

CARBON EMISSIONS

BY BREE HUMMEL AND SAMANTHA SLOSSAR

STANDARDS

- **Biology Standard: 7.1c** Human beings are part of the Earth's ecosystems. Human activities can, deliberately or inadvertently, alter the equilibrium in ecosystems. Humans modify ecosystems as a result of population growth, consumption, and technology. Human destruction of habitats through direct harvesting, pollution, atmospheric changes, and other factors is threatening current global stability, and if not addressed, ecosystems may be irreversibly affected.
- **Earth Science Standard: 2.2d** Temperature and precipitation patterns are altered by: Human influences including deforestation, urbanization, and the production of greenhouse gases such as carbon dioxide.

USING THE MODEL

1. To use the model, use the slider to select the amount of people you want to include.
2. Click setup followed by either Go or Go Once. Go will run the model continuously, while Go Once will run the model once time.
 1. The gray circles coming out of the people represent carbon emissions.
3. Use the slider above to alter the speed of which the simulation runs.

ABOUT THE MODEL

- This model was created to describe the effect of human emissions on the environment, including carbon footprints. The collection of the grey carbon circles at the top of the simulation represent the collection of carbon in the atmosphere over time. The carbon emissions can also be traced through the use of the Emissions plot. From this simulation, students can compare carbon emissions from few or many individuals, the spacing of these individuals (representative of different areas of the world), and will be able to analyze how these emissions can affect the environment over time.

WORKSHEET

- Determine your own carbon footprint.
- Answer questions based on model.
- Analyze a picture of carbon emissions around the world.