



Up in the Air: Carbon Cycle and Climate Change High School

Overview

Students create a model from string, toss bean bags, and sort chemical cards to review key processes in the carbon cycle. They then quantitatively model the carbon cycle by playing a board game.

Phenomenon

How are humans impacting the cycling of carbon on Earth?

Next Generation Science Standards Addressed

HS-ESS2-6 Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.

Asombro lessons are aligned with the three-dimensional learning model of the Next Generation Science Standards.

Science & Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Developing and Using Models	ESS2.D: Weather and Climate ESS3.C Human Impacts on Earth Systems ESS3.D Global Climate Change	Energy and Matter Scale, Proportion, and Quantity

Common Core State Standards

CCSS.MATH.CONTENT.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.

CCSS.MATH.CONTENT.HSN.Q.A.2. Define appropriate quantities for the purpose of descriptive modeling.

CCSS.ELA-LITERACY.RST.9-10.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.

CCSS.ELA-LITERACY.RST.9-10.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9-10 texts and topics*.

CCSS.ELA-LITERACY.RST.9-10.7. Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

CCSS.ELA-LITERACY.WHST.9-10.1.E. Provide a concluding statement or section that follows from or supports the argument presented.

Date: _____

Asombro staff: _____