Winter 2014-2015 CUSP Pittsburgh Kits

Extreme Weather: The Story of Urban Watersheds
After experimenting with a model consisting of metal paint trays, Lego buildings and sponges, participants recognize how green infrastructure can soak up excess water to prevent it from overwhelming aging sewer systems. Predicted increases in heavy rainfall events resulting from climate change in the northeast U.S. make stormwater decisions of upmost importance in urban watersheds.

Hidden Cost Café
Participants compare toy food items, and are surprised to feel the weight, representing the total greenhouse gas emissions from farm to table, of common menu items and then use a product pathway chart to consider aspects of their meal's production pathway that create the most emissions. Participants discover that simple choices, such as reducing meat and dairy consumption, make the biggest difference in their food carbon footprint.

Tiny Slimy Carbon Keepers
By eating leaf litter shredders, salamanders indirectly reduce the amount of carbon dioxide released into the atmosphere from leaf decomposition! Use a magnetic salamander to "eat" shredding invertebrates hidden in leaf litter, to make surprising discoveries about the diet and habitat of salamanders, their importance in northeastern U.S. ecosystems and their role in the carbon cycle. Consider the importance of retaining habitat as we develop urban landscapes to maintain natural balances in the carbon cycle.

The Great Climate Race (Demonstration/Group Activity)
Donning snail costumes, participants become living game pieces in a race to find a better habitat. Along the way, contestants travel across a life-sized game board and learn about the food, water and habitat requirements of snails in urban environments, as well as some of the challenges climate change models predict they will face.

Everybody Walk the Climate Graph
A giant roll-out mat depicts one hundred years of climate data on a yearly scale, and includes a long-term trend line. Participants walk both paths, gaining an understanding of the difference between year-to-year variation and larger patterns.

Energy Matters! The Question of Efficiency
After turning hand-crank generators connected to model city buildings lit either with LED or incandescent bulbs, participants will viscerally experience that LED bulbs require the least amount of energy to light. After connecting this physical experience to information provided on signage or through conversation with a facilitator, participants will conclude that LED bulbs use less energy, thus requiring less burning of CO2-emitting fossil fuels, and that they also cost less money over their long life span.

It takes Energy to Get to the Game (Demonstration/Group Activity)
Through a highly interactive game show, participants discover that their transportation and food choices at a Pittsburgh Pirates game make a big difference in greenhouse gas emissions.

Energy Matters! The Question of Renewable Energy
Participants discover that that naturally occurring, fossil-fuel-free sources can generate electricity. Participants blow on wind turbine blades or turn a solar panel towards a light source to activate buzzers and connect this physical experience to information provided on signage or through conversation with a facilitator, concluding that alternative energy sources are already available to homes and businesses through election on their electric bill.

Energy Choices in Your Neighborhood?
Energy choices in our communities are sometimes personal choices, but often are city or community choices. What's available to you? How does your neighborhood compare to others near you? Create a data graph on a Pittsburgh map, with individual festival attendees creating colorful Lego stacks in response to questions about energy in their neighborhood.

Can you Beat the Heat and Slow the Flow?
Participants pour water over and compare the temperatures of four different roofing materials to discover the ways that innovative solutions, like blue and green roofs, cool buildings and reduce water runoff. These adaptations address two major predicted impacts of climate change in the northeast – increased number of extreme heat days, and increased number of heavy rainfall events.

Passive Homes, Cooler Climate
Participants build houses from boards and K'Nex pieces, experimenting with house, window and roof placement, and roof color, to find the best passive savings in terms of light and heat in winter and summer.

Between the Buildings; Turning Hot Spaces into Cool Places
Participants throw velcro balls at targets representing the relative proportion of park spaces, unmanaged green spaces, and impervious surfaces in the city of Pittsburgh. Facilitated discussion and/or supporting images lead(s) to the discovery that green spaces both buffer against the predicted impacts of climate change and provide opportunities to observe its effects on natural events such as plant blooming time, invasive species abundance, and migrating bird movements.

Climate Adaptation in Empty Places
What would you place in an empty lot to help keep your neighborhood cool and flood free? Land use is one of the major contributors to climate change impacts and solutions. Do we add to the problem or solve the problem in how we zone and use land? Draw your solution to climate impacts in one of 6 urban lot photos drawing from a set of known green technologies. Then build a model of your design using materials from Pittsburgh Center for Creative Reuse.

Planning for Buses, Bikes and You
Game pieces, representing buses, bikes, and designated bus or bike lanes, must be carefully arranged to fit everything into a single container. In learning that the lane pieces must go in first and by reading text and observing images on the game pieces, participants understand that city infrastructure is needed to support greater use of alternative transportation.

To borrow a CUSP kit, or talk to us about ideas for new activities, please contact Mandi Lyon:
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