



Matter and Energy Cycling in the Chihuahuan Desert 9th & 10th grade

Overview

Using actual scientific data, students model the transfer of matter and energy in the Chihuahuan Desert trophic pyramid. Students start by exploring the relationship between energy and matter in photosynthesis. Students then apply the data to mathematical representations of energetics in the Chihuahuan Desert trophic pyramid.

Phenomenon

Energy and matter cycle in the Chihuahuan Desert trophic pyramid.

Next Generation Science Standards Addressed

HS-LS2-4 Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.

Science & Engineering Practices	Disciplinary Core Ideas	Cross Cutting Concepts
Using mathematical and computational thinking Developing and using models	LS2.B Cycles of matter & energy transfer in ecosystems	Matter and energy System and system models

Common Core State Standards Addressed

MP.4: Model with mathematics.

HSN-Q.A.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

HSN-Q.A.2: Define appropriate quantities for the purpose of descriptive modeling.

HSN-Q.A.3: Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.