

DOWNEY UNIFIED SCHOOL DISTRICT  
Middle School Course Outline

**Course Title:** Exploratory Technology (Six Weeks)

**Grade Level:** 6

**Prerequisites:** None

**Course Description:**

Exploratory Technology is an introductory course that acquaints students with technology through hands-on experiences while reinforcing the academic core curriculum. A modular instructional system is utilized in which students work in pairs, using a set of self-directed instructions that guide them through the weekly learning activity module. The activities are based upon the State's Industrial and Technology Career Path Guide and Model Curriculum Standards in the following areas: biotechnology; communication; construction; machine and tool safety; materials processing; and power - energy - transportation.

**Student Performance**

**Objectives for this**

**Course:**

BIOTECHNOLOGY

Students will

1. demonstrate the links between biology and technology.
2. investigate methods of biotechnology used with living systems.

COMMUNICATION

Students will

1. survey a variety of communication processes and systems.
2. use various processes of communication technology to communicate a message.

CONSTRUCTION/MATERIALS PROCESSING

Students will

1. survey a variety of construction processes and materials and the way these materials are used.
2. build models/projects incorporating these processes.

## **Exploratory Technology - continued**

### **TOOL SAFETY**

Students will

1. demonstrate appropriate and safe use of hand tools used in technology.  
Some of the tools may include: computers, coping saws, razor/X-acto knives, hot glue guns, paint and solvents, hammers, rasps/files, sand paper, safety glasses, drills, screw drivers, etc.

### **POWER-ENERGY-TRANSPORTATION**

Students will

1. survey a variety of transportation methods and the energy sources used for propulsion.
2. incorporate transportation technology into the design and construction of a model/functional vehicle.

## **Exploratory Technology** - continued

### **Instructional Strategies**

Students will work in pairs or small groups in self-directed learning stations or modules. Students will choose or be assigned modules which cover at least 3 of the *Student Performance Objectives* during the 6 week course. Students will complete at least 1 take-home problem-solving activity.

### **Instructional Units**

The following list provides examples of possible unit areas of study. Each unit of study is approximately 5 days. Technology is constantly evolving and thus the specific units may evolve to reflect that change. All units must fit into one or more of the *Student Performance Objectives* to be considered appropriate for this course.

- Pinewood Derby Racers
- Mousetrap Racers
- Computer Drawing and Animation
- Basic Drafting
- Video Production
- Basic Woodworking Project
- Problem Solving Activities
- Internet Activities
- Aerodynamics/flight Technology
- Engineering
- Prop Car Racers
- Multimedia

In addition to these 5 day units, the following units are to be included at the beginning of the course:

- Introduction to Technology
- Safety Measurements

### **Evaluation**

Student progress will be evaluated by:

- Completion and quality of student projects
- Attendance
- Class participation
- Written work/quizzes
- Teacher observation

### **Materials and Resources**

Teacher Resource:

Living with Technology; Hacker & Barden; Delmar Publishing Company