

“FACS By Numbers” using computerized sewing machines
Strategies and Activities for Incorporating Geometry into the FACS Classroom

Human Services Cluster

Family and Consumer Sciences POS

Description of Project: “FACS By Numbers” introduces students to the tools, techniques, art and history of quilting. As students learn to cut and measure with precision, they apply many of the theories of basic geometry. Students can create an entire sampler quilt of twelve blocks or small projects requiring only one or two blocks. Each quilt block is a stand-alone lesson in geometry and basic sewing. Using the computerized machines have many advantages over the manual and electronic sewing machines. The computerized machines have a built-in memory that will retain the designs that are entered. The computerized machines give a very accurate and precise stitching automatically. Though the other machines also give accurate and precise stitching, they involve active involvement and continuous adjustment of all the parameters manually. Computerized machines may be a combination of sewing/embroidery machines, but a computerized machine will include at least the following features:

- Multiple stitch functions and built-in stitches
- Multiple computerized one-step, auto-size buttonholes
- Backlit LCD with sensor-touch keypad
- One-touch function buttons (needle, threading, needle up/down, auto lock stitch, reverse stitch, etc.)
- Stitch design feature to create combinations of multiple patterns
- Automatic feed dog system to feed fabric of any thickness
- Multiple needle positions
- Internal memory

Resource Highlights:

Equipping the FACS Classroom for Quilting

Modern Quilting Techniques

Geometry of Quilting

FACS By Numbers Sampler Quilt–12 Quilt Blocks each of which is a stand-alone Lesson in Quilting and Geometry

Digital Quilt Design and Calculations

Selecting and Coordinating Fabrics for Quilting

Evaluation and Exercises in Basic Geometry

Resources for Using Quilting to Connect your FACS Program to Your Community

Major Activities:

Through the use of the “FACS by Number” curriculum the computerized sewing machines will be used to enhance the construction skills of students in FACS and/or Clothing Management. Because the steps involved in construction and personalization are simplified with these machines, students will be motivated to attempt projects that require higher-level problem solving skills as well as geometry skills. It will also allow students additional opportunities to apply the principles and elements of design in the projects they attempt. Entrepreneurial potential may also be introduced through the improved hands-on experiences.

Performance Indicator: Skill Attainment; Academic Attainment—Reading/ Writing/Language Arts and Geometry.

Measurement: Success will be measured by the End of Course CTE evaluations. Data from EOC Exams will be used to determine if this project improves the academic attainment of the CTE students in the participating schools.

Required / Permissive Uses of Funds:

- Integration of academic and CTE skills
- Provide activities to prepare special populations who are enrolled in CTE
- Support for family and consumer sciences programs
- Initiate, improve, expand, and modernize quality career and technical education programs

Expenditures Allowed:

1 Curriculum Materials: "FACS by Numbers" www.freshfacs.com

3-Computerized sewing machines

3-19"x25" Cutting mat

3- Rotary Cutter

3-6.5" x24.5" Transparent Acrylic Rulers

Estimated Project Total (for one teacher/program): \$9,200