

WOMEN INVENT!

Two Centuries of Discoveries That Have Shaped Our World by Susan Casey



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Women invent what they need. Their inventions and patents reflect their involvement in history.

Women inventors are problem solvers. When faced with a problem, they think of a solution: an invention. When making a working model, they use math and science skills. They use language arts skills in applying for a patent, and art skills to depict the invention. They use a combination of writing, art, and musical skills in marketing. Invention calls for creative thinking.

TEACHER'S GUIDE

TERMS OF INVENTION

Invention: A discovery of something new that is useful and that is unobvious to those who work in that field of discovery. (p. 2)

Innovation: A type of invention that improves on an existing invention. Inventors continually gain new patents for improvements on common items like TVs, radios, bicycles, skateboards (p. 38, 47).

Patent: A patent gives the inventor the right to make use or sell an invention and prevent others from doing the same for a period of 14-20 years. There are three types of patents:

♦ **Utility:** granted for a machine with moving parts or for objects like paper clips that don't have moving parts; or for a process, i.e. how a medical drug is made; or for a new composition of matter like a salad dressing or shampoo (p. 73-74).

♦ **Design:** granted for designs of objects like chairs, clocks, phones, bicycles, cars, baby carriages and on and on. If a design patent is granted for a phone shaped like a tree, the patent is for how it looks, not for how it works (p.73-74).

♦ **Plant:** granted for a distinct and new variety of plant, from apples to roses. Ecologist Georgia Bost of Texas was granted one in 1995 for creating a hibiscus plant that grows more quickly than existing ones (p. 74).

Trademark:

A word, phrase, symbol or design that identifies a product. The words *Liquid Paper* and the way they look on the bottle and in advertisements have a trademark. Once it is registered, the owner of it is the only one who can use the image or words to sell the product. A capital R in a circle ® or the letters TM indicate an item is trademarked (p. 71-72).

STUDENT ACTIVITIES:

Problem Solving

Thinking of Ideas for Inventions

♦ Inventors think of ideas for inventions when faced with a problem. Ask students to list the age, the problems, inventions and contest entered by of each of the following student inventors: Molly and Emily Giles, Molly Hogan, Robin Lawson, Laurie DeStefano, Trisha Buss, Christopher Cho and Johnny Bodylski.

♦ Many inventions are created to satisfy needs of particular groups in society. Ask students to list and explain the inventions created for babies by Marion Donovan, William and Nikki Campbell, and Alexia Abernathy; for the environment by girl inventors Kara Levine (p. 61) and Disa Ruberbauer (p. 4); and for the disabled by Leslie Dolman (p. 106-107).

Science/Math

Making a Model

♦ Turning an idea for an invention into a 3 dimensional working model is a challenge which usually requires both science and math skills. Ask students to create models of student inventions featured in **Women Invent!** (materials listed):

- ♦ ♦ *Becky Schroeder's Glo Sheet*
(cardboard, phosphorescent paint, p. 78-79)
- ♦ ♦ *Trisha Buss's Rub Yer Back Suntan Lotion Dispenser*
(back scratcher, tubing, plastic bottle, sponge, p. 60)
- ♦ ♦ *Patty Brandetsas Whirling Dart Board*
(dart board, batteries, switch, p. 38-39)
- ♦ ♦ *Disa Rubenbauer's environmentally conscious fast food container*
(corn stalks, corn meal, corn syrup, water, p. 4)

Getting a Patent

♦ Sometimes inventors have to fight for their patents. Ask students to relate the problems Margaret Knight (p. 43-45) and Mildred Smith (p. 76-77) had in getting their patents.

Doing a Patent Search

♦ Kids can do patent searches. That's what Pat Bradel's class did. Ask students to find out what her class invented and how they conducted their patent search. (p. 68)

Identifying Trademarks

♦ Ask students to draw the two identifying marks that signify a trademark and find them on a product.
♦ Ask students to find out why Bette Graham, inventor of Liquid Paper, or the creators of Coca-Cola, did not get a patent? What did they apply for and get?