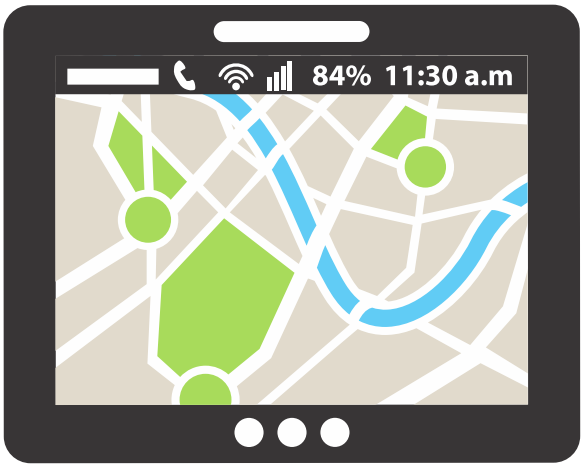
SCIENCE CAREER ADVENTURES

Jack the Urban Planner: Using Kinetic Energy

Meet Jack!

Hi! My name is Jack. I am an urban planner. An urban planner decides how to use land in cities.

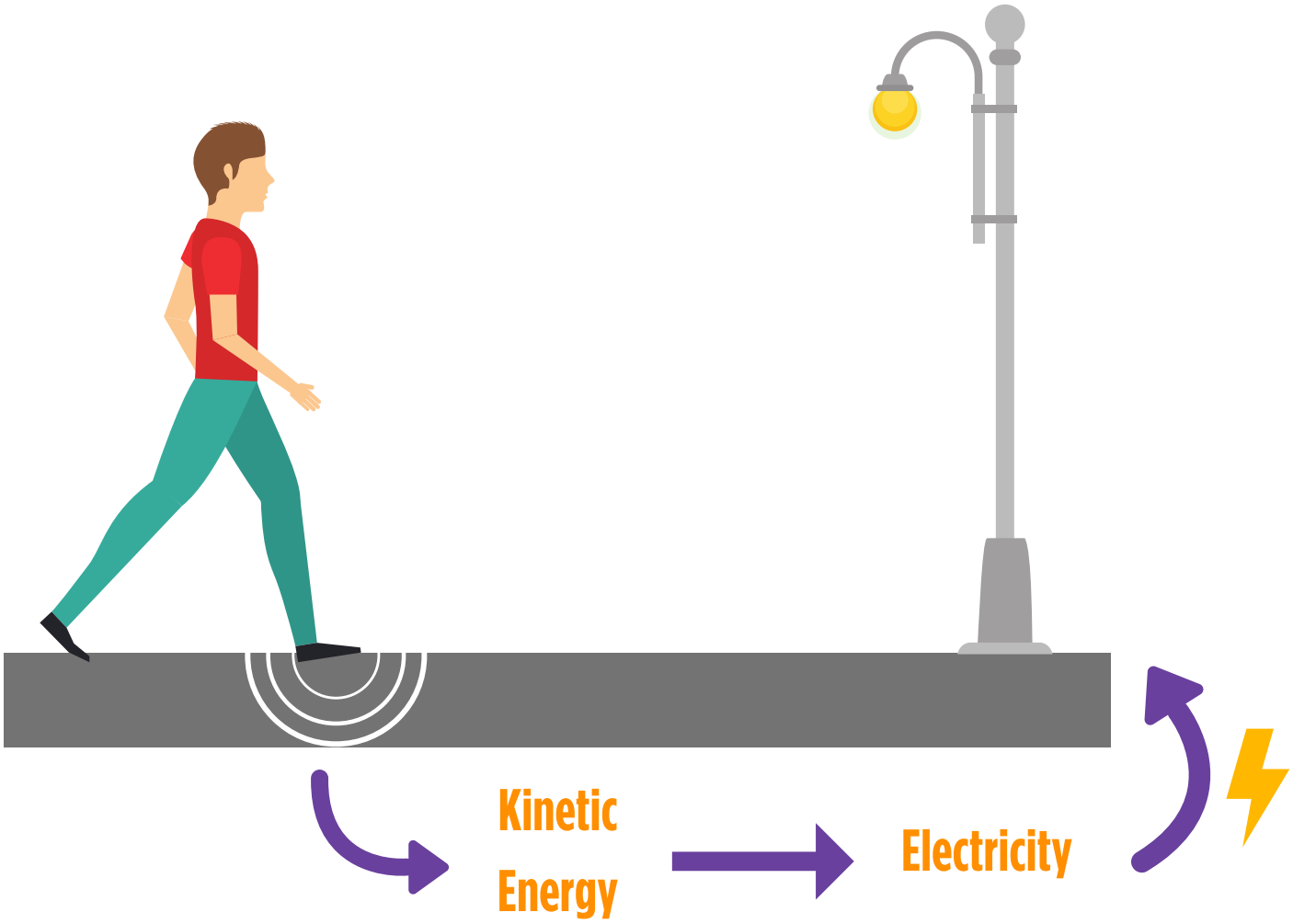
For example, urban planners might design the layout of city buildings and streets. As an urban planner, I am always looking for new ways to make cities more environmentally friendly. I like to think of ways I can add in a lot of trees and gardens in the middle of a city or reduce pollution.



Building Sidewalks

Recently, I have been working on a project that will use the energy that people "burn" when they jog to create electricity! I'm going to add a new sidewalk to popular paths along the river where people go to jog. The sidewalk will take some of the kinetic energy of the people who are exercising and turn it into electricity. At the same time, it will make people burn even more energy to keep moving.

Here's how it works. To make their bodies move, people change stored energy from the food they eat into the kinetic energy of motion. But each time they take a step, some of their kinetic energy is transferred to the ground and they slow down. My sidewalks will capture the energy that is transferred to the ground to make electricity!



What I am Working On

Right now, I am working with an app developer to create an app that works with the sidewalk. An app developer creates software for people to use on their phones or other mobile devices. People who walk on the sidewalk can download the app to see how much power they generated from walking on the sidewalk!

Developing a Wireframe

Today, I am creating a wireframe for my new app. A wireframe is an image with pictures and words that will show what an app will look like once it is developed.

Here is my idea so far for my wireframe:

Welcome Screen

Welcome Screen: A picture of the sidewalk with people walking on it.

Menu Options

Leader board: People can view the top ten people who produce electricity by walking on the sidewalk.

Current Energy Production: Shows how much electricity you generated from your current walk.

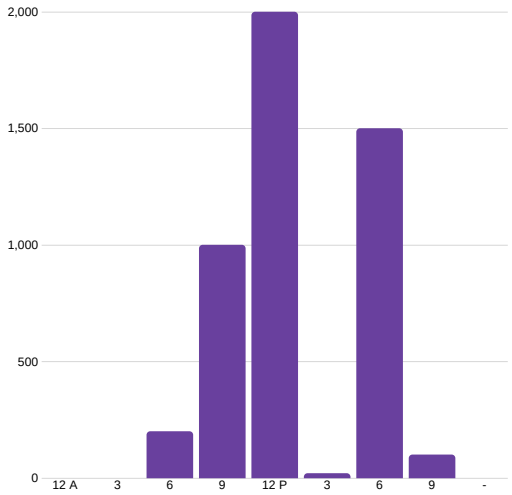
All Time History: Shows a picture of street lights and lights up to show how much total electricity you have generated.

Friend Feed: You can add your friends on the app to see who is nearby, how much electricity they generate, and set up competitions! You can also post selfies in this section of yourself and your friends on the sidewalk.

Gathering Information for App

The app will need to keep track of how many steps a person takes. The app user will also need to enter in their weight to the app because weight affects how much kinetic energy something has. The app will use this information to estimate how much electricity each individual user generates.

Your Steps



TOTAL

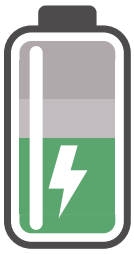
4,820

Your Weight

1	5	0

LBS

Estimated Electricity Generated



Improving the app

Users can rate the app and leave comments about what they like or don't like. This way, I can make changes to the app if something isn't working. It will also help me know what new features I should add based on what people want.