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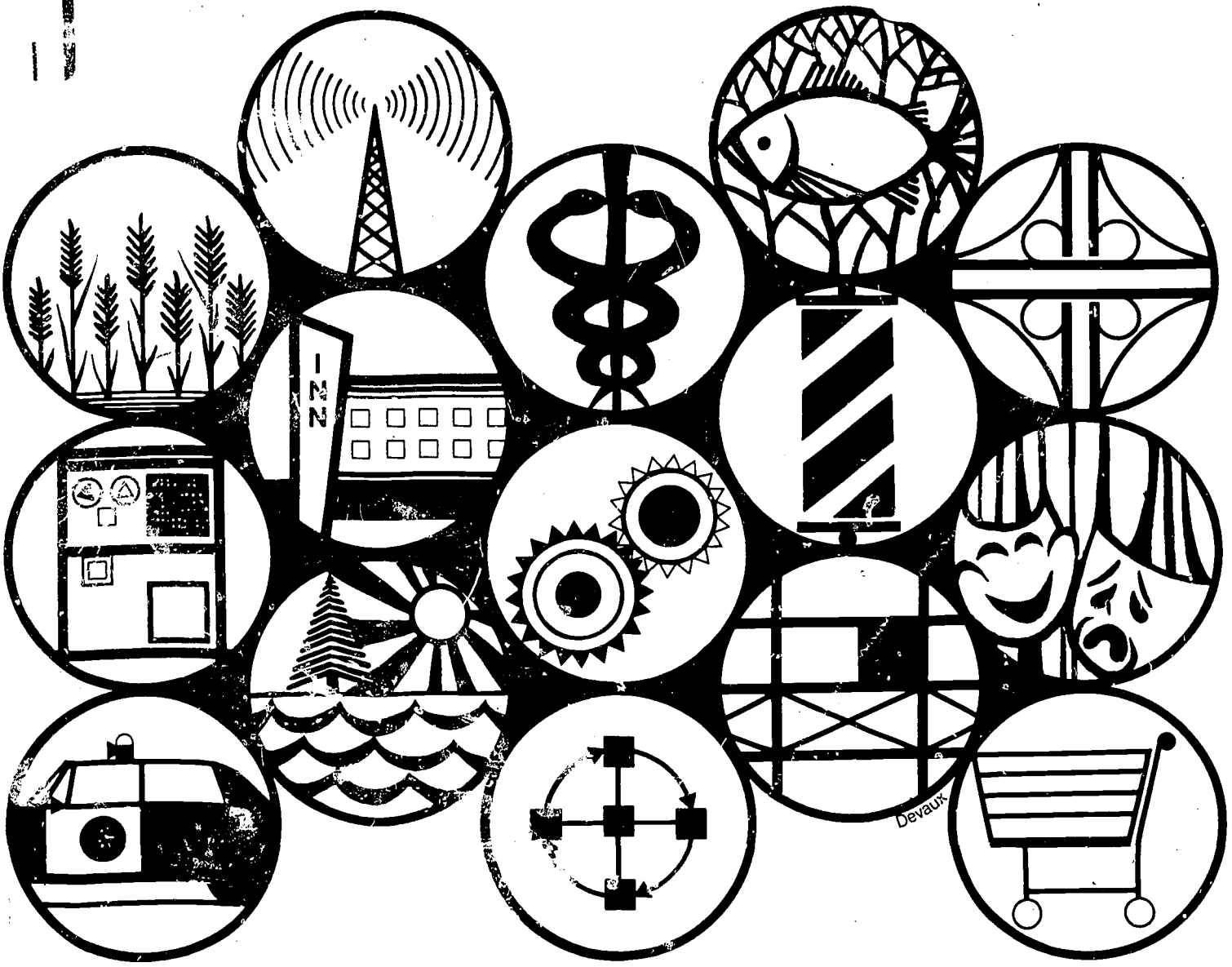
ABSTRACT

Eight career development learning units were produced by classroom teachers in the Milford, Delaware, School District using the triad concept of school, teacher, and community and using career clusters as a data base for school activities to increase student awareness of the variety of career opportunities available. Career oriented activities stimulate and encourage students to begin tentative career planning. Students learn about various occupations related to subject material being taught and in this way are assisted in developing an appropriate balance between self-concepts and career aspirations. Students begin to understand how people use mathematics, science, and other subjects in the real world. "Action" career oriented activities are essential to the development of effective instructional programs. (MS)

CAREER DEVELOPMENT

LEARNING UNITS

MIDDLE SCHOOL



DELAWARE'S OCCUPATIONAL-VOCATIONAL EDUCATION MODEL
906 LAKEVIEW AVENUE MILFORD, DELAWARE 19963

CAREER DEVELOPMENT LEARNING UNITS

Developed by

Teachers of

Milford School District
Milford, Delaware

and

DELAWARE'S OCCUPATIONAL-VOCATIONAL EDUCATION MODEL

An Exemplary Project in Vocational Education
Conducted Under
Part D of Public Law 90-576

Project Office
906 Lakeview Avenue
Milford, Delaware 19963

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September, 1972

Cover Design from Career Education Project
East Providence School Department
East Providence, Rhode Island

INTRODUCTION

Career Development Learning Units were produced using the triad concept of school, teacher and community which is graphically described on the next page. This curriculum design concept uses career clusters as a data base for school activities.

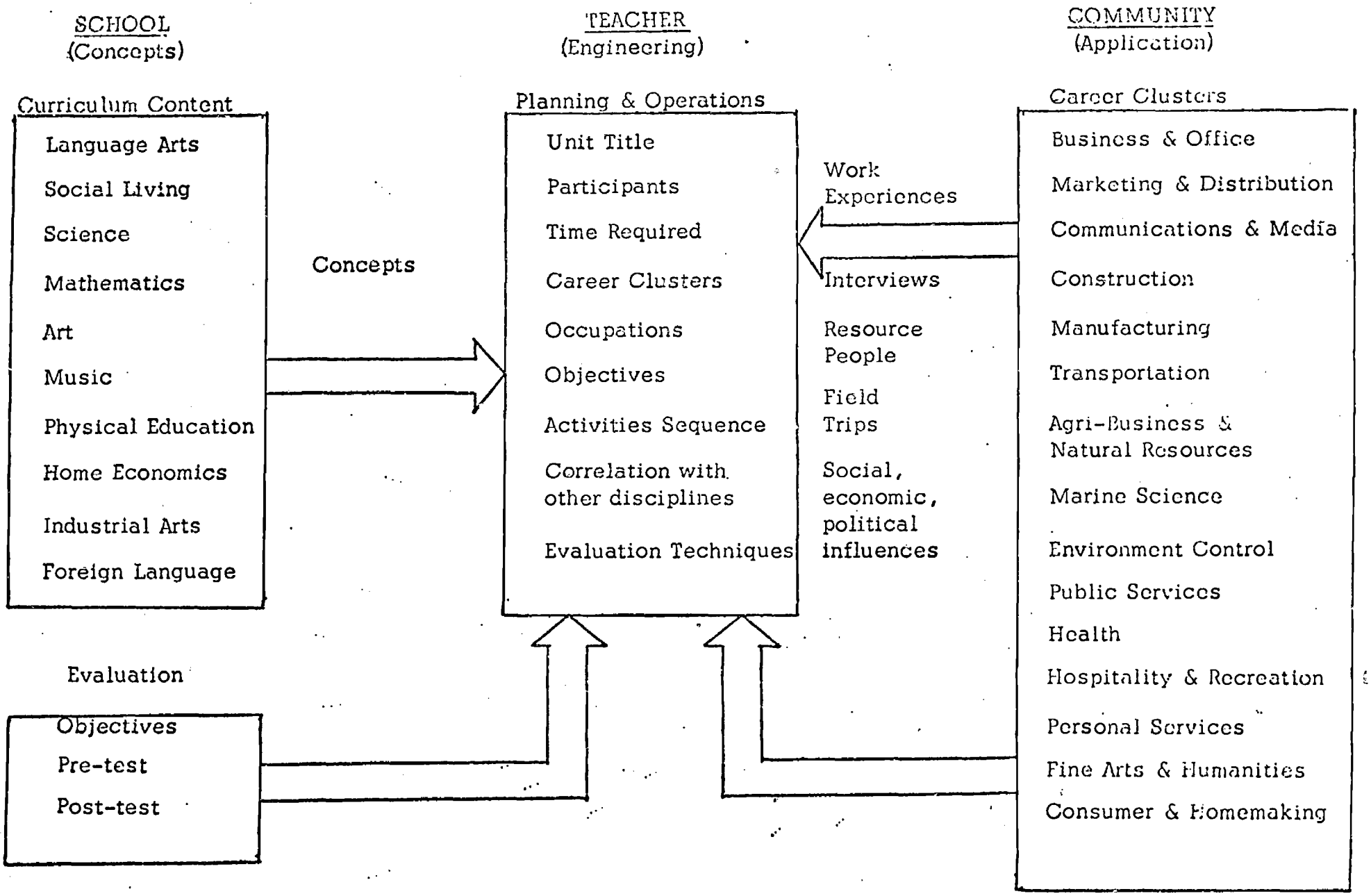
Curriculum units were developed and tested by classroom teachers in the Milford School District. They are intended to serve as guides and examples for teachers interested in developing career education units. These units relate classroom experiences to situations existing in the world of work and result in the development of meaningful school activities. The career cluster concept is used to increase student awareness of the wide variety of career opportunities available.

Due to the motivational nature of career education, instruction becomes more meaningful; thereby reducing adjustment problems typically encountered by middle school children. Career orientated activities stimulate and encourage students to begin tentative career planning. Students learn something about various occupations related to subject material being taught and in this way are assisted in developing an appropriate balance between self concepts and career aspirations. Students begin to understand how people use mathematics, science, etc., in the real world--application is extremely important for cognitive development.

Middle school career education should be introduced to teachers through in-service programs designed to explain "hands-on" action learning techniques used to deliver career education program components. "Action" career oriented activities are essential to the development of effective instructional progr

CAREER DEVELOPMENT LEARNING UNIT

A TRIAD MODEL FOR DEVELOPMENT OF CAREER EDUCATION LEARNING UNIT



MIDDLE SCHOOL
CAREER DEVELOPMENT LEARNING UNITS
WITH
ASSOCIATED CAREER CLUSTERS

UNIT 1 -- Television Studio
- Communications & Media
- Fine Arts & Humanities
- Construction

UNIT 2 -- Ecology In Action
- Environmental Control
- Marine Science
- Communications & Media
- Manufacturing
- Consumer & Homemaking
- Agri-Business & Natural Resources

UNIT 3 -- Mispillion Management Project
- Agri-Business & Natural Resources
- Public Services
- Hospitality & Recreation
- Environmental Control
- Construction
- Communications & Media

UNIT 4 -- Electricity & Careers
- Communications & Media
- Manufacturing
- Personal Services
- Construction
- Public Services
- Health

UNIT 5 -- Little Bucs Manufacturing Company
- Manufacturing
- Communications & Media
- Marketing & Distribution

UNIT 6 -- School Newspaper
- Business & Office
- Communications & Media

UNIT 7 -- Gone With The Wind, Inc.
Business & Office
Marketing & Distribution
Manufacturing

UNIT 8 -- Signs, Inc.
Manufacturing
Business & Office
Marketing & Distribution

CAREER DEVELOPMENT LEARNING UNIT

TITLE: Television Studio

PARTICIPANTS: Team 6A Teachers (Majorie Davis, Thelma Ripper, Robert Hoch and Roger Gourley) plus 100 Sixth Grade Students Career Laboratory Aides (Darlene Clogg, Ruth Prisco, and Judy Chasanov)

TIME REQUIRED: 5 Hours Per Week--20 Weeks

CAREER CLUSTERS:

Communications & Media

Announcer	Writer
Reporter	Cameraman
Typist	

Fine Arts & Humanities

Director	Stage Designer
Stage Hand	Lighting Engineer

Construction

Carpenter	Painter
Electrician	

OBJECTIVES:

1. Selected students will assume a variety of communication and construction career roles.

2. Students will exhibit leadership characteristics as they assume various career roles.

3. Students will work cooperatively together.

4. Students will acquire the habit of watching and listening to television news broadcasts.

5. Students will be able to identify certain television equipment, terminology, occupations and procedures.

6. Students will demonstrate increased self-confidence by willingness to participate both on and off camera.

ACTIVITIES SEQUENCE:

1. Teaching team will utilize video-tape equipment and students will produce television news show and play.

2. Develop an available unused classroom into a "studio" by removing student desks and adding announcer's desk, chairs, sofa and TV equipment. Construct a backdrop for the newscast with students assuming the roles of carpenter and painter.

3. Students will complete applications for various jobs in the TV studio and be interviewed and hired by a resource person acting as station manager.

4. Construct written test and administer as a pretest to measure some of the project's objectives.

5. Career laboratory aides will assist students in constructing maps to be used in the newscast.

6. Students will write, direct, practice and video-tape a 20-minute newscast.

7. Arrange trip to permit students to tour an actual TV studio.

8. Administer written test as a post test.

CORRELATION WITH OTHER DISCIPLINES:

Language Arts
Public Speaking
Speech Skills (parts of speech; gestures; poise; self-confidence; volume; rate; articulation; modulation)
Conversation
Outlining and Note Taking
Dramatizations (puppet show; play; commercial drama--opening, plot and climax)
Comic Strips

Science
Define audio and video. Classify objects by using these two characteristics.

State that energy is capable of forming waves. Prove this statement. Using this information, prove that electro-magnetic waves are the basis of radio and TV.

Briefly illustrate the complete broadcast and reception systems of both radio and TV. Explain the operation of each by comparing and contrasting the two.

Draw a vacuum tube labeling its parts, explain its operation and importance to the radio and TV industry.

By comparing and contrasting, differentiate between 1. AM + FM
2. UHF + VHF

Draw and label the parts of an orthicon and cathode ray tube. Explain their operation.

Using illustrations discuss the difference between black and white and color TV.

When presented with the following objects, correctly identify them and then group them as to:

1. system (radio-TV)
2. type (color, black + white, UHF, VHF, AM, FM)
3. function (audio, visual), transmitter, vacuum tube, cathode tube (black + white), cathode tube (color), antenna, aerial, caesium oxide, orthicon tube (black + white), orthicon tube (color), electro-magnetic waves, microphone, electron gun, and deflectors

Summarize the contributions of the following to radio and TV: Leede, Forest, Oerstad and Faraday.

Critique the operation of and need for the FCC.

During oral and written exercises, demonstrate the acquisition and use of the words listed as vocabulary words on your assignment sheet.

Construct a working foxhole radio.

Construct a model of a television broadcast and reception system.

EVALUATION TECHNIQUES:

The pre and post-test design was used for evaluation. Subjective evaluation was conducted by students and teachers of the televised newscasts and plays.

WMMS
APPLICATION FOR EMPLOYMENT

NAME_____
Last First Middle

ADDRESS_____
Street City State Zip

DATE OF BIRTH_____ PLACE OF BIRTH_____

MALE, FEMALE (circle) MARITAL STATUS_____

EDUCATION:

SCHOOL	ADDRESS	DEGREE OR DIPLOMA	DATE

POSITION FOR WHICH YOU ARE APPLYING_____

Job Experience: Begin with most recent job

	EMPLOYER	ADDRESS	BRIEF DESCRIPTION OF DUTIES	DATE
1.				
2.				
3.				

Use another page if necessary.

Community Activities: _____

_____

_____

Outside Interests: _____

_____

_____

Other Skills: _____

_____

_____

Do you type? _____ w.p.m. _____
Do you take shorthand? _____
Do you speak a foreign language? _____ Which? _____
Are you willing to travel? _____
Have you ever been arrested? _____ If yes, please explain in detail below. Do not include traffic violations.

_____

_____

_____

List travel experience: _____

_____

_____

Salary Expected: _____

Character References: (Do not list anyone related to you.)

	NAME	ADDRESS	POSITION
1.			
2.			
3.			

I hereby certify that the foregoing is true and correct to the best of my knowledge.

Signature: _____

Date: _____

COMMUNICATIONS & MEDIA

Team 6A
TELEVISION

PRE-TEST

1. A tripod is

   1. a special camera
   2. film for a camera
   * 3. a stand for a camera
   4. camera focus adjustment

2. The director is in charge of

   1. getting sponsors
   * 2. organizing the action
   3. writing the script
   4. leading the orchestra

3. A sponsor is

   * 1. a business that pays for advertisement
   2. a special light used in a television studio
   3. the amount of time a television show runs
   4. the person who films the commercials

4. To focus a TV camera, you adjust the

   1. sound control
   2. video tape
   * 3. camera lens
   4. tripod

5. The television or radio announcer must project his voice into the

   * 1. microphone
   2. camera
   3. lights
   4. transmitter

6. "Video" means

   * 1. seeing
   2. hearing
   3. smelling
   4. touching

Correct answer indicated by asterisk (*)

7. To pay for a television production,

1. you must borrow from a bank
* 2. sell advertising time to a sponsor
3. collect a fee from the viewer
4. send a proposal to the federal government

8. Mass media does not include which of the following

1. television
2. newspapers
* 3. hospital
4. radio

9. A political scientist would most likely appear

* 1. reporting on a news program
2. announcing a football game
3. acting in a play
4. running for elective office

10. A television monitor gives

1. the words the actor is saying
* 2. a picture of what the camera shows
3. the time the show goes on the air
4. protection for the television equipment

11. The job of a broadcast technician is to

1. report the news and weather
* 2. operate and maintain television equipment
3. write cue cards for announcer
4. repair home television sets

12. The studio supervisor's job is to

* 1. plan and supervise the setting up of scenery and props
2. design settings and backgrounds for programs
3. plan the actors' positions on the set
4. select the best script for the show

13. Who is responsible for writing the news copy to be read on the air?

1. newscasters
* 2. newswriters
3. producers
4. director

14. A chief engineer is employed by most stations to

1. design new electronic devices to meet special problems
* 2. supervise all other technicians
3. operate special equipment to simulate sounds
4. develop schedules for news programs

15. What responsibilities does a news director have?

* 1. supervises the overall news coverage of a station
2. sets up television equipment
3. hires and fires employees
4. schedules and conducts rehearsals

16. Which occupation has come into being because of modern technology?

* 1. television technician
2. coal miner
3. oil rigger
4. social worker

17. Which occupation requires the most schooling?

1. printer
* 2. political scientist
3. telephone operator
4. electrical lineman

18. Which of the following would <u>not</u> deal directly with communication?

1. announcer
2. actor
* 3. fireman
4. teacher

19. Which of the following would you see during the production of a play?

* 1. actor
2. stage hand
3. make-up man
4. writer

20. Which of the following occupations requires technical training?

* 1. TV repairman
2. stage hand
3. laborer
4. cashier

21. Which of the following occupations is not associated with drama ?

1. actor
2. dramatic coach
3. writer
* 4. printer

22. A television studio is a room where

1. news stories are written
2. actors are "made-up"
3. costumes are prepared
* 4. television programs are taped

23. A VTR is the abbreviation for

1. very tough road
2. vertical television receiver
* 3. video tape recorder
4. video translation reducer

24. What percentage of the employees in the television broadcasting industry are women?

* 1. 25%
2. 50%
3. 75%
4. 100%

25. A story that reports facts and states issues is a

1. comedy
2. adventure
* 3. documentary
4. mystery

26. Television's advantage over other forms of media is

1. honesty
2. clarity
3. fewer interruptions
* 4. speed

CAREER DEVELOPMENT LEARNING UNIT

TITLE: Ecology In Action

PARTICIPANTS: Science & Social Studies 6B (Cathy Richmond--Air Pollution; Althea Satterfield--Water Pollution; Art Domke--Earth Pollution)

TIME REQUIRED: 10 Hours Per Week--6 Weeks

CAREER CLUSTERS: Environmental Control, Marine Science, Communications & Media, Manufacturing, Consumer & Homemaking, Agri-Business & Natural Resources

OBJECTIVES:

1. Given observational opportunities, students will be able to list, identify, or verbalize man-made causes of environmental pollution.

2. Given observational opportunities, students will be able to identify specific pollutants.

3. Students will be able to determine the effect of man's present and past actions that have brought about the detrimental environment endangering the health and welfare of all living species.

4. Students will be able to compare the role of governmental agencies to the role of the individual citizen in discovering solutions to environmental pollution.

5. Given a list of occupations, students will be able to select those careers that are directly involved with ecology.

ACTIVITIES SEQUENCE:

1. Teaching team and career aides will conduct several planning sessions to determine the nature and extent of the project entitled "Ecology In Action."

2. Teaching team will organize unit into three sessions of two weeks duration. Have one teacher assume responsibility for each of the following areas: air resources, water resources and land resources. Rotate students among the three teachers, spending two weeks studying each resource.

3. Team will develop a written test to determine if objectives of the unit have been met. Administer test to obtain base line data.

4. Conduct following sequence of activities during the cycle on water resources.

I. Sewage Treatment Plant
   a. Field trip--obtain sample of treated sewage
   b. Discuss observation
   c. Note taking in folders
   d. Write thank you letters to guide

II. Hydrolytic Cycle
   a. Discussion of water cycle
   b. Illustrate with use of diagrams on board by students explaining cycle
   c. Make diagrams of water cycles for folders

III. Water Pollution
   a. Discussion
      1. Pollutants
      2. Effects
   b. Filmstrips
      1. "Freshwater Pollution"
      2. "Marine Pollution"
      3. "Pollution Control"
   c. Write creative paper on water pollution
   d. Collect samples of polluted water
   e. Make observation data worksheets and charts
   f. Observe samples of polluted water under a microscope
   g. Take pH tests of polluted samples of water and drinking water.

IV. Water In General
   a. Write down some drinking water standards
   b. Have students read in science text on "Water For The People" and answer given set of questions.

V. Marine Occupations
   a. Resource speaker from University of Delaware Marine Biology Laboratory--Allan Lewis
   b. Discussion of related occupations
   c. Research in library on given list of occupations and make reports

VI. Summary Sheet--Discussion and Illustrations

5. The following sequence of activities to be conducted during the cycle on air resources.

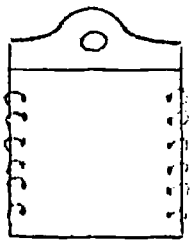
   I. Make pollutant collectors to test air in and around school. Check collectors after one week and identify any visible particles.

   II. Check the exhaust of different makes and models of cars. Compare results.

   III. Study prepared slides of four (4) different air pollutants.

   IV. Hear Mr. Husfelt from State Department of Natural Resources and Environmental Control. Mr. Husfelt discusses State's role in environmental control including services, employment opportunities and literature available.

   V. Assembly-line production of plastic litter bags (collect litter for one group). Students will use clear sheet plastic and yarn to manufacture litter bags for each student in the group. Students will specialize the tasks of layout, cutting, hole punching, sewing and inspecting. Under the direction of career laboratory aides, students manufacture more than 100 litter bags.



   VI. Classroom discussions of causes and results of air pollution.

6. Conduct the following sequence of activities during the cycle on land resources.

   I. Land Management
      a. Land fill for refuse
      b. Urbanization and population growth
      c. Expansion of highways
      d. Reforestation
      e. Governmental responsibilities

   II. Wise Use of Natural Resources
      a. Prevent and control soil erosion
      b. Reforestation for future income and esthetics
      c. Plan community expansion
      d. Preservation of arable land for food production

Use filmstrips, movies and resource people to accomplish goals. Make two field trips--one to a modern landfill and another to State Tree Nursery for planting of trees. Three resource persons visited us (Mr. Davis, science teacher and former National Park Ranger; Mr. Simmons, State Forest Ranger; and Mr. Gabel, Director of the State Forest Nursery and Parks).

Have students identify many diversified job classifications associated with the ecology of the land and compile an impressive booklet to record their findings. A myriad of activities result in a successful program.

7. Administer post-test and conduct analysis of data.

CORRELATION WITH OTHER DISCIPLINES:

Science
Observing effects of pollution in our community
Study polluted water under microscope

Mathematics
Measure and design litter bags

Social Living
Make children aware of litter problem on land, in the air and in the water.

Language Arts
Oral reports on observations

Art
Posters concerning the various forms of pollution

EVALUATION TECHNIQUES
Pre-test
Post-test

CAREERS RELATED TO SPECIFIC CLUSTERS & THEIR CORRELATION WITH DISCIPLINES

Agri-Business & Natural Resources
Agri-Chemicals Inspector (Science)
Agricultural Agent (Science)
Farmer (Science)
Forester (Science)
Park Worker (Science)
Soil Conversationist (Science)
Soil Tester (Science)

Communications & Media
Commercial Artist (Art)
Compositor (Mathematics)
Photographer (Art)

Consumer & Homemaking

- Garment Worker (Mathematics)
- Interior Designer & Decorator (Mathematics, Art)
- Seamstress (Mathematics)

Environmental Control

- Air Pollution Inspector (Science)
- Chemist (Science)
- Environmental Health Technician (Science)
- Fish & Wildlife Specialist (Science)
- Forestry Technician (Science)
- Game Warden (Science)
- Marine Life Technician (Science)

Manufacturing

- Mathematical Technician (Mathematics)
- Pattern Maker (Mathematics)

Marine Science

- Marine Quality Control Technician (Science)
- Senior Conservationist (Science)
- Underwater Technician (Science)

6B - ECOLOGY

TEST

1. Which occupation is directly involved with ecology?

   1. farmer
   * 2. forester
   3. lawyer
   4. truck driver

2. Which occupation has come into being because of concern about the ecology?

   1. chemist
   2. game warden
   3. lawyer
   * 4. air pollution inspector

3. Which of the following would you likely come in contact with, if you violate a law against pollution?

   * 1. policeman
   2. milkman
   3. farmer
   4. barber

4. Which occupation requires the most schooling?

   1. garbage collector
   2. game warden
   3. nuclear technician
   * 4. physicist

5. Which of the following would not directly deal with water pollution?

   1. fisherman
   2. marine pollution research assistant
   * 3. air pollution inspector
   4. senior conservation technician

6. Which one of the following would only deal directly with water pollution?

   1. forester
   2. game warden
   3. lumberjack
   * 4. marine biologist

ect answer indicated by asterisk (*)

7. Which one of the following would perform a laboratory analysis of bacteria in polluted water?

1. farmer
2. forester
3. air pollution inspector
* 4. State Health Department

8. Which of the following natural events can cause air pollution?

* 1. lightning
2. snow
3. sunshine
4. photosynthesis

9. Which of the following pollutants escapes from the exhaust pipe of an automobile?

1. water
2. strontium-90
3. phosphates
* 4. carbon monoxide

10. Which of the following is used by large lumber companies and farmers for reseeding and replanting trees for later use?

1. saw mills
* 2. tree farms
3. state and national parks
4. forest thinning

11. Which of the following will financially benefit a farmer reserving land for a stand of trees?

* 1. income from sale of trees
2. keep the beauty of the land
3. allow cover for wild life
4. later sale of land for home sites

12. Land not covered by proper plant life can lead to serious soil:

1. pollution
* 2. erosion
3. swampiness
4. loss of wildlife coverage

13. On the average, in American homes, each person uses how many gallons of water a day for drinking, bathing, cleaning and other household tasks?

* 1. 50
2. 55
3. 60
4. 75

14. All of the following pollutants, except one, enter our water supply when rain washes them out of the atmosphere. Which one?

1. dust
* 2. broken glass
3. terpenes
4. hydrocarbons

15. Which of the following descriptions would not be suitable for describing clean drinking water?

1. clear
* 2. discolored
3. tasteless
4. odorless

16. Water pollution may be found in all of the following places except where?

1. dumps
2. ditches
3. storm, sewer outlets
* 4. arid land

17. Which of the following helps prevent loss of rich topsoil?

1. fertilizer
2. suitable seed planting
3. drainage of swamps
* 4. contour plowing

18. Which one of the following, if not used properly, can destroy not only bugs but other plant and animal life?

1. detergents
* 2. pesticides
3. fertilizer
4. tractor and plow
5. early planting

Correct answer indicated by asterisk (*)

19. Since detergents contain ingredients that cannot be removed from soil and water and are very harmful to plant and animal life, people should use which of the following cleaning agents?

1. soap
2. alcohol-based agents
3. oil-based agents
* 4. biodegradable agents

20. To prevent accumulation of raw garbage that is openly exposed, which of the following should be used by communities?

1. dumps
2. refuse areas
* 3. land fills
4. sewage plants

21. Which one of the following words means to remanufacture?

* 1. recycle
2. nonreturnables
3. returnables
4. savers

22. Some people are afflicted with serious illnesses. Which of the following is most aggravated by air pollution?

* 1. asthma
2. diabetes
3. epilepsy
4. mental retardation

23. Smog is a mixture of which of the following two items?

1. gasoline and smoke
* 2. smoke and fog
3. smoke and dew
4. fog and clouds

24. The process of combustion is mainly concerned with:

1. crushing
2. grinding
* 3. burning
4. evaporation

Correct answer indicated by asterisk (*)

25. Which of the following places is the biggest air polluter?

1. a home
2. a school
3. a movie theater
* 4. an oil refinery

26. Which of the following does water pollution affect?

* 1. aquatic life
2. people who enjoy water sports
3. people who have built homes near waterways

27. Which governmental agency is responsible for maintaining good drinking water?

1. Department of Public Safety
2. Department of Labor
* 3. Department of Health and Social Services
4. Internal Revenue Service

28. In the testing of water for its acidity or alkalinity, good water would fall in what range on a PH scale?

1. 0-6 (acidic)
* 2. 7 (neutral)
3. 8-14 (alkaline)
4. none of these

29. What product in the home does your mother use that can cause water pollution and as a result may kill fish and plants that live in the water?

1. molasses
* 2. detergent
3. milk
4. chlorine

30. What happens when a termal inversion occurs?

1. cool, moist air condenses rapidly to form snow
2. warm air rises, and cold air moves in underneath the warm air
* 3. cold air rises and warm air moves in underneath the cold air
4. hot air causes evaporation

31. Which substance pollutes the air the most?

* 1. smoke from cigarettes
2. carbon-dioxide from breathing
3. ammonia from an open bottle
4. water from a faucet

Correct answer indicated by asterisk (*)

32. Which of the following can help prevent beach erosion?

1. piling more sand on beach
2. building more resort homes
* 3. plant special grasses to hold sand
4. dumping junk cars in water

Correct answer indicated by asterisk (*)

IF

If flowers bloom everyday,

and grass will grow,

to hear the birds whistle their

wonderful songs,

that's something nice to know.

If all of us will learn to give a

helping hand;

and try our best--if we can.

There may be no solution to pollution,

but we'll try, never the less.

This poem was written by a 6th grade student, Miss Sandra Frazier, during the Ecology Project.

6B - ECOLOGY

TEST

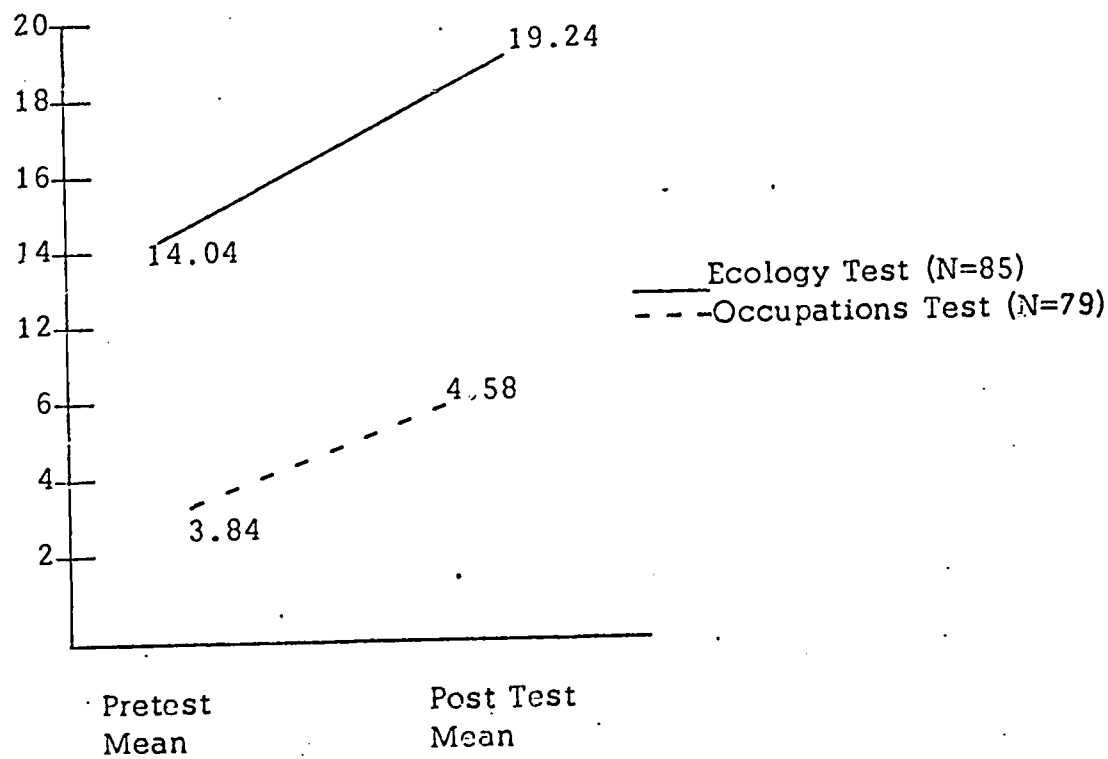
Check those occupations directly involved with ecology.

1. visiting homemaker
2. recreation director
3. physical therapist
4. social worker
5. air pollution inspector *
6. clergyman
7. hospital attendant
8. tool and die maker
9. symphony conductor
10. marine life technician *
11. game warden *
12. library technician
13. travel agent
14. commercial artist
15. contractor
16. forester *
17. purchasing agent
18. fashion designer
19. fish culture technician *
20. machine operator

Correct answers are indicated by an asterisk (*)

CLUSTER: ENVIRONMENTAL CONTROL

Ecology Unit - Mean Differences of Pre and Post Tests ($p < .05$)



EVALUATION DATA OBTAINED FROM A PRE-POST DESIGN USING CRITERION REFERENCED MEASURES

CAREER DEVELOPMENT LEARNING UNIT

TITLE: Mispillion Management Project

PARTICIPANTS: Judy Chasanov, Career Lab Aide; Teachers of Team 6B (Robert Craig, Cathy Richmond, Arthur Domke, Laurie Lewis, Loretta Baynum) and 36 Students

TIME REQUIRED: 5 Hours Per Week--8 Weeks

CAREER CLUSTERS: Agri-Business & Natural Resources
Public Services
Hospitality & Recreation
Environmental Control
Construction
Communications & Media

OBJECTIVES:

1. Increase student awareness of career opportunities by assigning them roles related to the project.

2. Develop cooperative interpersonal relationships among students based on their vocational, social, economic, political and psychological maturity.

ACTIVITIES SEQUENCE:

1. One day planning workshop with Mr. English, Project Director; Mr. Hoffman, Curriculum Coordinator; the Career Lab Aide; and teachers of Team 6B.

2. Serving as project coordinator is Robert Craig, one of the teachers of Team 6B.

3. Discussion of a project based on developing an original plot of land for public use. Plans for the park evolves into plans for developing the lands along the Mispillion River, since this is a timely and current topic in Milford.

4. Field trip to Mispillion Lighthouse to include boat ride down the river.

5. Draw on maps scale models of proposed park.

6. Make study of geodetic survey maps and topographic maps.

7. Resource person involved in park planning speaks with students (Charles Mohr, Naturalist with the Department of Natural Resources, Division of Parks and Recreation).

8. Field trips to Killen's Pond State Park to observe facilities and learn management and related careers. Also, include a nature walk.

9. Field trip to Bombay Hook Refuge to observe state operated wildlife area.

10. Field trip to Goat Island located in the Mispillion River. This land is chosen to be developed by the team.

11. Students are divided into six groups consisting of six students each. Each group develops their own plans for Goat Island.

12. Each member of the group is to manage a different career aspect of the model:
    a. General Coordinator
    b. Public Services
    c. Hospitality and Recreation
    d. Environmental Control
    e. Construction
    f. Agri-Business and Natural Resources

13. Each group makes a model of Goat Island to scale and the surrounding water on a piece of 4 x 4 plywood using a mixture of sawdust and wheat paste for land masses. These models include complete physical facilities for the recreation area on the land site.

14. The final step to the project is a presentation of the model to the Milford Fertilizer Company, owner of Goat Island. The company has incorporated the student ideas into their plan to develop the island.

CORRELATION WITH OTHER DISCIPLINES:

Language Arts and Reading

Writing letters, contacting resource people, reading materials

Mathematics

Area and perimeter, scale models, cost estimates

Science

Study of nature trails, land and environment

Social Studies

Man's relation to his environment, recreation in man's life and the role it plays, inter-relationships between jobs and working with others

EVALUATION TECHNIQUES:

Students' written observations.
Group presentation of completed scale models.

CAREERS RELATED TO SPECIFIC CLUSTERS AND THEIR CORRELATION WITH DISCIPLINES

Agri-Business and Natural Resources

Forester (Science, study of nature trails, social studies)
Park Worker (Science)
Nursery Worker (Science)

Public Services

Policeman (Social Studies)
Park Ranger (Science, Social Studies)
Garbage Collector (Social Studies)

Hospitality and Recreation

Recreation Director (Social Studies)
Playground Director (Social Studies)
Lifeguard (Social Studies)

Environmental Control

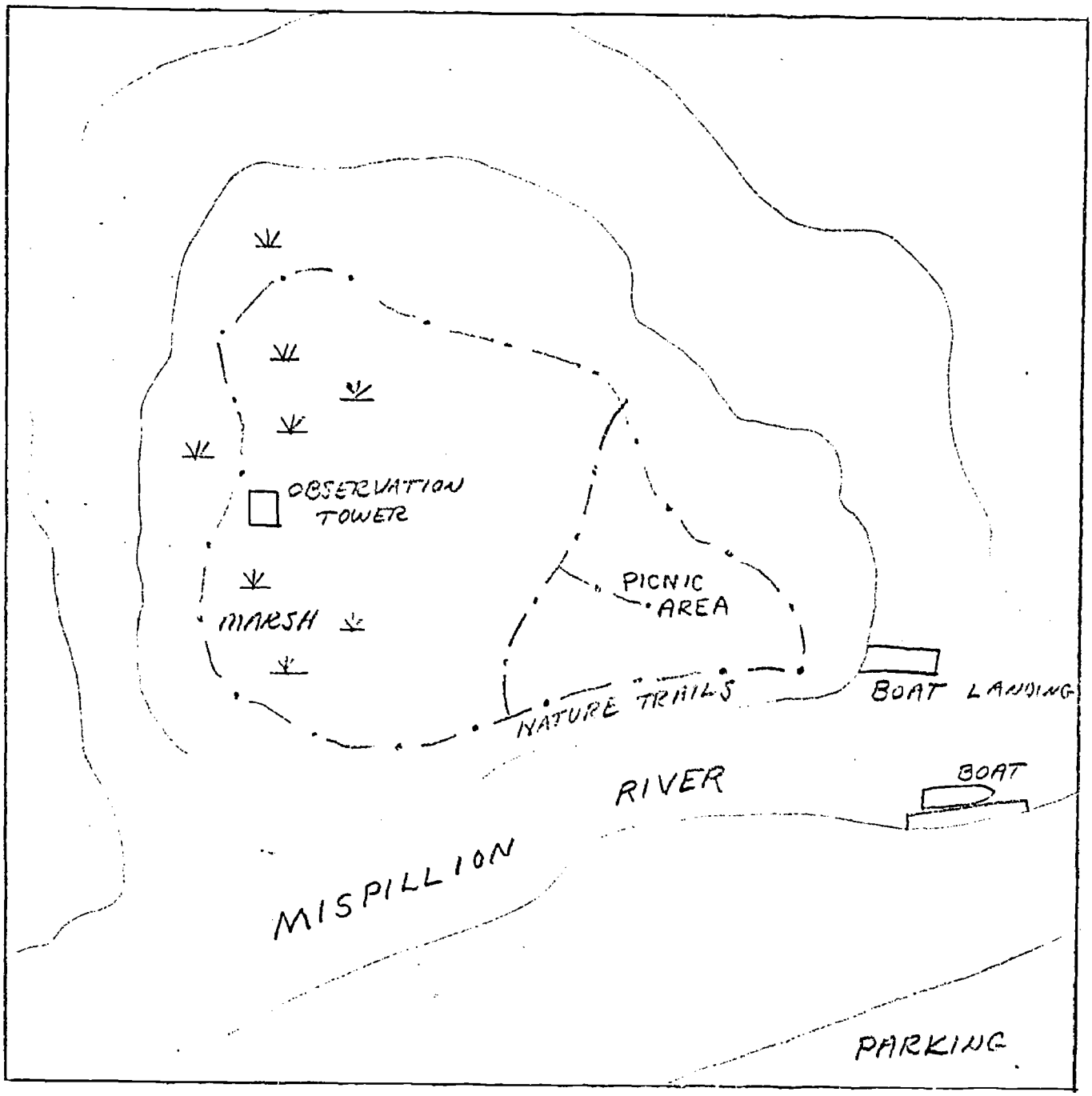
Forester (Science)
Fish and Wildlife Specialist (Science)
Environmental Health Technician (Science)

Construction

Contractor (Math, Cost Estimates)
Architect (Math, Scale Models)
Draftsman (Math, Scale Area and Perimeter)

Communication and Media

News Reporter (Language Arts, Social Studies)
Telephone Installer (Mathematics, Science)



CAREER DEVELOPMENT LEARNING UNIT

TITLE: Electricity and Careers

PARTICIPANTS: Cathy Richmond, Teacher
Darlene Clogg, Career Laboratory Aide
Judy Chasanov, Career Laboratory Aide
30 Sixth Grade Students

TIME REQUIRED: 10 Hours

CAREER CLUSTERS:

Communications & Media
Radio Operator
Switchboard Operator
Electrical Lineman
Television Repairman
Telegraph Operator
Telephone Installer
Instrument Mechanic

Manufacturing
Electrical Assembler
Industrial Designer
Electrical Technician
Quality Control Inspector
Electrical Engineer
Electroplater

Personal Services
Electrologist
Electric-motor Repairman
Appliance Serviceman

Construction
Electrician
Electrical Inspector
Arc Welder

Public Services
Electrical Meter Reader

Health
X-ray Technician

OBJECTIVES:

1. The student will be motivated to complete a task.

2. The student will experience a practical application of electrical theory.

3. The student will assume several career roles related to scientific, electrical and manufacturing activities.

ACTIVITIES SEQUENCE:

1. Teacher and career laboratory aide construct sample electrical games to determine the degree of difficulty, supplies needed and practicality of each.

2. Students can choose from the Nerve Tester, Brad Maze and Foil Maze.

3. Career Laboratory aide assembles the required materials and prepares instructions for each game. Materials cost approximately $1 per game.

4. Students design, assemble and test their game in the career laboratory with the assistance of the teacher and career laboratory aide.

CORRELATION WITH OTHER DISCIPLINES:

Language Arts

Students read the bill of materials and follow written instructions to assemble their electrical game.

Science

Students apply the electrical theory of their science instruction to a practical situation.

Mathematics

Students estimate, compute, measure and record data while assembling their electrical game.

Social Living

Students work cooperatively together in completing their tasks.

EVALUATION TECHNIQUES:

Teacher and career laboratory aides conduct a subjective evaluation during the project to determine if the objectives are being attained. The students also receive a written test on electricity in science class.

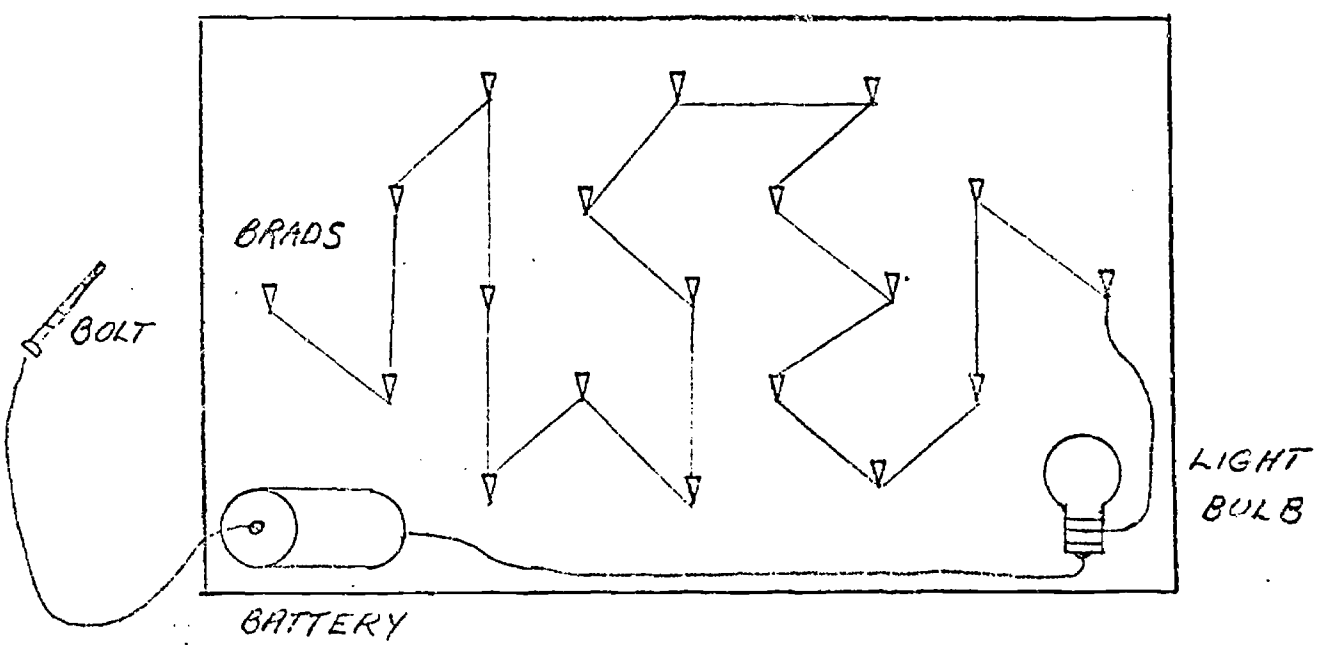
BRAD MAZE

Materials Needed:

cardboard, brads, clean wire, battery, 2 clips, 1 rubber band, tape, insulated wire, bulb, bulb holder, and bolt

Instructions:

1. Draw maze pattern on cardboard.
2. Place a brad at each corner and intersection.
3. Using a cleaned wire, design a pattern on the back and tape down wire. The pattern should begin at one corner and end at the other.
4. Put rubber band on battery with clips on each end.
5. Connect one end of cleaned wire to one end of battery.
6. Put hole in cardboard big enough to put bulb through.
7. Place bulb in hole with end on back side.
8. Make a bulb holder and connect one end to wire going to free end of battery.
9. Connect other side of battery holder to a longer wire.
10. Clean end of long wire and wrap around a bolt.



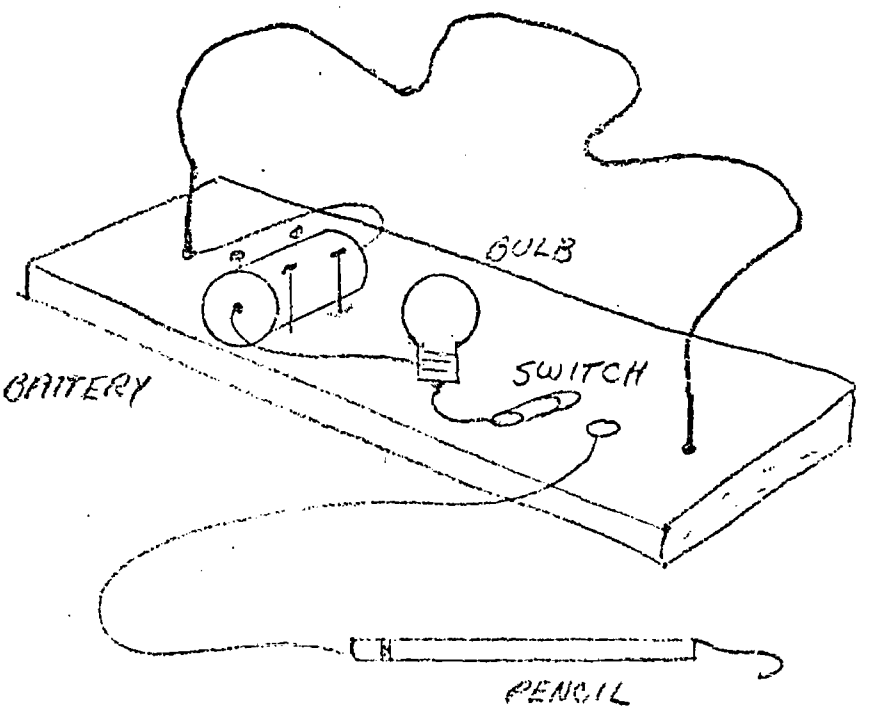
NERVE TESTER

Materials Needed:

wood, coat hanger, battery, rubber band, 2 clips, 4 nails, 4 tacks, 1 paper clip, 1 rubber band, and 1 bulb

Instructions:

1. Cut head off a coat hanger.
2. Straighten and sand completely.
3. Put a hole at each end of wood with a nail.
4. Bend hanger and place each end in the holes.
5. Put four (4) nails in base on sides of battery.
6. Put rubber band around battery and nails.
7. Place clips on each end of the battery.
8. Connect one wire from battery to hanger.
9. Connect another wire from other end of battery to thumb tack nailed to base.
10. Wrap a bulb with a wire that has a cleaned end.
11. Place end of bulb on thumb tack and fasten in place with another tack.
12. Using the same wire, place cleaned end under thumb tack and paper clip.
13. Put another thumb tack under other end of paper clip.
14. Put the long wire under the last thumb tack.
15. Connect the other end of this long wire to a pencil.
16. Tape wire onto pencil.
17. Make a hook of cleaned wire at the pencil end.



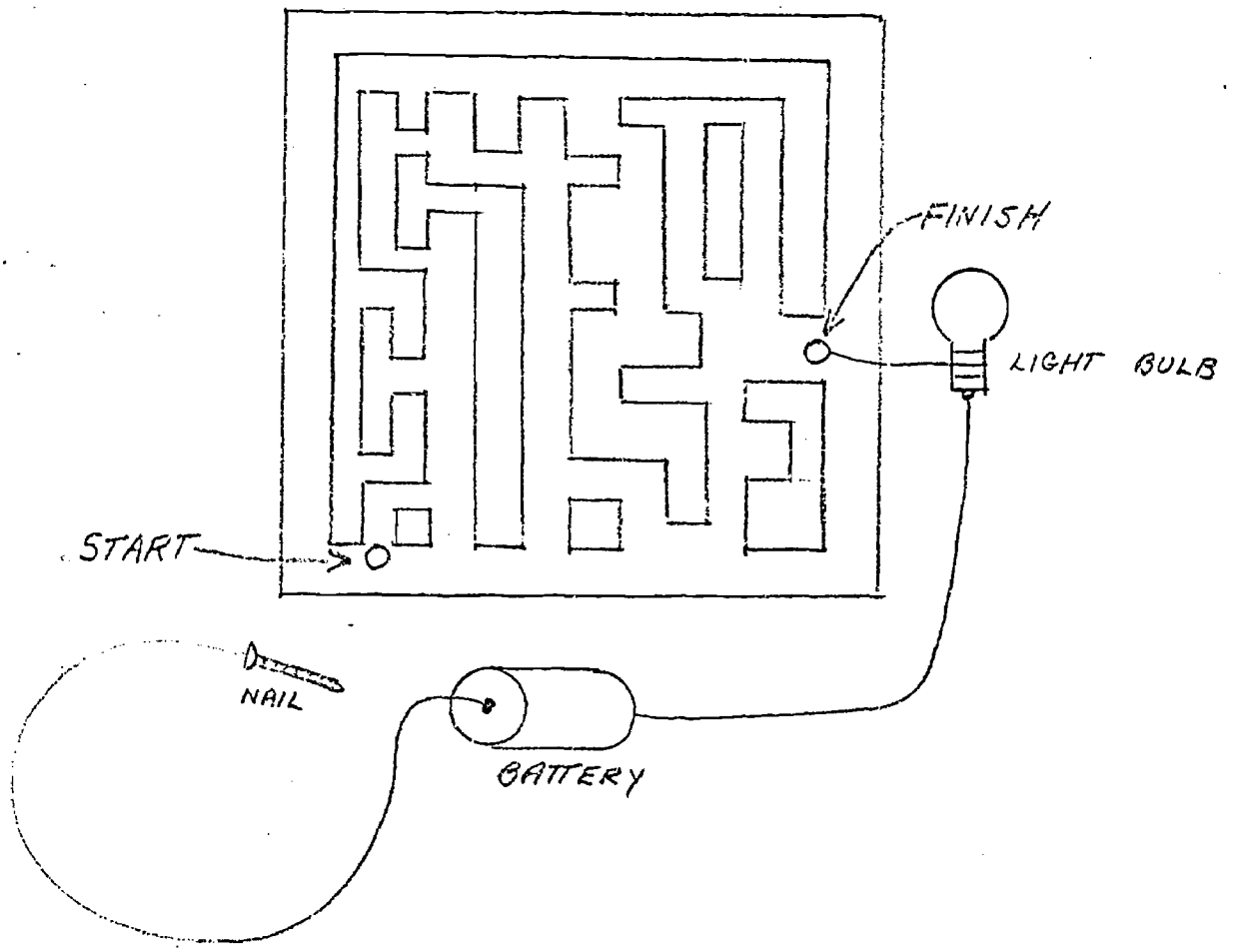
FOIL MAZE

Materials Needed:

holler, nail, battery, wire-covered, tape, cardboard, foil

Instructions:

1. Cut foil about 2" smaller than cardboard.
2. Place one end of wire at one corner of foil.
3. Tape foil down on all four (4) edges.
4. Design a maze pattern with tape, with start and finish.
5. Connect one piece of wire under foil at one corner.
6. Connect that wire to bulb holder.
7. Connect bulb holder to battery.
8. Connect one wire from battery to pointer.



ELECTRICITY TEST

Match column B with column A; place the correct letter in the blank before the number.

_____1.	conductor	a.	to pull together
_____2.	circuit	b.	material that will stop the flow of electricity
_____3.	electron	c.	negative particle in an atom
_____4.	neutron	d.	chemical mixture in dry cells
_____5.	static electricity	e.	a pathway for electric current
_____6.	insulator	f.	particle with no charge in the atom
_____7.	proton	g.	center of an atom
_____8.	current electricity	h.	electricity at rest
_____9.	nucleus	i.	positive particle in an atom
_____10.	attract	j.	electricity that flows along a given path
		k.	material that permits the flow of electricity

Choose the correct answer and place the letter in front of the number.

_____1. Objects with _____ charges attract each other.
a. like b. unlike c. similar

_____2. The number of electrons in an atom is equal to the number of _____.
a. neutrons b. protons c. orbits

_____3. Friction between two different substances usually results in _____.
a. magnetism b. electrons c. static electricity

_____4. When a substance has lost electrons, it is said to be _____ charged.
a. negatively b. positively c. neutrally

_____5. The reason the electron doesn't fly off from the atom is because of the opposite charge of the _____.
a. proton b. neutron c. electron

_____6. A magnetized needle if allowed to move freely will always seek out the _____ pole.
a. south b. equator c. north

_____7. The strength of a magnet is concentrated at the _____.
a. magnetic field b. poles c. center

_____8. The area around a magnet where it will attract a piece of steel is called the _____.
a. magnetic field b. power of attraction c. area of attraction

_____9. A material that will stop the flow of electricity is an _____.
a. conductor b. insulator c. fuse

_____10. The zinc can of a dry cell acts as the _____ pole.
a. negative b. positive c. neutral.

Decide whether each statement is true or false. Place T or F in the blank before the number.

_____1. A piece of wood will serve as a conductor of electricity.
_____2. Electromagnet will not work when the electric current is turned off.
_____3. The positive pole of a dry cell is usually a carbon rod.
_____4. Two negatively charged balloons will attract each other.
_____5. An open circuit is a complete circuit.
_____6. The flow of electricity is the same as the flow of electrons.
_____7. A metal belt buckle is an insulator of electricity.
_____8. If the north pole of a magnet is placed next to the north pole of another magnet, they will repel each other.
_____9. There are certain rocks in nature that act like magnets.
_____10. A substance that has more electrons than protons is said to be negatively charged.

If you were given a battery, light bulb, wire and switch, diagram a closed electrical circuit that would light the bulb. Label all parts and show the flow of electricity with arrows.

TEST

ELECTRICITY AND CAREERS

DIRECTIONS: Circle the letter of the job description that best describes the activities of the listed occupation.

1. Appliance Serviceman
   a. installs and repairs wiring
   b. repairs electrical appliances
   c. designs electrical equipment
   d. operates radio equipment

2. Electrical Assembler
   a. inspects electrical devices
   b. operates radio equipment
   c. puts together electrical parts
   d. assists electrical engineer

3. Electrical Engineer
   a. designs electrical equipment
   b. installs and repairs wiring
   c. records readings on electric meters
   d. controls electrical distribution

4. Electrical Inspector
   a. assists electrical engineer
   b. repairs electronic instruments
   c. installs and repairs wiring
   d. inspects electrical devices

5. Instrument Mechanic
   a. repairs electric motors
   b. repairs electronic instruments
   c. repairs electric appliances
   d. services televisions

6. Electrical Technician
   a. assists electrical engineer
   b. inspects electrical devices
   c. repairs electrical appliances
   d. controls electrical distribution

7. Electrician
   a. repairs electric motors
   b. repairs electrical appliances
   c. services televisions
   d. installs and repairs wiring

8. Electrical Meter Reader
   a. installs electric power lines
   b. hooks up telephones
   c. records reading on electric meters
   d. controls electrical distributions

9. Electrologist
   a. operates radio equipment
   b. removes hair with electric needle
   c. controls electrical distribution
   d. transmits and receives coded messages

10. Power Lineman
   a. installs electrical power lines
   b. hooks up telephones
   c. controls electrical distribution
   d. transmits and receives coded messages

11. Telephone Installer
   a. puts together electrical parts
   b. installs and repairs wiring
   c. operates radio equipment
   d. hooks up telephones

12. Television Repairman
   a. controls radiography equipment
   b. services televisions
   c. repairs electronic instruments
   d. puts together electrical parts

13. Electric Motor Repairman
   a. repairs electrical appliances
   b. services televisions
   c. repairs electronic instruments
   d. repairs electric motors

14. Electroplater
   a. controls radiography equipment
   b. removes hair with electric needle
   c. puts together electrical parts
   d. coats metal objects with other metal

15. Radio Operator
    a. controls radiography equipment
    b. transmits and receives coded messages
    c. operates radio equipment
    d. controls electrical distribution

16. Arc Welder
    a. coats metal objects with other metal
    b. joins metal together using electricity
    c. puts together electrical parts
    d. removes hair with electrical needle

17. Switchboard Operator
    a. controls electrical distribution
    b. controls radiography equipment
    c. transmits and receives coded messages
    d. hooks up telephones

18. X-ray Technician
    a. controls radiography equipment
    b. controls electrical distribution
    c. removes hair with electric needle
    d. coats metal objects with other metal

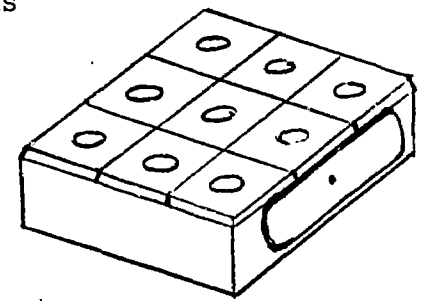
19. Telegraph Operator
    a. controls electrical distribution
    b. operates radio equipment
    c. transmits and receives coded messages
    d. hooks up telephones

CAREER DEVELOPMENT LEARNING UNIT

TITLE: Little Bucs Manufacturing Company

PARTICIPANTS: Don Hansen, Industrial Arts Teacher
Rita Hughson, Social Studies Teacher
Twenty 6th, 7th & 8th Grade Students

TIME REQUIRED: 5 Hours Per Week--9 Weeks



CAREER CLUSTERS:

Manufacturing
Communications & Media
Marketing & Distribution

OBJECTIVES:

Students will participate in the experience of organizing a company, manufacturing and selling a product.

Students will assume a career role in the company and perform the duties associated with the job.

ACTIVITIES SEQUENCE:

1. The social studies and industrial arts teachers plan the manufacturing activity to demonstrate the close relationship of the two subject areas. The industrial arts teacher concentrates on the organization and operation of the production line and the social studies teacher handles the company organization, selling stock, advertising, bookkeeping, etc.

2. The idea of forming a company and manufacturing a product is announced to students. Interested students should sign up for the elective course.

3. Students elect company officials and develop their job description. Appendix A.

4. Company officials and advisers determine what product to manufacture. They select a tic-tac-toe game made of wood.

5. The company name is selected and stock is offered for sale at fifty (50) cents per share.

6. The sales plan is developed.

7. The company officials and adviser develop a flow chart for the manufacturing of the product. Appendix B.

8. Workers are assigned jobs and trained. Appendix C.

9. A specific instruction card is prepared for each work station. Appendix D.

10. Materials are ordered, prepared and stocked.

11. Manufacturing fixtures are made to speed production and maintain quality.

12. A pilot run is conducted to determine bottlenecks in the manufacturing process.

13. The actual production run is made.

14. Orders are filled and money collected.

15. Bookkeepers prepare the profit and loss statement.

16. Company officials declare a dividend for the stockholders.

17. Company is liquidated.

CORRELATION WITH OTHER DISCIPLINES:

Communications
Language Arts
Advertising -- copy, art work
Correspondence -- customers, suppliers, stockholders
Drawing & Design, Illustrating
Processing Data or Information
Identifying Consumer Demands -- survey, interview
Accident Prevention Program
Distribution & Sales

Mathematics
Using the Computer
Planning Production -- time lines
Measuring Work: man-hours
Estimating Cost
Sales Forecast
Obtaining Capital
Estimating Costs
Keeping Records

Social Studies
Forming a Corporation -- relating people to the corporation
Evolution of Manufacturing
Manufacturing and the Economic System
Planning Production
Employment and Occupations in Manufacturing
Organization, Ownership, Profit
Hiring and Training
Organized Labor and Collective Bargaining
Man and Technology
Identifying Consumer Demands

Science
Environmental Control
Metallurgy
Research and Development
Harnessing Energy from Nature
Material Forming -- costing, shearing, combining, bonding, coating, fastening

EVALUATION

Teachers evaluate the course subjectively by observing the motivation, enthusiasm and behavior of the students involved. The profit making aspect of the activity generates interest and the overall evaluation by teachers, students, administrators and parents is very favorable.

APPENDIX A

DUTIES OF GENERAL MANAGER

a. General supervision over entire activity
b. Train workers, assign workers to jobs
c. Check on and be responsible for product quality and manufacturing efficiency
d. OK bills to be paid by office manager. OK purchase orders before making purchases
e. Prepare and submit reports as required by your advisors
f. Cooperate with your advisors and other company officials
g. Inspector

DUTIES OF OFFICE MANAGER

a. Maintain attendance records. Chect absentees for valid excuses
b. Keep company's financial records
c. Keep a record of all money received on RECEIPTS page of record book
d. Pay all bills, invoices previously ok'd by your general manager
e. Keep stock sales and ownership records
f. Cooperate with your advisors and other company officials
g. Keep daily history on record

DUTIES OF PURCHASING AGENT

a. Check with advisors relative to materials and supplies needed to manufacture product
b. Arrange to have stock certificates, purchase orders and other forms needed run off on duplicator.
c. Have purchase orders ok'd by general manager before issuing order
d. Obtain materials required from school stock or purchase from outside source
e. Cooperate with advisors and other company officials

DUTIES OF SALES MANAGER

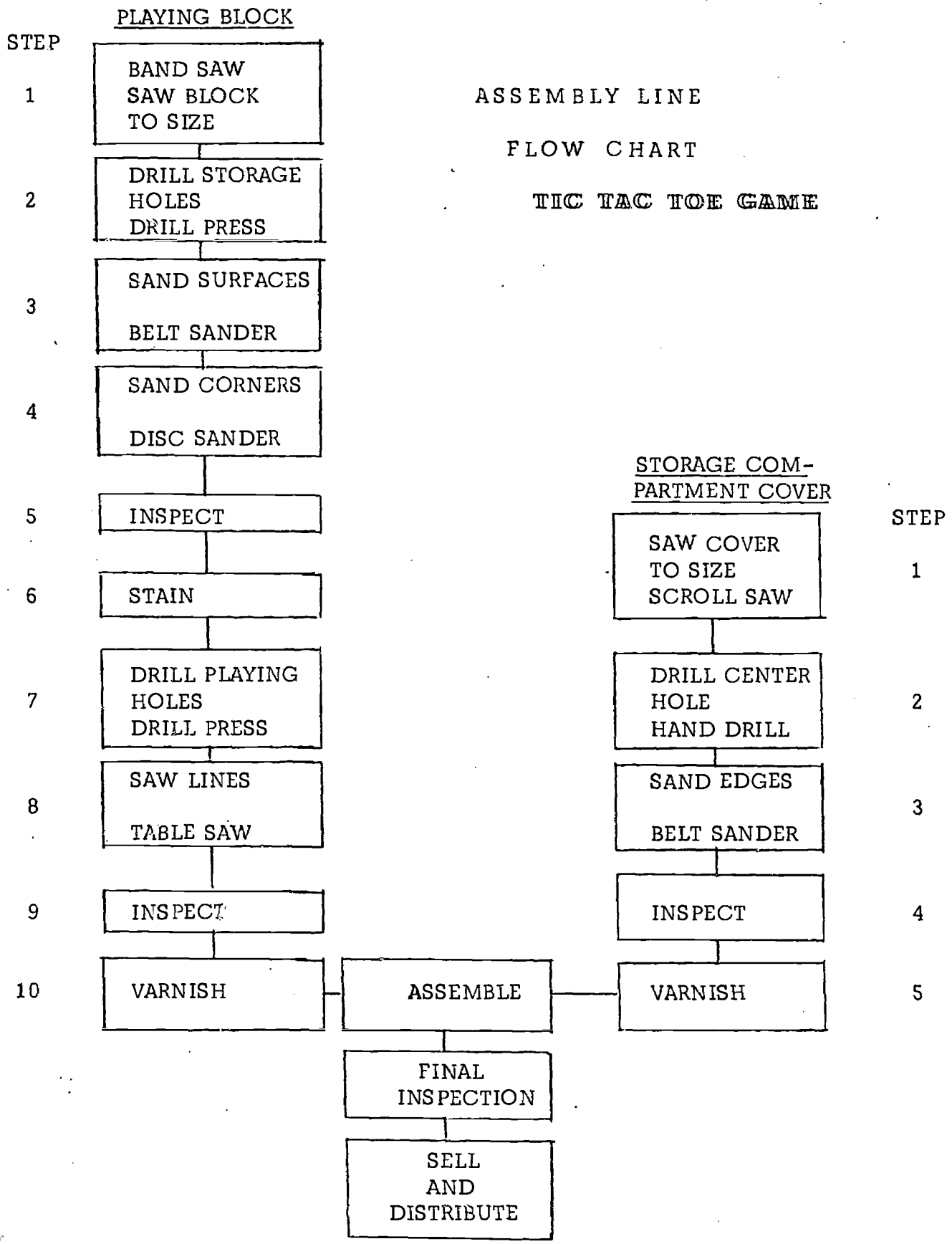
a. Plan sales program:
   1. help decide price of product
   2. where and how to sell product
   3. recruit salesmen
   4. advertisement, posters, artwork
   5. help sell stocks
   6. coordinate sales department with production
b. Cooperate with advisors and other company officials

DUTIES OF SAFETY DIRECTOR

a. Enforce all safety rules
b. Stop all horseplay and call attention to undesirable conduct
c. Be alert to hazards
d. Take steps to eliminate possible accident causes
e. See to it that equipment and tools are in good operating condition
f. Check to make sure machine guards are in place and students are using eye protection and protective clothing as specified by advisors
g. If someone is injured, even slightly, contact advisors immediately
h. Cooperate with advisors and other company officials
i. Help general manager inspect product, final assembly

APPENDIX B

LITTLE BUC'S MANUFACTURING COMPANY



APPENDIX C

JOB DESCRIPTIONS IN WORKSHOP

SHOP FOREMAN

1. Takes attendance in workshop and gives attendance figures to office manager.

2. Coordinates with general manager each day to discuss:
   a. Production Schedule
   b. Personnel Policies
   c. Announcements Affecting the Workshop Personnel

3. Checks on workshop for:
   a. Good Safety Practices
   b. Behavior of Workers
   c. Quality of Work of Each Work Station

4. Forms a clean-up crew and monitors the clean-up activities.

PRODUCTION CONTROLLER

1. Substitutes for the shop foreman if he is absent.

2. Keeps the following daily records:
   a. Attendance in workshop
   b. Number of Products to be Completed (From Shop Foreman)
   c. Number of Products Actually Completed

3. Checks on safety procedures and practices of workshop.

4. Checks on quality control of the assembly line:
   a. Checks on quality of work of each station
   b. Checks on final product before it leaves the workshop
   c. Makes recommendations for improvement

MACHINE OPERATORS

1. Set up the machines for the daily operation of the assembly line.

2. Check for the safety of each machine and each operation.

3. Perform the operation of the machines to the best of their ability so the highest possible quality product can be produced.

FINISHING SPECIALISTS

1. Inspect each product before finishing.
2. Apply finish to the best of their ability.
3. Study the finishing procedure to see if it can be improved.
4. Observe good safety practices in the finishing area.

APPENDIX D

SAFETY REGULATIONS

1. Always wear safety glasses while using working machines.
2. Roll your long sleeves up past your elbows.
3. Always wear an apron to protect your clothes.
4. Check with the instructor to see if the machine can be used.
5. Make sure the machine is turned off before adjusting the setup.
6. When you are finished with the machine, unplug it and clean it well.
7. Only one person at a time should operate the machine.

PLAYING BLOCK STEP 1

BAND SAW OPERATOR

1. Check to see that the motor is turned off and the band saw is unplugged.
2. Attached cut-off jig to the miter gage with two (2) screws.
3. Attach stop block to the table with C-clamp.
4. Check miter gage for squareness by placing the try square between the guide strip and jig and tightening the knob.
5. Check the table for squareness by placing the try square between the blade and the table.
6. Adjust the blade guide so it is about 1/4 inch above the wood.
7. Plug in the motor and saw a test block to check for accuracy of the setup.
8. Saw the required number of units for the day.
9. Unplug the machine, make sure it is turned off, clean it well before you leave the shop.

ST P 2

DRILL PRESS OPERATOR

1. Check to see that the machine is unplugged and turned off.
2. Insert the 3/4 inch speedbore bit into the Craftsman drill press chuck.
3. Tighten the chuck with the chuck key and replace the key in the hole provided in the table of the drill press.
4. Attach the drilling jig to the table with the C-clamps, position the jig using a setup block, and tighten the C-clamps.
5. Test the setup with a scrap block.
6. Drill the required number of blocks for the day.
7. Clean up the drill press and store the jigs and clamps.

STEP 3

BELT SANDER OPERATOR

1. Check to see that the motor is turned off and unplugged.
2. Plug in the motor, turn it on, use a test block for practice.
3. Sand the required number of units for the day on the belt sander, be sure to sand with the grain at all times.
4. Clean the machine well before leaving the shop.

STEP 4

DISC SANDER OPERATOR

1. Check to see that the motor is turned off and unplugged.
2. Attach sanding jig to the miter gage with screws.
3. Check the squareness of the jig and line it up with the disc.
4. Check to see that the table is square with the disc by placing a try square between the disc and the table.
5. Plug in the motor, turn it on, and use a test block for practice.
6. Sand the required number of units for the day on the disc sander.
7. Clean the machine well before leaving the shop.

STEP 5

INSPECTOR

1. Check each block against sample provided by quality control.
2. Check specifically for:
   a. square block
   b. storage holes drilled
   c. smooth surfaces
   d. chamfered edges
3. Return defective blocks to operator responsible for defect.
4. Notify shop foreman if quality is not up to standard.

STEP 6

STAIN FINISHER

1. Inspect the block carefully to see that there are no large scratches on it.
2. Shake the can of stain before opening. Use a screwdriver to open the can.
3. Make sure that the paint brush is clean and the paint on the stain to cover the whole block. Do not put the stain on too thick, this will save the company money.

4. Let the stain set on the block five (5) minutes and then wipe all the stain off using a paper towel.
5. Clean the paint brush in the paint thinner and then wash it with soap and water and hang it in the closet to dry.
6. Let the block dry overnight and then pass it on to the next work station.

STEP 7

DRILL PRESS OPERATOR

1. Check to see that the machine is unplugged and turned off.
2. Insert the 7/16 inch twist drill all the way up into the Delta drill press chuck.
3. Tighten the chuck with the chuck key and replace the key in the hole provided in the table.
4. Attach the drilling jig to the table with the C-clamps, position the jig using a setup block and tighten the C-clamps.
5. Test the setup with a scrap block.
6. Drill the required number of blocks for the day.
7. Clean up the drill press and store the jigs and clamps.

STEP 8

TABLE SAW OPERATOR

1. Check to see that the motor is turned off and the No. 7 circuit breaker is turned off.
2. Check to see that the plywood blade is installed. If not, see the instructor.
3. Attach the proper jig to the miter gage.
4. Check to see that the miter gage is square with the groove in the table top, using a try square.
5. Adjust the blade guard to just miss the top of the miter gage, adjust the height of the blade to cut 1/16 inch deep in the top of the block. Check depth of cut using a piece of scrap block.
6. Test the setup using a scrap block.
7. Saw the number of units for the day.
8. Clean the saw as well as you can before you leave the shop.

STEP 9

INSPECTOR

1. Check each block against sample provided by quality control.
2. Check specifically for:
   a. block stained completely
   b. playing holes drilled
   c. lines sawed evenly

Step 9--Inspector Cont'd.

3. Return defective blocks to operator responsible for defect.
4. Notify shop foreman if quality is not up to standard.

STEP 10

VARNISH FINISHER

1. Inspect the staining job to see that it is complete. Varnish any scratches with a small paint brush.
2. Open the can of varnish with a screwdriver and using a clean paint brush, apply a coat of varnish to the entire block while it is hanging on the nail board. (DO NOT put on so much varnish that it runs before it drys.)
3. Let the varnish dry overnight and then buff the surface with some steel wool. Make sure that the block is free of dust before putting on the second coat.
4. Inspect the block after the second coat of varnish to see if it is complete before putting on a third coat (if necessary).
5. When the block is finished, give it to the production controller to have it assembled.
6. Repeat steps 2-3-4-5 for the storage hole covers. DO NOT stain the covers.
7. Clean the brushes in paint thinner and then with soap and water and hang in the closet to dry.
8. Clean out the little groove around the top of the stain can and replace the lids tightly.
9. Put all the wet papers in the can with the cover on it and dump it in the barrel outside the shop.

CAREER DEVELOPMENT LEARNING UNIT

TITLE: School Newspaper

PARTICIPANTS: Team 8B Teachers (Mrs. McGuire, Mrs. Vreeland, Mrs. Kelly, Mr. Perkins, Mr. Wethington) and thirty interested 8th grade students

TIME REQUIRED: Approximately 20 Hours Per Issue

CAREER CLUSTERS:

Business & Office

Typist	File Clerk
Accountant	Secretary

Communications & Media

Reporter	Press Operator
Editor	Proof Reader
Artist	Writer

OBJECTIVES:

1. The student will identify and perform selected activities involved in newspaper publishing.

2. The student will apply basic language art skills; such as paragraph writing, spelling, punctuation, to a practical situation--producing a newspaper.

3. The student will assume and perform in a selected career related to newspaper publishing.

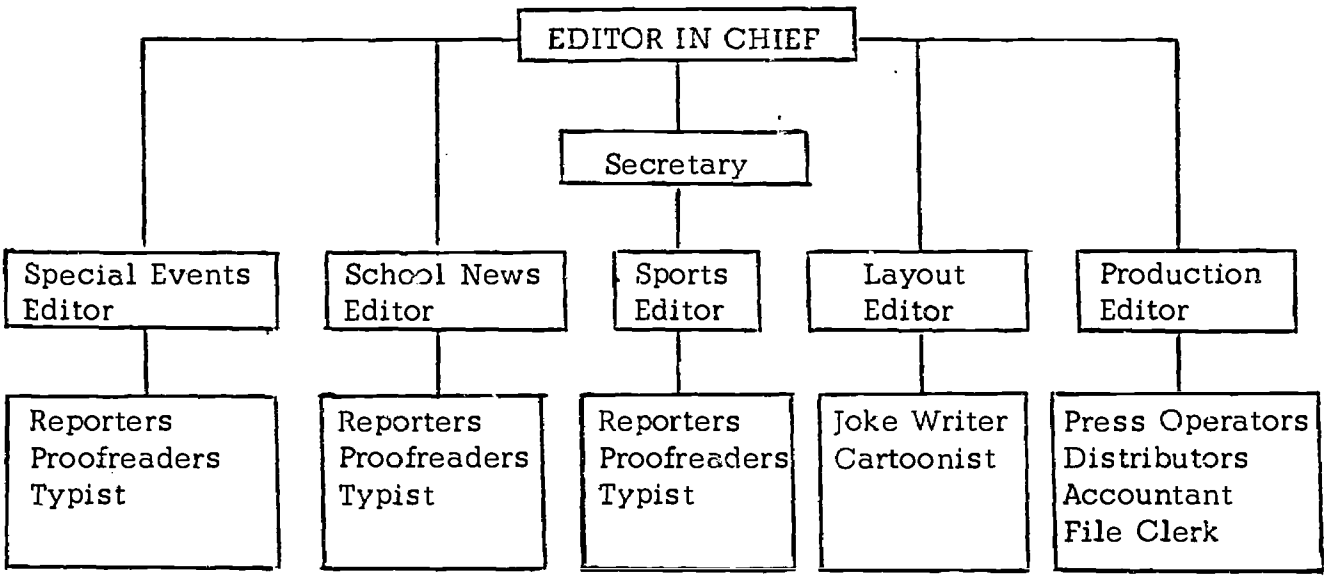
ACTIVITIES SEQUENCE:

1. Team of teachers and interested students decide to publish a monthly newspaper.

2. Secure administrative approval. Arrange access to typing and duplicating facilities. Develop and administer a written test identifying newspaper careers.

3. Have local newspaper editor speak to the group and discuss starting a newspaper, determining what is newsworthy, where to find news and how to write news stories.

4. Organize newspaper staff as follows:



5. Editors and teachers participated in critical review of each issue to improve newspaper.

6. Students investigated their career role and submitted a written report describing their job.

CORRELATION WITH OTHER DISCIPLINES:

Language Arts

Communication and language skills
Investigative report on selected career

Social Studies

Cooperation, role-playing, meeting deadlines

Science

Investigate source and processing of materials used in newspaper.

Mathematics

Measuring required in page layout, selling advertisements

EVALUATION TECHNIQUES

Each issue is critiqued by both students and teachers. Newspaper is also examined by language arts classes and used for skill instruction. A file is kept and the changes in each succeeding issue of the newspaper can be observed.

The students' reports on their assigned career is evaluated by the language arts teacher. Students make extensive use of the materials in the career resource center.

The written test identifying newspaper careers is administered at the end of the unit as a post test to determine student gains in newspaper career awareness.

NEWSPAPER CAREERS

DIRECTIONS: Match the occupations with their description by placing the corresponding letter in the blank.

e	1.	editor-in-chief
j	2.	reporter
p	3.	secretary
a	4.	typist
g	5.	messenger
m	6.	duplicating machine operator
b	7.	advertising copywriter
n	8.	advertising salesman
d	9.	proofreader
o	10.	cartoonist
c	11.	distributor
h	12.	layout editor
f	13.	special events editor
l	14.	sports editor
i	15.	production editor

a. types news stories

b. writes advertisements

c. delivers papers

d. checks stories for errors

e. overall charge of paper

f. covers special stories

g. delivers messages

h. arranges stories on page

i. in charge of production

j. gathers news

k. writes obituaries

l. in charge of sports page

m. operates duplicator

n. sells advertising

o. draws pictures

p. answers phone, takes dictation, types letters

CAREER DEVELOPMENT LEARNING UNIT

TITLE: Gone With The Wind, Inc.

PARTICIPANTS: Team 6B (five teachers plus the career lab aide) and thirty-five 6th grade students

TIME REQUIRED: 5 Hours Per Week--5 Weeks

CAREER CLUSTERS: Business & Office, Marketing & Distribution, Manufacturing

OBJECTIVES:

1. The student will participate as a productive member of the group.
2. The group will manufacture and distribute a product.
3. The student will be able to list at least three factors to consider when organizing and operating a manufacturing business.
4. Several students will become leaders and assist the teachers directly in the planning and operation of the production.
5. Each student will assume at least three occupational roles associated with this business enterprise during the course of the activity. The occupations to be studied are:

Business & Office
Accountant
Bookkeeper
Secretary

Marketing & Distribution
Market Surveyor
Cashier
Sales Manager
Salesman
Messenger
Advertising Technician
Stock Boy

Manufacturing
Custodian
Foreman
Production Manager
Inspector
Assembly Line Worker

ACTIVITIES SEQUENCE:

1. Teaching team meets with four select students--approaching them with the idea of manufacturing and selling a kite to the other students in the school.

2. Student group is divided into teams to conduct research in building and testing kites.

3. Prototype kites are built and tested with the final model being decided upon.

4. The Board of Directors select a Production Manager, an Accounting Manager and a Sales Manager.

5. Students are divided into working groups for each stage of the production and production is started.

6. Workers are rotated so that everyone can get a chance to participate in phases of the production.

7. Accountants receive the bills and accumulate and record them on ledger sheets.

8. The accounting group determines the selling price per kite.

9. Conduct an advertising and sales campaign. This includes the making of posters and the sales talk to 6th grade classrooms. Orders for kites are taken.

10. At the conclusion of the kite sales a profit and loss statement is prepared.

CORRELATION WITH OTHER DISCIPLINES:

Language Arts

Business letter writing to kite manufacturers, retailers, and American Kiteflyer's Association.

Report writing and advertising copy are included.

Social Studies

Corporation structure, cost and profit, production and sales are studied.

Reading

Books about kites, flight and business are read.

Several groups of students write comic books on the building and flying of their kites. Vocabulary and spelling skills are practiced during all phases of the project.

Science and Mathematics

Design, measurement and drawing are involved in constructing the prototype.

Principles of flight and elementary bookkeeping also stress science and mathematics.

EVALUATION:

A written test to determine increase in career awareness is administered. It tests for knowledge of titles, tools, terms, environment associated with the project. Individual subject area teachers test for outcomes in their areas of interest.

CAREER DEVELOPMENT LEARNING UNIT

UNIT TITLE: Signs, Inc.

PARTICIPANTS: Industrial Arts Teacher and 22 students of the 6th, 7th and 8th grades during the elective period.

TIME REQUIRED: 5 Hours Per Week--9Weeks

CAREER CLUSTERS: Manufacturing, Business & Office
Marketing & Distribution

OBJECTIVES:

1. The student will participate as a productive member of the group.
2. The group will manufacture and distribute a product.
3. The student will be able to list at least three factors to consider when organizing and operating a manufacturing business.
4. Several students will become leaders and direct the production line.
5. The student will be able to list three jobs associated with manufacturing.
6. The student will assume at least three different occupational roles during the activity. (assembly line worker, supervisor, inspector, etc.)

ACTIVITIES SEQUENCE:

1. Formation of the company. Teacher is chairman of the board. Students act as the Board of Directors.
2. The Board of Directors decide on a product to manufacture. The teacher guides the group in this selection. The following limitations are considered: 1) Are the other members of the class interested in this project? 2) Does the project serve some useful purpose? 3) Can it be made with standard equipment and tools? 4) Are there any parts that can not be so made? 5) Can these parts be purchased? 6) Does it lend itself to mass production methods? 7) Is the project saleable locally? 8) Does it infringe on any existing patent?

3. Students are organized into several production engineering groups to develop prototypes. Records are kept of the materials used and a cost estimate is made.

4. The groups present their solution with job breakdown and operation breakdown.

5. The final design is selected and a flow chart developed.

6. The foreman and quality control personnel are assigned.

7. Assembly line workers are assigned and trained.

8. Tooling up is completed. A test run is conducted.

9. The bulk materials are stock piled.

10. The production line is operated. Strict attention is paid to quality control.

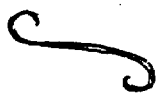
11. Sales campaign is conducted. The advertising group prepares posters and gives sales talks to class groups. Orders are accepted with payment on delivery.

12. Profit and loss statement prepared.
Signs, Inc. sold more than seventy signs at $2.25 each for a tidy profit.

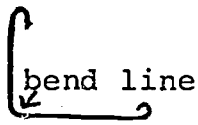
PROCEDURE - For Manufacturing Sign

1. Measure and cut strips of 5/8" band iron.
1 - 33" 1 - 23"

2. Make end bends on both pieces with 1 1/2" inside diameter. Use bending machine. Be sure to make bends on opposite sides.

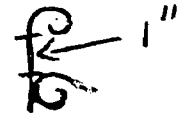


3. Measure 7 1/2" from one end of long piece and make right angle bend using bending machine.



4. Place metal pieces together in vise and drill rivet holes through both pieces at once. Leave 1" clearance for screwdriver between pieces at top.

Rivet pieces together using pop rivets.



5. Drill screw holes and sign holes as indicated on diagram.

6. Cut wood to 12" length.
7. Trace layout of design on wood using template.
8. Cut out design using band saw.
9. Sand edges of wood.
10. Stain wood.
11. Spray paint scroll work.
12. Attach screw-eyes and S hooks.

BILL OF MATERIALS FOR SIGN

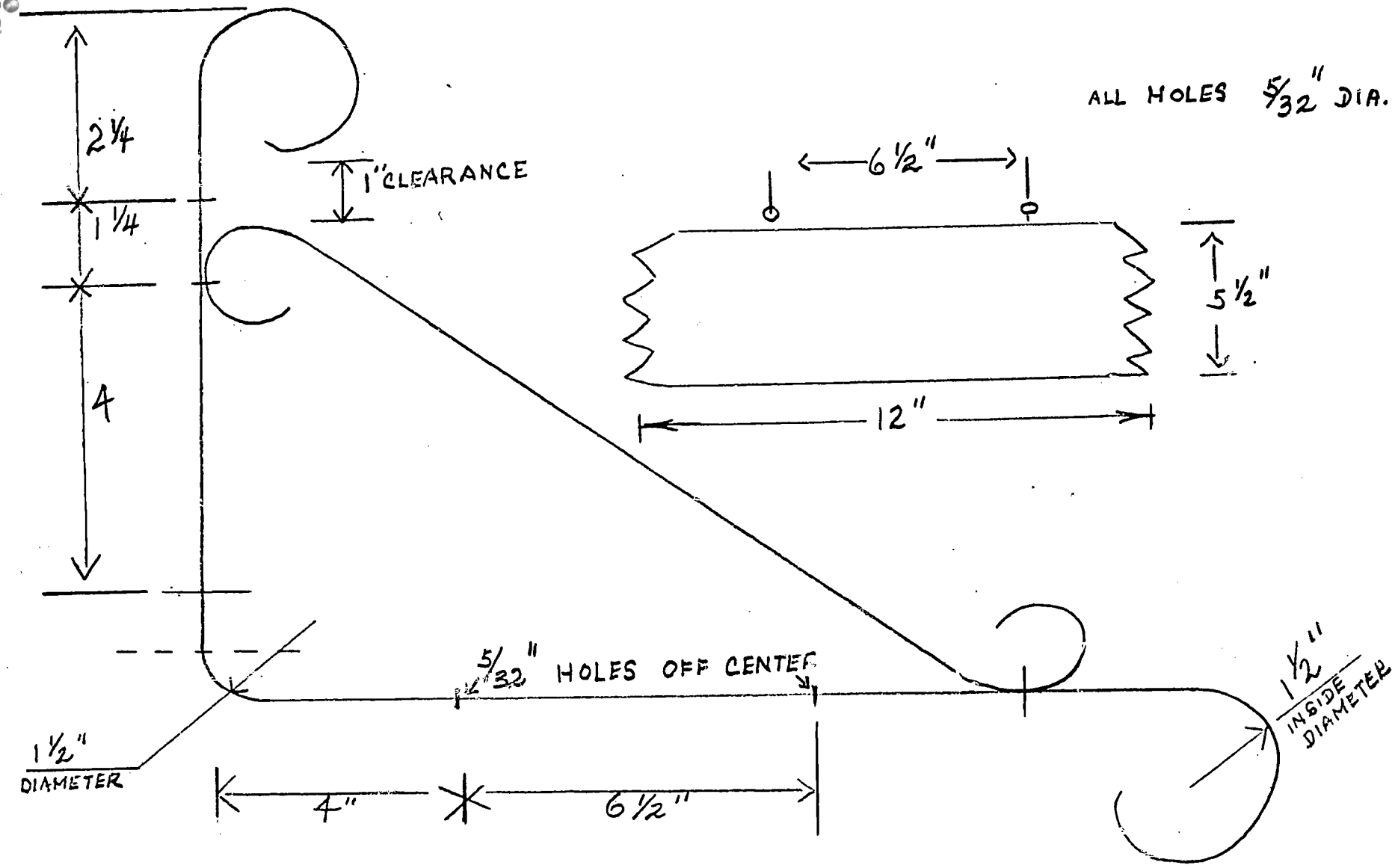
5/8" wide steel band, 1 piece 33" long, 1 piece 23" long

2 S hooks

2 screw-eyes

wood 1 x 5 1/2" x 12"

pop rivets, spray paint, wood finish


ALL HOLES 5/32" DIA.
2 1/4
1 1/4
4
1" CLEARANCE
6 1/2"
5 1/2"
12"
5/32" HOLES OFF CENTER
1 1/2" DIAMETER
1 1/2" INSIDE DIAMETER
4"
6 1/2"