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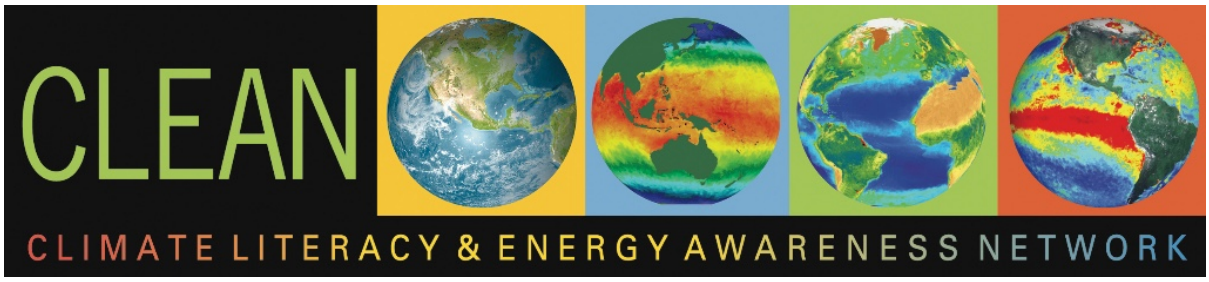

History of Climate Science | Catan: Global Warming | Rain Gauge Activity | Back to School During Coronavirus

CLEAN STEM Flash

A Timely Climate and Energy E-Learning Series to Use and Share

August 18th, 2020

Topic: Back to School

This is not the typical back to school season, so we do not have a typical back to school newsletter. Below you will find three resources to suit the ever changing COVID-19 environment. To kick off the school year (and remote learning) we have a video on how climate science has evolved over the last 200 years. For a break from screen time, we have included two learning activities: an expansion scenario for the popular board game Catan and an at-home rain gauge development activity for younger students. Lastly, we feature a news article about an innovative solution for classrooms in a COVID-19 world - moving them outdoors.

CLEAN Resource Feature

Video: Just how long have we known about climate change anyways?

This video walks through a timeline of scientific experiments and discoveries beginning almost 200 years ago. The timeline discusses the evolution of human knowledge on the greenhouse effect and global warming. This video is a part of the Global Weirding Video Series, which has good explanations of climate topics in fun and engaging formats and is ideal for virtual learning resources.

Video length: 6:01 min
Audience: Middle School, High School, Informal, General Public

Browse CLEAN for more resources on the History of Climate Science.

habitable because of greenhouse gases in the atmosphere, and goes on to discuss how humans have increased the amount of CO_2 in the atmosphere through industrialization. It also explains how the observed warming is not in line with the historic patterns of cooling and heating that Earth has experienced in the past.

CLEAN Resource Feature

Learning Activity: Catan: Global Warming

This game is an expansion on the popular board game Catan, it adapts the regular Catan game to become a game about sustainability and climate change. This game-based learning would be great for after-school activities, environmental clubs, or a 'free' period in school. Ambitious teachers could set this up as a virtual game to be played in a Google Hangout or similar environment. However, many students may be experiencing excessive screen time with virtual learning and could be encouraged to play with their families instead if they can get access to Catan and the printed expansion pack materials.

Audience: Middle School, High School, Lower College, Informal

Take a look at some more CLEAN resources focused on Decision Making.

Catan: Global Warming, is a complex board game showing players how their decisions and choices regarding agriculture, mining, and urban development are related to global climate change. As settlers of a new land, students see how developing the land and expanding population creates more greenhouse gas. It uses information from the IPCC 5th assessment report and describes the reasoning and scientific basis for the different aspects of the game in the "Design Notes" document.

CLEAN Resource Feature

Learning Activity: Rain Gauge Activity

In this hands-on inquiry-based activity, students face an engineering challenge based on real-world applications. They are tasked with developing a tool they can use to measure the amount of rain that falls each day. This activity can be modified for at-home learning experiences.

Audience: Primary, Intermediate, Middle School, Informal

Take a look at some more CLEAN resources focused on The Water Cycle.

This lesson utilizes the 5E pedagogical format. The project begins with an introduction on how much usable freshwater is on Earth. This is demonstrated with a small activity that students could watch or do at home themselves (depending on the age and amount of parental guidance available). The lesson ends with the students being asked to experiment with building a rain gauge, which utilizes their experimental and

In the News: [Schools seeking alternative to remote learning try an experiment: Outdoor classrooms]

As COVID-19 continues to wreck havoc on the United States, the push for schools to reopen for the fall is well underway. Some school districts and schools are finding alternative ways to reopen safely this year. In addition to hybrid remote/in-person models, a creative solution is in the works for some schools to hold instruction outdoors. COVID-19 is a lot less likely to be transmitted outside and with this new information schools around the country are designing ways to have class in the open air. The CLEAN collection is applicable to both new learning environments. The collection has a plethora of resources that work virtually as well as resources that can be used in the great outdoors. Photo: Erin Einhorn / NBC News

Explore the CLEAN collection of climate & energy learning resources

CLEAN supports teaching and learning about climate and energy with 700+ free peer-reviewed, scientifically accurate, and classroom-ready resources.

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