

# TEXTILE DESIGN FOR PROTECTIVE CLOTHING

*FIDM's Just for Educators Classroom Projects & Activities*



## **Objective:**

To establish a common understanding of fabric design in the context of emerging technologies and allow students to research and present findings of protective clothing and its importance in social history

**Suggested for:** *Home Economics, Art, Business Education, Social Studies*

## ***Student Activities:***

Students form study teams of three to research protective clothing for a given profession. They look up information and technologies used to manufacture the clothing. Students are asked to think about new uses for existing protective fibers and new fabrics.

They “create” a new protective fabric by using their research and imagination to come up with a new fabric name, a specific purpose/function of fabric, and a target profession or consumer for the fabric. Students present their findings to the class using visual aids and selected information from their research.

## ***Arizona State Standards:***

### **• Marketing Management and Entrepreneurship**

- 16.0 Demonstrate oral communication skills for the marketing field.
- 16.6 Prepare and deliver presentations.
- 17.1 Conduct formal/informal research to collect appropriate topical information.

## ***California State Standards:***

### **• Fashion and Interior Design Industry Sector**

- A6.0 Students understand the characteristics, production, and maintenance of textiles and textile products.
- A6.5 Students know how technology is used to create various characteristics in textiles.

## ***Washington State Standards:***

### **• Essential Academic Learning Requirements: Communication**

- 2 The student uses communication skills and strategies to interact/work effectively with others.
- 2.2 The student uses interpersonal skills and strategies in a multicultural context to work collaboratively, solve problems, and perform tasks.
- 3 The student uses communication skills and strategies to present ideas and one's self in a variety of situations.

## ***National Standards:***

### **• Business Education: Marketing**

- VI The Marketing Plan
  - Describe the elements, design, and purposes of a marketing plan
- 16.0 Fashion, Textiles and Apparel
  - 16.5.1 Apply marketing strategies for textile, apparel, and fashion products.
  - 16.5.6 Apply research methods, including forecasting techniques, for marketing apparel and textile products.

## ***Materials Needed:***

- Information on special fabrics manufactured by such firms as Gore-Tex®, Windstopper®, Rockywoods, and information about any other types of protective clothing fabrications
- Access to Internet research
- Availability of library research with Librarian assistance

## ***Warm-Up Exercise:***

**What to do:** Ask students if they have any familiarity or personal experience with protective clothing or fabric. Have them brainstorm about protective clothing they've seen on professionals with hazardous jobs (beekeepers, surgeons, firefighters, FBI SWAT teams, astronauts, ski patrol, search and rescue, military service people, petroleum platform workers, etc.).

Ask them why protective clothing is necessary and how it is used. Ask them if there are any new hazards (e.g. terrorism) for which society needs to prepare. Explore how fabric design using new technologies could help create a new industry of protective clothing for ordinary consumers. Think about the possible relationship in the future between “smart clothing” and fashion design. “Smart clothing” is defined as the integration of high technology into textiles.

## ***Project Guidelines:***

1. Form study teams of three and have students do research on protective clothing for a given profession.
2. Have them look up information on the fabric and technologies used to manufacture the clothing.

3. Ask students to think about new uses for existing protective fibers and new fabrics.
4. Give students the chance to “create” a new protective fabric” by using their research and imagination to come up with a new fabric name, a specific purpose/function of fabric, and a target profession or consumer for the fabric.
5. Instruct the students to present their findings to the class using visual aids and selected information from their research.

### ***Possible Follow-up:***

Have a chemist from a test lab or a dry cleaning professional come to class and do tests on fabric samples in front of the class (stain test, burn test, etc.).

### ***Possible tie-in to Project Based Learning:***

Have student teams develop designs for “smart clothes” that Paris, Milan, New York, or Los Angeles fashion design houses could offer mainstream consumers. Have design teams debut their new designs and get feedback from the other teams.