INSOLATION AND ECOSYSTEM

By Maggie Allocco and Chris Haller
Our Model:

- Model is a simulation of four different ecosystems that exist because of the sun's position and latitude.
- Each ecosystem features different plants and animals based on its angle of insolation (between 0 and 90). Angle can be adjusted via a slider.
- Precipitation can also be adjusted via a separate slider, to demonstrate how precipitation will effect the equilibrium of each ecosystem.
- A counter is used to keep track of how many of each kind of creature exists in each ecosystem.
EARTH SCIENCE CONNECTIONS

Standard 4:
1.1f: Earth’s changing position in regards to the sun and moon causes variations in the heating of the Earth
2.1a: Earth systems have external and internal sources of heat
2.2a: Insolation heats the Earth’s surface unequally based on a variety of factors
2.2c: A location’s climate is influenced by latitude, and a number of other factors

Standard 6:
Key Idea 2: Models and simplified representations of structures or systems used in science
Key Idea 6: Identifying patterns is important for making predictions about future behavior
LIVING ENVIRONMENT CONNECTIONS

5.1a: energy comes from the sun, providing the foundation for the energy needs of living systems
6.1a: Energy flows through ecosystems in one direction, from the Sun, to photosynthesizers, to herbivores, to carnivores, etc....
6.1d: Survival of organisms in an ecosystem depend on environmental factors such as light, temperature, soil type, etc....
7.G.B.5: Using facts about supplementary or complementary angles in a problem to write and solve equations to determine an unknown angle.