

R. BUCKMINSTER FULLER

Visionary
inventor
R. Buckminster Fuller . . .

. . .wearing a
hearing aid of his
own design and
manufacture.

R. Buckminster Fuller: A Man of the Universe

Materials: reference materials, writing paper, envelopes, stamps, colored paper, scissors, tape, "What One Man Can Do" by John Denver, CD or cassette player

SET INDUCTION

Quicktalk: What is the best gift you have ever received? What made that gift so special? What special free gift can you give to others?

Deliver Objectives: Today we're going to begin learning about a man named R. Buckminster Fuller. Mr. Fuller was a gifted individual who devoted his life to helping all mankind. By the end of today's lesson, you will be able to identify special talents exceptional people share with others.

Background Information: R. Buckminster Fuller was born in Milton, Massachusetts on July 12, 1895. "Bucky" developed his love for nature, machinery, and construction during his childhood family outings to Bear Island in Maine, his work at a Canadian mill, and his work in a construction business. One of Fuller's first inventions was for the U.S. Navy. In 1917 he invented a winch for rescue boats that could remove downed planes and save pilots' lives. In 1926, his father-in-law, J.M. Hewlett, created a method for producing reinforced brick and concrete buildings. They went into the construction business together. A few years later, Fuller became depressed when his first daughter died and he lost his job after the construction company was sold. After intense reflection, he realized that his life did not belong to himself; his life belonged to the universe. From then on, Fuller dedicated his life to seeing what one person could do to positively impact all mankind with minimal money and without ecological damage. Fuller developed his gifts as an inventor, architect, engineer, mapmaker, futurist, and philosopher. He received 47 honorary doctorates and earned dozens of architectural and design awards. He circled the globe 57 times giving public lectures

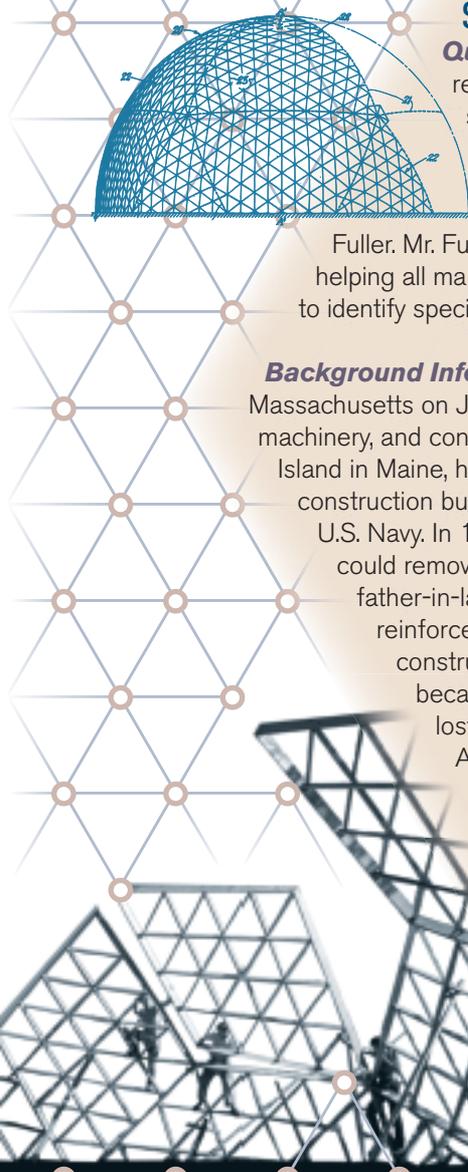
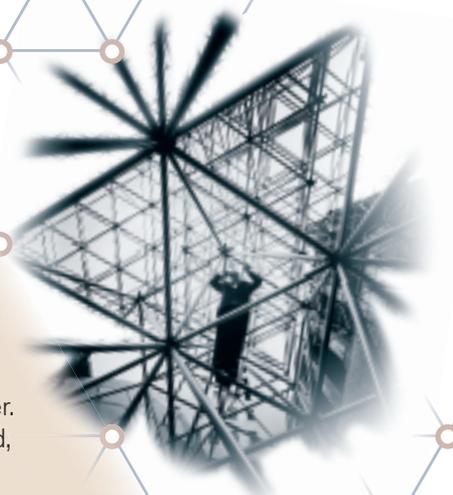
and interviews. He earned 25 patents and authored 28 books. On February 23, 1983, President Ronald Reagan awarded Mr. Fuller the nation's highest honor, the Presidential Medal of Freedom. On July 1, 1983, Mr. Fuller died of a heart attack in Los Angeles, California.

PEOPLE OF THE UNIVERSE

- 1 Play "What One Man Can Do," by John Denver. Mr. Denver wrote this song to honor his friend, Mr. Fuller. How does this song celebrate Mr. Fuller's life?
- 2 R. Buckminster Fuller could be considered a "Man of the Universe" because he shared his gifts with all mankind. Can you think of any men or women who could be considered "People of the Universe?" Brainstorm a list of exceptional people such as Leonardo da Vinci, Mary McLeod Bethune, Benjamin Franklin, Madame Curie, and Frank Lloyd Wright.
- 3 Students conduct research to discover these exceptional people's contributions to mankind. Be sure at least one student delves more deeply into R. Buckminster Fuller's life. Each fact should be written in the student's own words.
- 4 Students use brightly colored paper to create polyhedrons (cubes, tetrahedrons, etc.). They write one fact about the exceptional person on each face of the polyhedron. Students rotate pairs to share the facts they've discovered. Then, they share three important facts about their exceptional person with the entire class. Suspend the polyhedrons from the ceiling.

WRITE ON

We've been talking about extra-special gifts, or talents, that exceptional people can share with others. Mr. Fuller believed that "everybody is born a genius"; everyone has the potential to be a "person of the universe." Write and illustrate a short narrative describing a time when you shared a special talent with your friends or family.



Dymaxion Dreamer

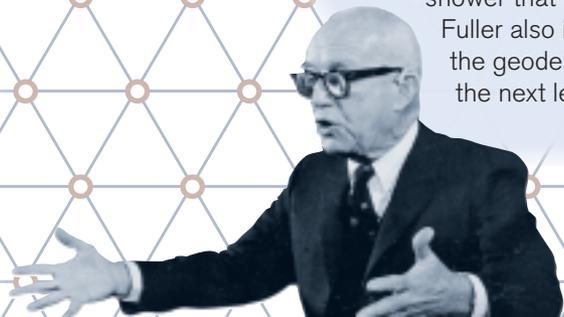
Materials: computers with Internet access, lined and unlined paper, envelopes, stamps, tape, writing materials, art supplies, catalogs

SET INDUCTION

Quickwrite: What do you think is the most exciting invention of all time? Why? Write, pair share, then ask volunteers to share with the class.

Transition and Objective: Some inventors are inspired by nature to try new ideas. For example, Velcro was invented after a person noticed how sand-burs stuck to his pant legs when he was walking through a field. Most inventions arise out of people's desire to try something different or to solve an existing problem. R. Buckminster Fuller was an inventor who strove to improve the quality of people's lives. In the next few days, we're going to investigate his and other people's inventions before you invent something of your own.

Background Information: R. Buckminster Fuller used the knowledge he had gained from the construction business to build a self-described "4-D" hexagonal house in 1928. He applied aircraft technologies to produce homes that could be mass-produced and airlifted into location. When a sample home was exhibited at a Chicago Department Store, the advertisers dubbed it a "dymaxion" house (dymaxion= dynamic + maximum + tension). In 1933, Fuller invented a three-wheeled, 20-foot-long dymaxion car that was capable of traveling up to 120 mph. It was intended to fly like a jet once the necessary alloys and engines became available. In 1936, Fuller invented a dymaxion bathroom constructed of four molded panels with all appliances and plumbing included. A special feature was the fog-gun, hot-water-vapor shower that used only one quart of water! Mr. Fuller also invented the dymaxion map and the geodesic dome, which will be explored in the next lesson.



INCREDIBLE INVENTIONS

Students conduct research to identify inventions throughout time. Be sure students conduct additional research on Mr. Fuller's inventions. Interesting sites include:

<http://www.thirteen.org/bucky/invent.html> (Fuller's inventions)

<http://www.thirteen.org/cgi-bin/bucky-bin/bucky.cgi>

http://encarta.msn.com/encyclopedia_761577404/Invention

<http://www.enchantedlearning.com/inventors/>

<http://www.totallyabsurd.com/> (crazy inventions)

<http://trackstar.hprtec.org/cgi-bin/search.pl/results> (search with keyword "inventions")

Each person creates a detailed illustration of one invention. Write a brief paragraph describing the invention's purpose, inventor, and inspiration. Create a walking-talking timeline by arranging students in chronological order according to when the invention occurred. Students share the invention information with one another before sharing with other classrooms. Post the timeline in the hallway once presentations are complete.

PROTOTYPE PRODUCTS

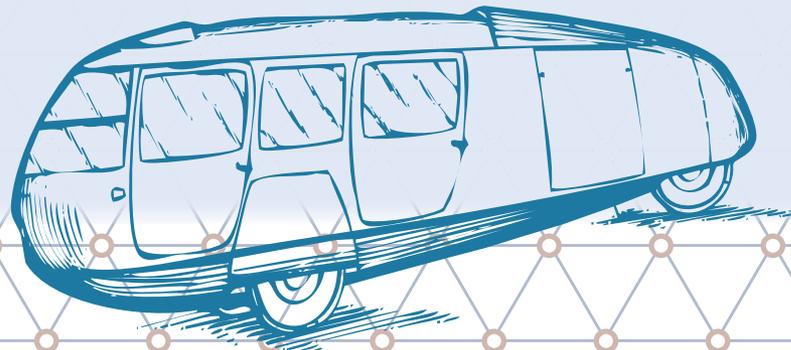
Each student invents a product to solve one of life's everyday problems (i.e. an itchy back or contrary zipper). Invent a new adjective (like dymaxion) to describe the product. Share catalogs depicting novel products and descriptions. Students create a class catalog promoting their products. Then, they create infomercials to "sell" their inventions on CSN (Class Shopping Network). They can also learn what's involved in patenting a product by accessing <http://www.uspto.gov/>.

WRITE ON

The National Geographic Society has an interesting website featuring novel inventions:

<http://www.nationalgeographic.com/features/96/inventions/color/form.html>

They are seeking children's inventions, too. With the principal's and parents' permission, invite students to submit their inventions to the National Geographic Society.



Everything you've
learned in school as
"obvious" becomes
less and less obvious
as you begin to study
the universe.

R. Buckminster Fuller

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