](#)
- [Comparing the Study Site to One in Another Region](#)

Regional Connections

- [Defining Regional Boundaries](#)
- [Effects of Inputs and Outputs on a Region](#)

Global Connections

- [Your Regional to Global Connection](#)
- [Components of the Earth System Working Together](#)