

## THE STANDARD

# Earth's Spheres

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

 ANCHORING PHENOMENON

## The Disappearing Beach

Show 5th graders two photos of the same beach, one from years ago and one from today. In the old photo there's a wide sandy beach in front of a house. In the new photo the sand is gone and the waves are reaching the porch. Nobody moved the sand with trucks. The ocean did it, a little at a time, wave after wave. 5th graders will want to know how water could erase a whole beach.

## DRIVING QUESTION

*“How can the ocean move a whole beach when no people and no machines were involved?”*

 INVESTIGATIVE 1

### The Cliff That Crumbles

Pack wet sand or soil into a clear bin to make a small cliff, then pour or splash water against the base over and over. The bottom wears away first, and chunks of the "cliff" slump down. This sharpens the anchor: 5th graders see the hydrosphere (water) directly reshaping the geosphere (land), the same thing happening to the beach, but up close and on purpose.

## DRIVING QUESTION

*“Why does the water wear away the bottom of the cliff first instead of the top?”*

 INVESTIGATIVE 2

### Mountains Make Their Own Weather

Show a simple map or cross-section of air blowing toward a mountain range, rising, cooling, and dropping rain on one side, leaving the other side dry. Use a fan and a damp paper "mountain" if you want it hands-on. This sharpens the anchor from the air side: now the geosphere (the mountain) is changing the atmosphere (winds and clouds), proving the push works both directions between systems.

## DRIVING QUESTION

*“How can a mountain, which can't move, change where the rain falls?”*