

## THE STANDARD

# Earth's Spheres

*Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.*

## DCI

DISCIPLINARY  
CORE IDEA

### ESS2.A • Earth Materials and Systems

"Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather."

Earth has four big systems: the geosphere (rock, soil, land), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (everything alive). None of them works alone. They constantly push and pull on each other. **A 5th grader builds a model of ONE real example, like the ocean shaping a beach, and shows two systems touching and changing each other.**

## SEP

SCIENCE &  
ENGINEERING  
PRACTICE

### Developing and Using Models

"Develop a model using an example to describe a scientific principle."

A 5th grader isn't just told that Earth's systems interact. They build a model to show it. The model can be a labeled diagram, a flowchart with arrows, or a hands-on setup. **The point is the model has to do a job: make the interaction between two systems easy to see and explain.**

## CCC

CROSSCUTTING  
CONCEPT

### Systems and System Models

"A system can be described in terms of its components and their interactions."

Here's the big idea 5th graders carry out the door: a system is a set of parts that work together, and you understand it by looking at how the parts affect each other. Earth's four spheres are systems and also parts of one bigger Earth system. **The interactions are where the action is.**