

Introduction to Technology

MANUFACTURING



GRADE 6

BIGELOW



MIDDLE SCHOOL
Newton, MA

ENGINEERING

TECHNOLOGY

INTRODUCTION



Every day millions of people go to work to manufacture the products and to provide the services we depend on. The companies where these people are employed function on the principle of "Team Work", without people working together, nothing could get accomplished. These businesses also need leaders to assure everyone and everything runs smoothly. These leaders, or "Supervisors", make decisions that keep the company going. Employees are hired to do specific jobs within the company.

In this activity you will all be hired as employees of our company. We will then decide on a company name and everyone will help design a cool logo. The product our company will design, manufacture, and market will be a Key Chain. Everyone will participate in the design process and everyone will vote on the best design. A CEO (president) will be randomly selected and he/she will oversee all processes. We will also select supervisors of the three Divisions in our company: Manufacturing, Quality Control / Assembly, and Marketing. These "Supervisors" will oversee what goes on in their respective group. (Remember, teamwork is the key to our success.)

For the company to be successful, the following steps must be completed.

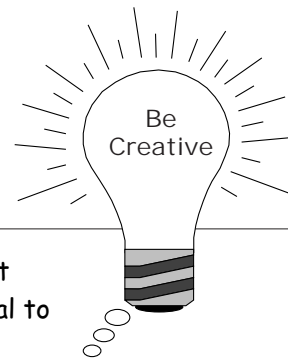
procedure

- 1. Select a company name (as a company)**
- 2. Design a company logo (Individual)**
- 2. Fill out a job application (Individual)**
- 3. Chose your preferred area of work (Individual)**
- 4. Design key chains (Individual)**
- 5. Select a key chain design (company votes)**
- 6. Manufacture the product (Manufacturing)**
- 7. Design and make the packages (Q.C./Assembly)**
- 8. Make posters, advertisements, announcements, web pages, etc (Marketing)**
- 9. Package the product (Quality Control / Assembly)**
- 10. Sell the product (Marketing)**

NAME: _____

CLASS: _____

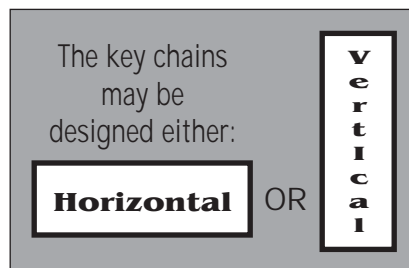
DESIGN SHEET



Use the boxes on this page (front and back) to sketch **at least 10** different designs of what you want a key chain to look like. Keep the designs simple. The key chain designs must appeal to everyone. (for instance, a key chain with a football on it would not appeal to everyone, since not all people play football).

RESTRICIONS:

- No more than 3 lines of text for horizontal designs
- No more than 6 short words



DESIGN SHEET

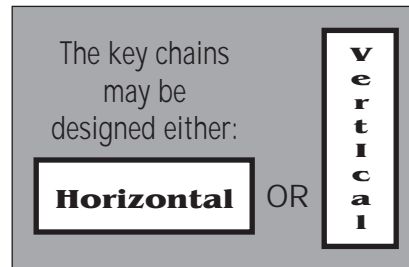
continued



Use the boxes on this page (front and back) to sketch **at least 10** different designs of what you want a key chain to look like. Keep the designs simple. The key chain designs must appeal to everyone. (for instance, a key chain with a football on it would not appeal to everyone, since not all people play football).

RESTRICIONS:

- No more than 5 lines of text for vertical designs
- No more than 6 short words



Job Application

Before you can begin work, all employees must fill out a job application. This gives the employer all the information they need about you personally and professionally. It is also a chance for you to tell the employer what you do well and to list any extra talents you might have that would help your chances in getting hired. You want to try and convince the employer that you are the best person for the job.



Personal Information

Name (Last, Middle, First)		Social Security Number (Not your real one)		Today's Date	
Your Mailing Address		City		State	Zip Code
Home Phone	Cell Phone		email Address		
Date available for work (When can you start?)		Can you come before or after school if needed? Yes <input type="radio"/> No <input type="radio"/>			
Position Desired (Circle one) Manufacturing Quality Control / Assembly Marketing		Current Salary (Allowance)		Expected Salary (Prize)	

Education (The last two Schools you attended)

Name of School Bigelow Middle School	From (Date Started - month/year)	To (Date finished - month/year)
Name of School	From (Date Started - month/year)	To (Date finished - month/year)

Additional Information

Are you over the age of 10? Yes <input type="radio"/> No <input type="radio"/>		Have you ever been enlisted in the military? Yes <input type="radio"/> No <input type="radio"/>	
Do you have any special training or skills? (Additional spoken or written languages, computer software knowledge, machine operation experience, personal relations experience, professional memberships, etc.)			
How did you hear about our company and this job opening?			
Signature		Date	
----- Do not write below this line (For office use only) -----			
Position Granted		Salary Granted	

DIVISION TASKS



Below is the sequence of events to follow in each "Division" of the mass production process. These steps should be discussed in each group and agreed upon by everyone. (You might change the list a little, before it suits the group's needs.) Then you will determine what jobs will be needed to complete all the division tasks. The Supervisor will be in charge of assigning jobs and making sure each employee stays on task.

DIVISION TASKS

JOBS

MANUFACTURING

- Make a final set of working drawings for our product
- Manufacture one prototype (this is an exact replica of the finished product)
- Develop a flow chart to represent the flow of materials throughout the manufacturing process
- Make jigs and fixtures to aid in all machining processes
- Assign individual jobs and make sure each person knows what he/she is responsible for

- Drilling Technician
- Milling Machine Engineer
- Sanding Specialist

MARKETING

- Select two colors for the key chains
- Develop a marketing scheme for our product
- Assess the consumer market to determine who we will primarily be selling to
- Design and make posters, advertisements, commercials, speeches, etc. to market our product
- Determine the cost of our product and make a spreadsheet of our expenses
- Make a cost accounting chart to record all expenses and sales progress

- Student Poster Designer
- Adult (Faculty) Poster Designer
- Announcement Specialist
- Video Commercial Coordinator
- Logo Developer

Q.C. ASSEMBLY

- Design a package for the product to be placed, protected, and marketed in
- Create the package using the computer and print out an original to be copied
- Make the packages by cutting them to size and folding them
- Develop Go / No Go gages for the inspection of each piece after each step
- Inspect all pieces being made after each manufacturing process
- Assemble the product
- Package the product

- Quality Control Inspector
- Assembling Specialist
- Computer Aided Design Engineer