



Community Activities December 2016-March 2017

Create an Adaptive Vehicle

There are many ways to match physical differences to devices, and many reasons to do that. Innovative thinking has led to ways to adapt technology for moving, driving vehicles, and playing sports. Cars and other vehicles can be adapted to drivers with different physical abilities. (Visit the *Everyone Plays* display to see how extreme sports athlete Mike Schultz adapted his moto cross bike to meet his needs.) How could you change this vehicle to make it drivable in different ways for people with different physical abilities?

Create a Prosthetic Hand

There are many reasons why someone might need a hand or limb. People's bodies change because of accidents, illnesses, or fighting in military conflicts—and sometimes people are born with physical differences. Since the 1600s, American innovators have worked to create replacements for limbs, called *prosthetics*. In recent years technologies like 3D printers and low-cost electronics have led to a rise in affordable prosthetic devices designed by the Maker community. (Look for the 3D printers in *Spark!Lab*.) Using the materials at this station, can you create a basic design for a prosthetic or artificial hand?

Become an Innovative DJ

During the early 1970s, the community in the Bronx, New York, experimented with new musical sounds. Home sound systems, found objects, and technical know-how provided the materials

for the invention of hip-hop. Disc jockeys, or DJs, invented new techniques for mixing beats and manipulating records to create hip-hop, a new and innovative type of music. (Visit the *Places of Invention* exhibition to learn more about the invention of hip-hop.) Think like an inventor *and* a hip-hop artist! Can you make your own music using songs and beats from other musicians? What else can you add to create your own unique DJ sounds and rhythms?

Invent and Tweak a Stringed Instrument

Musical innovators such as Les Paul and Eddie Van Halen created new and unique sounds with stringed instruments. Throughout history innovators have used whatever was at hand to create working instruments. Whole communities have sprung up around do-it-yourself instruments, such as cigar-box guitars and metal-pan banjos like the ones on display in *Spark!Lab*. What types of sounds can you create using guitar strings and other materials? How can you make your instrument different from other stringed instruments?

Create Fashion from Trash

The average American throws away four and a half pounds of trash per day. With so much waste being discarded, some communities are finding ways to turn trash into treasure. The group Trashion Fashion, for example, engages in what founder Amy Merli calls “Wearable Art Activism,” using waste to create innovative fashions. Plastic tags, straws, and even water bottles get transformed into one-of-a-kind designs that would be at home on any fashion runway. What amazing fashion designs can you create using the materials at this station? What messages about trash and waste would you share using your designs?

Create a Button to Make Your Voice Heard

Buttons have been a way of American self-expression as far back as the presidency of George Washington. Throughout our history, pins and buttons like the ones on display in *Spark!Lab* have helped us make statements about what we value—they may promote clean energy or water conservation, share political beliefs, or simply say something that makes people smile. These statements often give insight into the communities we connect with most. What are

some things that are important to you and your community? What types of images or phrases would you include on a button that supports your interests?

Invent a Solution to a Problem in Your Community

A community can be any group of people who are connected by their location, interests, or ideas. In the early days of this nation, a community most often meant the settlement or village where you lived. Through technological inventions and innovations, community has become more than just being in the same location. What are some communities that you feel connected to? Does your community connect through family, school, arts, science, social interests, environmental causes, or something else? Think of a problem your community faces. What type of invention or idea could solve the problem and help your community?