

A Hundred Tiny Hands

Tech ID: 27433 / UC Case 2015-518-0

BRIEF DESCRIPTION

100 Tiny Hands is an experiential learning program that imparts science, technology, engineering, and math (“STEM”) education to children ages six to twelve using storybook-inspired curriculum coupled with interactive educational “toolboxes.”

FULL DESCRIPTION

The United States is ranked 52nd in STEM education in the world and there is continuous decline in Americans pursuing advanced education in STEM fields. This is especially true for women, as well as African-American and Hispanic students. The low retention rate of student interest in STEM at the K-12 grade level is widely considered to be a major contributor to this trend. Further, current methods of teaching and the steep learning curve of certain STEM topics deter many students, especially at a young age, from further pursuing STEM.

100 Tiny Hands is an experiential learning program that imparts science, technology, engineering, and math (“STEM”) education to students, age six to twelve, using storybook-inspired curriculum coupled with interactive educational “toolboxes.” Each “toolbox” contains a hands-on STEM project, which incorporates cutting edge scientific technology directly from the lab. The accompanying comic-book style booklet explains complex STEM topics to children and parents in a simple and an easy-to-understand way. As the child becomes more comfortable with the material and the STEM concepts, the level of difficulty of the curriculum increases. Further, the storyline of each booklet empowers children and encourages them to become inventors.

The four unique toolboxes presently available are “Polytropolis,” “SuperVision,” “SuperHydroTension,” and “You Invent.” The Polytropolis toolkit teaches the fundamental concepts of circuits and electricity as the recipient assembles and powers a city using conducting dough. This toolkit includes conductive platform pieces, parallel connectors, conductive dough, insulating dough, LEDs, and a 9-volt battery source. Recipients are instructed to use the platform pieces, conductive dough, and insulating dough to build creative structures, as well as attach the LEDs and battery to power the city.

The SuperVision toolkit teaches the fundamental concepts of optical lenses, magnification, and microscopy, as the recipient makes his or her own optical lenses and adds them to a cell phone, turning the cell phone into a microscope. This toolkit includes three different sized molds, lens quality plastic, and manufacturing materials. Recipients are instructed to cut out the molds, add the optically clear plastic, secure the manufacturing materials, and place everything in your kitchen oven for ten minutes. Lenses can be added to a cell phone for enhanced super vision.

The SuperHydroTension toolkit teaches the fundamental concepts of water properties, surface tension, and relationships between nanotechnology and real life as recipients learn to make water-repelling tiles. This toolbox includes a superhydrophobic tile, patterned superhydrophobic mazes, a glass and plastic tile, a water dispenser, and manufacturing materials to make more superhydrophobic pieces. Recipients are instructed to play with the included tiles and create your own patterns using a marker.

Lastly, the You Invent toolbox is available if a recipient comes up with an idea for an educational toolbox. Popular toolboxes will be sold through A Hundred Tiny Hands, with proceeds going back to the recipient inventor.

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OTHER INFORMATION

CATEGORIZED AS

- » **Communications**
 - » Internet
 - » Other
- » **Computer**
 - » Other
- » **Engineering**
 - » Engineering

RELATED CASES

2015-518-0

SUGGESTED USES

The present invention can be integrated into education of children age six to twelve.

ADVANTAGES

The present invention educates children and parents on STEM topics through experiential learning, which is widely believed to improve learning and retention. Unlike comparable programs on the market, the present “toolboxes” integrate cutting-edge technology directly from the lab. Additionally, the interactive “toolbox” and comic-style booklet encourages and fosters innovation in the United States by empowering American youth in to be inventors. Lastly, the present invention can be easily integrated into K-12 education, either at home or in school, in an effort to engage children of all backgrounds, ethnicities, and gender.

LIMITATIONS

The present invention may be cost prohibitive in certain public school districts.

STATE OF DEVELOPMENT

The toolbox kits are complete, and are being sold on the A Hundred Tiny Hands website (<http://100tinyhands.org/>).

OTHER INFORMATION

For more information, please visit the A Hundred Tiny Hands website (<http://100tinyhands.org/>).

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