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ANNOUNCING

CHARLOTTE COFFMAN

CCE Summer Intern Poster Session



Elizabeth Esponnette, FSAD '10, presented her project at the annual CCE Summer Intern Poster Session. She explained her work with the Ithaca Fire Department to determine the fit and functional problems in the design of firefighters' turnout gear. Firefighters were interviewed, videotaped donning various turnout suits, and scanned in different working positions. Her findings enable:

- manufacturers to develop more protective and more comfortable suits,
- researchers to expand their database on personal protective equipment, and
- educators to engage firefighters in learning about protective materials and safety issues

For more information on Beth's experience, select

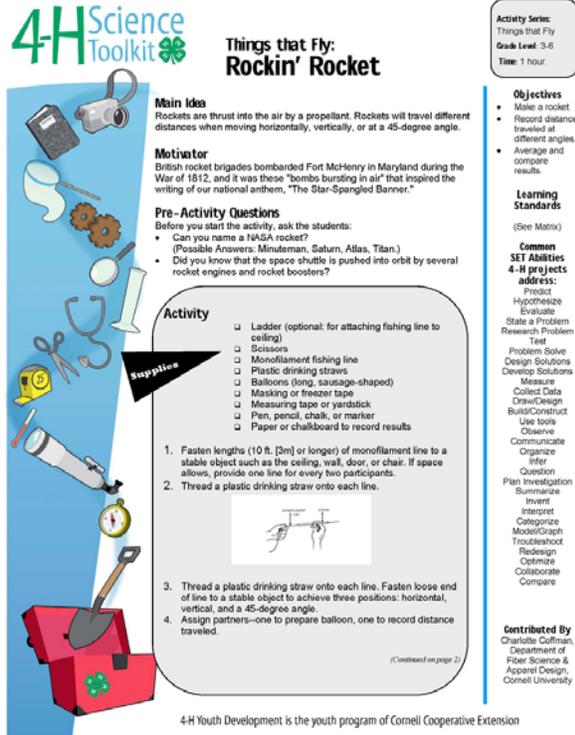
Analyzing Design Features on Firefighter Uniforms on the CCE Summer Intern page
<<http://cce.cornell.edu/learnAbout/GetInvolved/Pages/SummerInternshipProgram.aspx>>

Also, watch for information in future newsletters on how to access and use the *Dress a Firefighter* website now under development.

ENGAGING YOUTH

CHARLOTTE COFFMAN

4-H Science Toolkit Grows



4-H Science Toolkit

Things that Fly: Rockin' Rocket

Main Idea
Rockets are thrust into the air by a propellant. Rockets will travel different distances when moving horizontally, vertically, or at a 45-degree angle.

Motivator
British rocket brigades bombarded Fort Mchenry in Maryland during the War of 1812, and it was these "bombs bursting in air" that inspired the writing of our national anthem, "The Star-Spangled Banner."

Pre-Activity Questions
Before you start the activity, ask the students:

- Can you name a NASA rocket?
(Possible Answers: Minuteman, Saturn, Atlas, Titan.)
- Did you know that the space shuttle is pushed into orbit by several rocket engines and rocket boosters?

Activity

Supplies

- Ladder (optional: for attaching fishing line to ceiling)
- Scissors
- Monofilament fishing line
- Plastic drinking straws
- Balloons (long, sausage-shaped)
- Masking or freezer tape
- Measuring tape or yardstick
- Pen, pencil, chalk, or marker
- Paper or chalkboard to record results

- Fasten lengths (10 ft. [3m] or longer) of monofilament line to a stable object such as the ceiling, wall, door, or chair. If space allows, provide one line for every two participants.
- Thread a plastic drinking straw onto each line.
- Thread a plastic drinking straw onto each line. Fasten loose end of line to a stable object to achieve three positions: horizontal, vertical, and a 45-degree angle.
- Assign partners—one to prepare balloon, one to record distance traveled.

(Continued on page 2)

Activity Series: Things that Fly
Grade Level: 3-6
Time: 1 hour

Objectives

- Make a rocket
- Record distance traveled at different angles.
- Average and compare results.

Learning Standards
(See Matrix)

Common SET Abilities
4-H projects address:
 Product
 Hypothesize
 Evaluate
 State a Problem
 Research Problem
 Test
 Problem Solve
 Design Solutions
 Develop Solutions
 Measure
 Collect Data
 Draw/Design
 Build/Construct
 Use tools
 Observe
 Communicate
 Organize
 Inter
 Question
 Plan Investigation
 Summarize
 Invent
 Interpret
 Categorize
 Model/Graph
 Troubleshoot
 Redesign
 Optimize
 Collaborate
 Compare

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4-H Youth Development is the youth program of Cornell Cooperative Extension

The 4-H Science Engineering & Technology Program Work Team has received a New York State 4-H Foundation grant for continued development of the 4-H Science Toolkit, a series of hands-on science activities. The intent is to provide an interesting variety of activities that are quick to assemble, easy to lead, and simple to understand. Check out these units and the companion New York State Learning Standards on the NYS 4-H website <http://nys4h.cce.cornell.edu>.

- Animal Science
- Astronomy
- Climate in Your Backyard
- Entomology
- Flight
- GPS
- Lost Ladybug

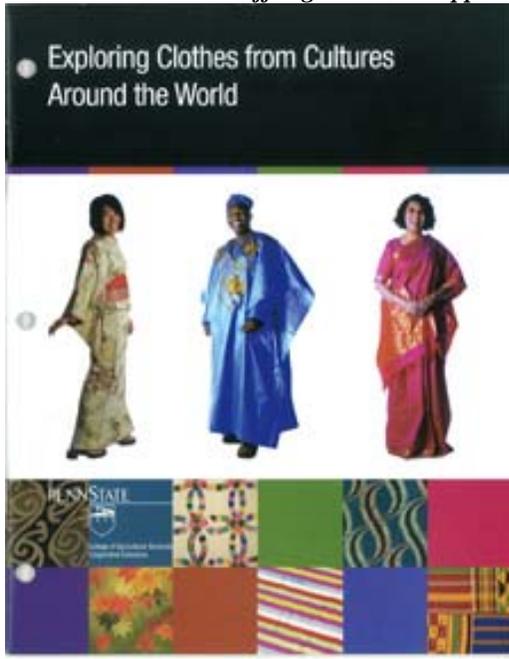
Additional units are being prepared and will be posted later. If you use the activities and would like to distribute bookmarks that feature the website URL please contact Charlotte Coffman, cwc4@cornell.edu or 607-255-2009.

A New Design Publication



On display at the NAE4-HA National Conference in Rochester was a new home environment publication *Design Decisions* written by Patricia Fairchild, University of Nebraska. The curriculum aims to teach youth to use design elements and principles, understand conservation and natural resources, develop practical life skills, create products and furnishings, and maintain items they already own. To learn more about this resource, visit their website at <http://4h.unl.edu/designdecisions>. If you would like to borrow the FSAD copy for a week for a closer look, contact Charlotte Coffman, cwc4@cornell.edu or 607-255-2009.

FSAD Freebies - Offer good while supplies last.



Jan Scholl, Pennsylvania State University, noted that several NY 4-H educators were enrolled in her seminar at the NAE4-HA Conference in Rochester. She had a few extra copies of the publication *Exploring Clothes from Cultures Around the World* and has offered those to me for distribution. If you are interested in receiving one free copy, contact Charlotte Coffman, cwc4@cornell.edu or 607-255-2009.

EXPLORING FABRICS/FIBERS

MUCH ADO ABOUT FABRICS

MARLEY LUBIN*

It is exciting news when a German unknown bests U.S. Olympic swimmer Michael Phelps. Both headlines and excitement were in abundance at the World Swimming Championships in Rome last July when Superman Michael Phelps was blown away by Paul Biedermann in the 200-meter freestyle competition. Biedermann's time was 1 minute 42 seconds, almost 0.9 seconds *under* Phelps' previous world record. But is Biedermann the new super swimmer or was he wearing the new super swimsuit?

Biedermann was wearing an Arena X-glide swimsuit, while Phelps' was in his trusty Speedo LZR Racer. Is there really a difference? Well if the race is down to a millisecond – *Yes there is*. Let's compare the two suits: The Speedo LZR Racer is made of woven elastane-nylon and polyurethane. Introduced in February 2008, this suit was worn by Phelps and many others at the Beijing Olympics – a record 94% of all swimming races were won by competitors who wore the Speedo LZR Racer. A high compression suit, the Racer helps maintain the swimmer's body in a hydrodynamic position and creates greater buoyancy. Strategically placed panels reduce the drag that occurs while swimmers are moving through water. The Arena X-glide suit is coated in polyurethane, and like the Speedo LZR, reduces drag, increases buoyancy and repels water. However, the Arena X-glide is said to be more like a wetsuit, and probably more buoyant than its counterpart. The suit covers the torso and legs, so less skin is exposed to the water.

After the loss to Biedermann, who also set a new world record in the 400-meter, Phelps' coach Bob Bowman threatened that Phelps would not be swimming until the new suit is banned by FINA, the international governing body of swimming, diving, water polo, synchronized swimming and open water swimming. Accordingly, FINA has passed a ban for 2010 on *all high-tech bodysuits*, including the Arena X-glide and the Speedo LZR suits. The ruling goes into effect January 2010, although the panel

admits that it might take some for manufacturers to get on board.

Resources:

1. Gaylord, C. and Heining, A., High-tech suits (and Phelps) put the drama back in swimming, Christian Science Monitor. August 16, 2009.
2. Michaelis, V. As times plunge, new suits' enhancing affects spur debate, USA Today. Online <http://www.usatoday.com/sports/olympics/2009-07-21-effects_N.htm>
3. Wikipedia: Arena X-Glide. Online <http://en.wikipedia.org/wiki/Arena_X-Glide>
3. Wikipedia: LZR Racer. Online <http://en.wikipedia.org/wiki/LZR_Racer>

RECALLING TRADITIONS

THE POWERFUL PANTSUIT

MARLEY LUBIN*

It seems like only yesterday when Hilary Clinton was running in the Democratic primaries, brightening her speeches with her vibrant pantsuits. Although some people were amused at her never-ending supply, the pantsuit holds a special place in the history of women's fashion. Surprisingly, women only began wearing pantsuits in the 20th century.

In the 1920s, Coco Chanel pioneered a very masculine version of ladies' pants, a look that was popularized later by a few famous actresses like Katherine Hepburn. It wasn't until 1966, however, when Yves Saint-Laurent designed "Le Smoking," a tuxedo suit for women, that the pantsuit became truly accepted. This first formal pantsuit for women was genderless, sophisticated, and simple. It was more than an influential fashion statement; it spoke of a changing society and the changing role of women. During the 1980s, the woman's business suit became a symbol of power. The large shoulder pads gave women's jackets a strong, confident, masculine appearance — the perfect fashion for women heading into the workforce.

The pantsuit is still a must for every woman's wardrobe. Designers such as Marc Jacobs continue to show pantsuits for women on the runway. Classic styles in all black are both flattering and professional, and can be paired with heels and a feminine top for more casual wear. Pantsuits are practical, too. They are comfortable for cold and windy climates, allow for greater movement, and stay in style longer than skirts and dresses.

Saint Laurent may have expressed it best, "For a woman, Le Smoking is an indispensable garment with which she finds herself continually in fashion, because it is about style, not fashion. Fashions come and go, but style is forever."

Resources:

1. Robbins, McLean. The Politics of Fashion, Washingtonian. Online at <http://www.washingtonian.com/blogarticles/Style/shoparound/10454.html>
2. Tortora, P. and Eubank, K. Survey of Historic Costume, Third Edition, Fairchild Publications, NY. 1998.
3. The Well Suited Pants Suit, AllSands. Online http://www.allsands.com/Fashion/pantsuitsfashio_gz_gn.htm

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