

Chapter 13 Lesson Plan

Production Planning

Chapter Resources		
Textbook Activity	Teacher CD	Online Learning Center
Plan and Produce a Product Create and carry out a production plan for manufacturing a simple device.	Lesson Plan Flash® Presentation ExamView® Chapter Test	Chapter Activities Chapter Quizzes

FOCUS

Chapter 13 incorporates the various factors that comprise planning for production, planning for plant facilities, and putting the production plan into action.

Objectives

- Describe planning procedures used to achieve production efficiency.
- Name the three questions that need to be asked in a make-or-buy decision.
- Explain how the layout of a manufacturing facility is developed.
- List the advantages of making a pilot run.

Tying to Previous Knowledge

Ask the students how they might plan for a vacation. Why would anyone want to plan for such a thing? How can planning be related to manufacturing a new or improved product?

TEACH

- 1. Production flow.** Contact a local manufacturing company and ask if they will supply you with drawings that show how they planned for production flow. Put these up on a bulletin board and use them to help students understand the importance of careful planning.
- 2. Flow chart.** Make a large drawing of your classroom's floor plan and put it on a bulletin board. As study of the chapter progresses, develop a large flow chart or plan for an upcoming production project (real or theoretical) with the students.
- 3. Make-or-buy.** Provide the class with a made-up but realistic premise in which a manufacturer has to make a decision on whether to make or buy a part for the product. From student input, display a list of parameters that the students used to make a decision.
- 4. Bill of materials.** Assign the class the task of creating a bill of materials for an item found in the classroom. Try to select a product that has a few but not too many parts and in which the parts can be seen or determined without too much difficulty or disassembly. Elicit from the group what information should be included.

Chapter 13 Lesson Plan

Production Planning (continued)

ASSESS

Have students complete Chapter Test 13. Chapter tests are found in the *ExamView*® Assessment Suite on this Teacher Resource CD-ROM.

Reteach

1. Why does NASA use simulations? Why might a research scientist use a simulation? Why might a manufacturer use a simulation? Can it be that in all three instances, the goal(s) might be very similar?
2. Divide students into teams and assign roles. Pose questions to the teams to direct them to a problem area that needs a solution, which can be provided by a product they design. Examples might be: “What can be done about all the messy lockers in our school?” (locker organizer) or “Do you have CDs lying around in your room at home?” (compact disc racks).

Enrich

1. This chapter presents the ideal opportunity to plan a small mass production project with your students. Refer them to the problem-solving process discussed in Chapter 3. Explain that the problem-solving process can be used to invent a simple product that might solve a common problem facing students.
2. Discuss with the class: A pilot run will no doubt save time and money in the long run. Why is that so significant to a manufacturer? Why is it okay to invest some resources in the pilot run?

REFLECT

One of the major concerns in seeking to establish a manufacturing plant is to ensure that it is compatible with the structures and types of businesses around it. How does the community try to make sure that the final decision is a good one? What can the manufacturer do to help gain approval to build?