

Explorations in Technology

One Semester (85 hours)

8th Grade

Texts:	Welding Skills	Giachino/Weeks
	Exploring Woodworking	Zimmerman/McWard
	Orthographic projection simplified	Quinlan

This course is designed to introduce students to the array of programs offered in our Industrial Technology Department in the High School. Programs introduced include Drafting, Welding, and Cabinetmaking. Students will spend approximately 5 weeks in each area. Students will be taught safety that goes with each area and there will be area specific activities with each unit.

Drafting

- I. Drafting Equipment
 - A. How to use
 - B. Safety

- II. Preparing to Draw
 - A. Mounting the Paper
 - B. Title Blocks/Boarders
 - C. Working Area

- III. Drawing Requirements
 - A. Measurements
 - B. Line Requirements
 - C. Sketching
 - D. Compass/Measurement Practice
 - E. Lettering
 - F. Geometric Construction
 - G. Multi-View Projections

Worksheets:

7-1	Lettering	_____
7-2	Lettering	_____

5-1	Line identification	_____
5-2	Measuring test	_____
5-6	Geometric construction	_____
5-7	Compass/measurement	_____
6-1	Geometric construction	_____
8-1	Multiview projection	_____
8-2	Multiview projection	_____
8-3	Multiview projection	_____
8-4	Multiview projection	_____
8-5	Multiview projection	_____
8-6	Multiview projecton	_____
8-7	Multiview projection	_____
8-9	Multiview projection	_____
9-2	Dimensioning	_____
8-12	Three view	_____
8-13	Three view	_____
8-16	Extra credit	_____
8-17	Extra credit	_____
8-19	Extra credit	_____

Welding

I. Safety

- A. General shop
- B. Fire and burns
- C. Eye safety
- D. Emergency Procedures

II. Oxy-Acetylene

- A. Safety/ clothing
- B. Equipment identification
- C. Start up
- D. Shut down
- E. Cutting
- F. Running a puddle
- G. Metal storage and disposal
- H. Cooling procedures

III. Arc welding

- A. Safety/ clothing
- B. Equipment identification
- C. Electrode selection
- D. Striking an arc
- E. Slag removal
- F. Start up procedure
- G. Shut down procedure

- H. Metal storage and disposal
- I. Cooling procedures

IV. Grinder / wire wheel

- A. Safety with a grinder

V. Screwdriver

- A. Bending rod
- B. Forging blade
- C. Filing and shaping blade
- D. Heat treating
- E. Safety

VI. Hand tools

- A. Identification
- B. Usage
- C. Safety

Tests and Projects:

- Measuring test _____
- Oxy-acetylene test _____
- Arc test _____
- Grinder test _____
- Arc bead plate _____
- Oxy-ace cut _____
- Oxy-ace puddle _____
- Screwdriver _____

Cabinetmaking

- I. Safety
 - A. General shop
 - B. Eye safety
 - C. Emergency procedures

- II. Hands tools
 - A. Identification
 - B. Usage
 - C. Safety

- III. Machines
 - A. Identification
 - B. Usage
 - C. Safety

- IV. Wood
 - A. Identification

- V. Project planning
 - A. Design
 - B. Figuring board feet
 - C. Reading plans

- VI. Woodworking joints
 - A. Identification
 - B. Where used
 - C. How to construction

- VII. Project construction
 - A. Plans
 - B. Processes
 - C. Equipment and jigs

- VIII. Finish
 - A. Project finish
 - B. Application
 - C. Care

Tests and Projects

- A. Router test _____
- B. Table saw test _____
- C. Sander test _____
- D. Bandsaw test _____
- E. Miter Box test _____
- F. Reading a ruler test _____
- G. Figure board feet test _____
- H. Hand tool puzzle _____
- I. Bucket _____
- J. General safety test _____