

City Classroom CAP - Series

PBL support for using your City Climate Action Plan as a Living Textbook for local relevance, student agency, and community impact.



Credit: Kevin Lisota

My Small Actions Influence Very Big Systems

Students practice systems thinking by extrapolating the ever-expanding, systemic impacts from one small personal behavior change such as choosing to ride a bike to school or switching to LED light bulbs.

What is a system?

The dynamic relationship among different elements or parts that make up a functioning whole. Remove one part and the whole system changes.

Practice Systems Thinking

Follow this “cause and effect” systems connection story catalyzed by the simple, individual action of riding a bike to school. Can you add more systemic connections? What would a mind map or video-recorded animated powerpoint look like?

If I ride my bike to school... [Download and Print](#)

It means that I am not driving a fossil fuel car which means I will be reducing my carbon footprint by exactly the number of miles of my commute. That’s a real number. I can calculate it. If I ride my bike every day, my individual carbon footprint becomes a very big number. If I convince three friends from my general neighborhood to ride with me, then we have tripled our carbon emission reduction. Our small group of bike riders inspires ASB, National Honor Society, Key Club, and other clubs at school to also shift to bike riding, gaining plenty of volunteer hours, as well as meeting the moral call to reduce our carbon footprint. With this many inspired students riding bikes to school, we are successful in advocating for much bigger, better bike racks that hold several

hundred bikes. The bike racks are covered from the rain so more students feel comfortable parking their bikes at school. There are now over 100 students riding their bikes to school as a matter of moral practice. It's fun. At school, the bigger, better bike racks feature solar panels on top of their south sloping rooftops so you can plug in your electric bike. With electric bike-charging available, more students from hilly neighborhoods are riding to school. Lots of students are reporting the health benefits from bike riding including physical fitness and mental alertness. Increased physical fitness results in a decrease in sick days or just being tired. Increased mental alertness leads to better grades, more effective social interactions, creative focus, and productivity. Together, all of these healthy, creative, and productive students realize that we have the power to advocate for much better bike routes to school which makes it easy for lots of different people to ride bikes more often and to get almost anywhere in our city. Now more and more parents are giving their kids permission to ride to school. Everyone is feeling safer. Small bike shops for selling, repairing, sharing, and renting bikes pop up all over the neighborhood, increasing local jobs and growing the bike economy. A bunch of us figure out that we can put our bikes on the bus or on light rail and get to even more places. Because so many people are reducing their use of fossil fuel cars, we are releasing a lot less carbon into the atmosphere. This slows down the rate of global warming. As global warming temperatures stabilize, so does our snowpack. It stops shrinking and begins to build back up. As our snowpack builds, we experience fewer floods in the winter because the heavy rains at high altitudes are turning into snow and accumulating. As the snow accumulates and packs down all through the winter, it remains available later into the summer, slowly melting and continuously feeding the reservoirs that we depend on for drinking water. The soils in the mountain forests will stay moist at the end of the summer and into the fall and so we're going to have fewer raging forest fires which means old folks with breathing problems and kids with asthma will not suffer from the ash and toxic smoke in the air. Football season will go on as scheduled. The marching band will practice out in the clean fresh air. With the mountain reservoirs full, we can better manage clean, cool water flows in our streams which supports healthy habitat for salmon. As salmon populations rebuild themselves, our Puget Sound Orca also rebound. With our salmon

and Orca returning, the balance of our local ecosystem becomes a robust source of cultural identity, recreational pleasure, and economic vitality. As ecosystem integrity improves generation after generation, we honor tribal treaty fishing rights and our spiritual bond to the natural resources of our bioregion reconnects us all. I am glad I started riding my bike to school.

Here is another example to explore as a model or entry event for student research: [If my family went solar](#)

You Try It

Here are a few starter ideas.

- If I switch to LED light bulbs...
- If I adjust my thermostat by 2 degrees...
- If I carpool with 2 other friends...
- If I take the bus instead of driving...
- If I boycott fast fashion...
- If I boycott bottled water...
- If I eat more plants and less meat...