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.

DCI
DISCIPLINARY CORE IDEA

LS2.A · Interdependent Relationships in Ecosystems

> *Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. Growth of organisms and population increases are limited by access to resources.*

Every living thing needs resources to survive. Food, water, shelter, space, sunlight. When those resources are plentiful, populations grow. When they run low, growth slows, organisms compete, and numbers drop. **The size of a population is tied directly to what the ecosystem can supply.**

SEP
SCIENCE & ENGINEERING PRACTICE

Analyzing and Interpreting Data

> *Analyze and interpret data to provide evidence for phenomena.*

Students aren't memorizing definitions of "carrying capacity." They're reading actual population graphs and rainfall charts and predator-prey curves. The skill is looking at data, spotting the pattern, and using it as evidence. **If they can point to the dip and explain what caused it, they're doing science.**

CCC
CROSSCUTTING CONCEPT

Cause and Effect

> *Cause and effect relationships may be used to predict phenomena in natural or designed systems.*

This standard runs on cause and effect. Rain drops, wildflowers bloom less. Wolves disappear, deer explode. Food runs out, populations crash. **Students trace the cause back to the effect using the data in front of them, then use that pattern to predict what happens next.**