Creativity Workshop

Creativity Workshop (working title) will be a four thousand square foot permanent exhibit that serves as a core part of the Museum's Technology Initiative. The Technology Initiative aims to increase the technological literacy of the Museum's many audiences through the development of a wide variety of exhibits, programs, and educational materials.

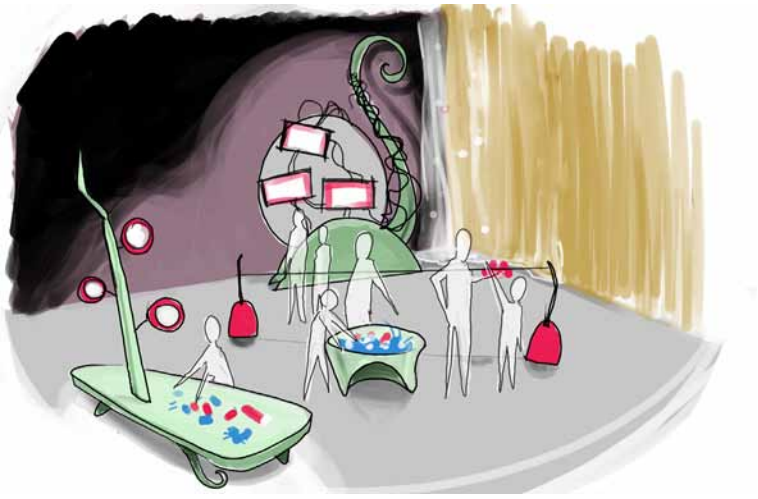
Visitors to the exhibit will participate in highly interactive activities in which they create and invent things of their own, gaining first-hand experience with the engineering design process and creative problem-solving. Rather than seeing technology and engineering as difficult to understand and separate from what they already know and do, visitors will have an opportunity to learn how some technologies work. Interactions with high-tech art will invite visitors to broaden their views of technology and the processes and people that create it.

Opening 2010.

The Visitor Experience

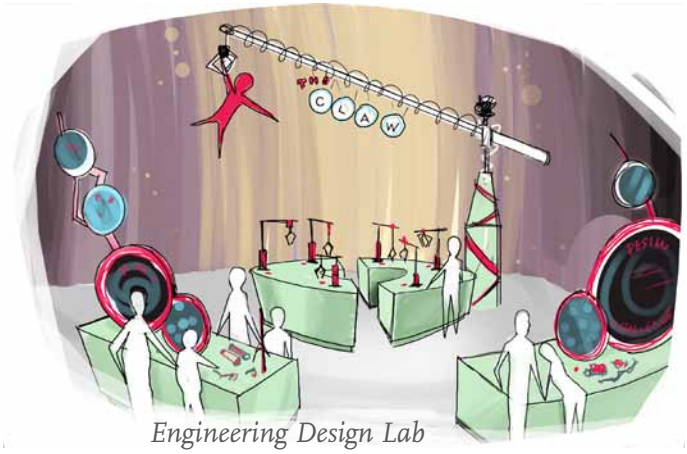
Although the exhibit's educational goals are are rooted in formal education standards, the experiences will be ones only a museum can provide. Visitors will be able to explore the relationship between creativity and technology in four main areas: Art and Technology, Inventors' Tools, Engineering Design, and Tech Junior.

Waterworks



Art and Technology

The centerpiece will be a large kinetic sculpture that not only makes use of electronics and multimedia, but also incorporates sensors that make it possible for the sculpture to respond to its surroundings—especially the visitors. Accompanying the sculpture will be sketches, models, and videos that document the artist's process of creating it, thereby beginning to introduce visitors to some of the key themes of the exhibit—the nature of the creative process and the relationships among creativity, art, and technology. Visitors may have the opportunity to make a small kinetic sculpture of their own or to classify various artifacts as art, technology, or both. Works of technological art will also be incorporated throughout the rest of the exhibition.



Engineering Design Lab

Inventors' Tools

Creativity is often viewed as a mysterious or even mystical process, but researchers in cognitive science and the history of technology have identified numerous mental tools and techniques that inventors, engineers, and other creative thinkers use in coming up with new ideas. Through practice with "Inventors' Tools", people can enhance their ability to be creative.

This section of the exhibit will feature a number of these tools, such as combining, making analogies, and repurposing. For each Inventors' Tool, the exhibit will include a story of an inventor or engineer who successfully used the tool or technique in creating a new technology or solving a technological problem in a creative way, and an interactive activity to give visitors practice using the tool.

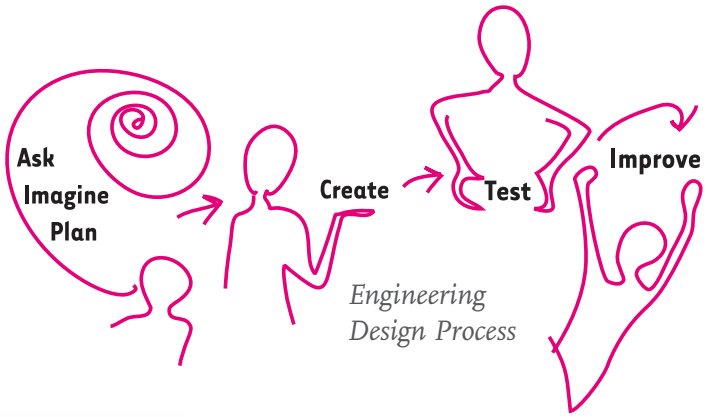
Engineering Design

This section of the exhibit will feature several large, highly interactive components.

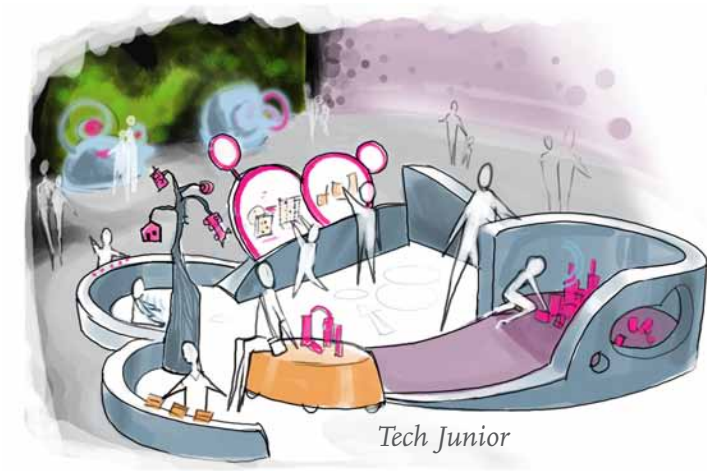
At the *Waterworks*, visitors can tinker with technology and explore the workings of a complex technological system. The prototype of this component has already been a great success with visitors: during recent tests of the prototype, one visitor described it as "the coolest thing in the whole museum."

Engineering Design Labs (EDLs) are exhibit components that give visitors experience with the essential activity of engineering: design. The exhibit uses a version of the engineering design cycle that is simplified enough to be appropriate for a museum audience, while still emphasizing the key aspects of the process, especially its iterative nature. Presented with a challenge, visitors will *ask* questions, *imagine* possible solutions, and make a *plan* to develop one solution; *create* a prototype of their solution; *test* the protoype; and *improve* it.

Two EDLs are already under development: In *The Claw*, visitors design a gripping device for the classic mechanical arcade game. *Programming Blocks* gives visitors the chance to design and build simple gadgets using a variety of electronic modules.



Engineering Design Process


Tech Junior

Tech Junior

Tech Junior will introduce children aged 3 to 6 to the exhibit's main ideas. Activities in Tech Junior may include

- Simple sorting and matching activities: e.g., which objects and materials are natural and which are human-made? Which tool would you use to solve this problem?
- Opportunities to use simple tools.
- Exploring cause and effect and how things work through construction of a giant marble run or a chain of gears.

Children (and their adult caretakers) can also learn about ways they already demonstrate creative thinking skills.