THE STANDARD

Resource Availability

Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.

ANCHORING PHENOMENON

The Deer Explosion After the Wolves Were Gone

A forest region loses its wolves to hunting and trapping by the 1920s. Deer numbers climb for decades. Then the deer start starving. Plants are stripped bare. Newborn fawns don't survive winter. By the time wolves are reintroduced in the 1990s, the forest is a mess. One missing predator changed the entire system. Students will keep circling back to this all week.

DRIVING QUESTION

"*How can one missing species turn a whole ecosystem upside down?*"

INVESTIGATIVE 1

Wildflowers and the Spring Rain

A Texas hillside in March 2015. Bluebonnets and Indian paintbrush in waves, edge to edge. Same hillside in March 2011. Almost bare. The seeds are the same. The soil is the same. The difference is a few inches of spring rain. Use this one to sharpen the resource lens the anchor is pushing on: when one specific resource shifts, the population shifts with it.

DRIVING QUESTION

"*Why does the same field grow waves of wildflowers in some years and almost nothing in others?*"

INVESTIGATIVE 2

The Aquarium That Got Too Crowded

A 10-gallon tank with six small fish. Healthy for months. The owner adds four more fish. Within a week, two are dead. Within two weeks, half the tank is gone. The water looked clean. The food was the same brand. Nothing visible changed except the number of fish. Use this one to sharpen the carrying-capacity lens at a scale students can see.

DRIVING QUESTION

"*Why did adding more fish to a working tank kill the ones already living there?*"