

Chapter 16 Vocabulary

Write definition and one sentence for each word in notebook.

1. Product Development
2. Prototype
3. Gantt Chart
4. PERT Diagram
5. Quality Control
6. Quality Circle
7. Productivity
8. Automation
9. Logistics
10. Common Carrier
11. Contract Carrier
12. Private Carrier
13. Freight on Board

Production Management and Distribution

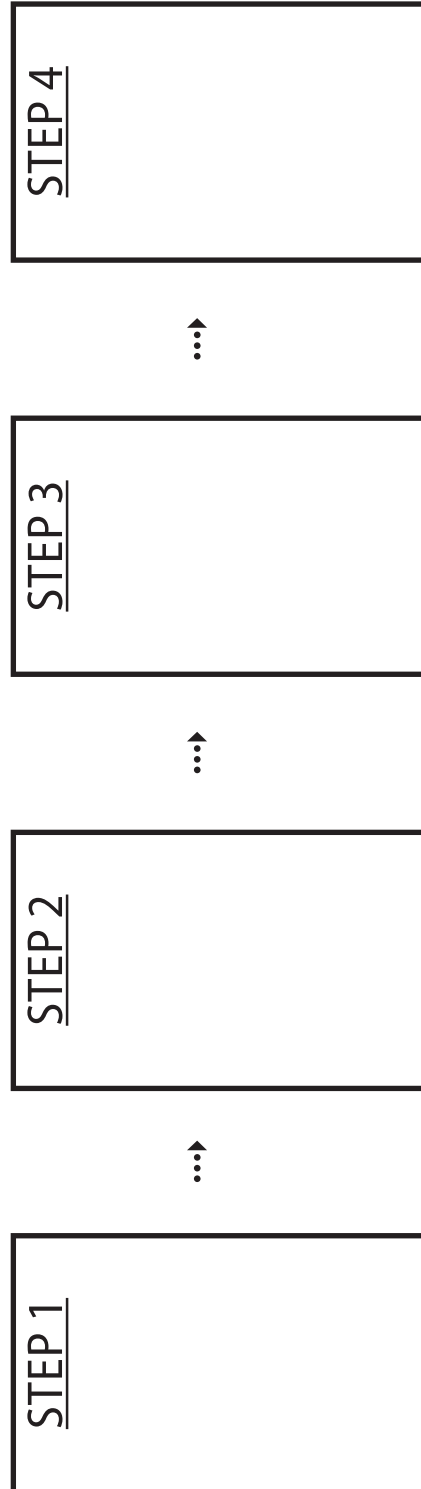
CHAPTER

16

Section 16.1 From Idea to Product

Directions Write the four steps of product development.

The Four Steps of Product Development



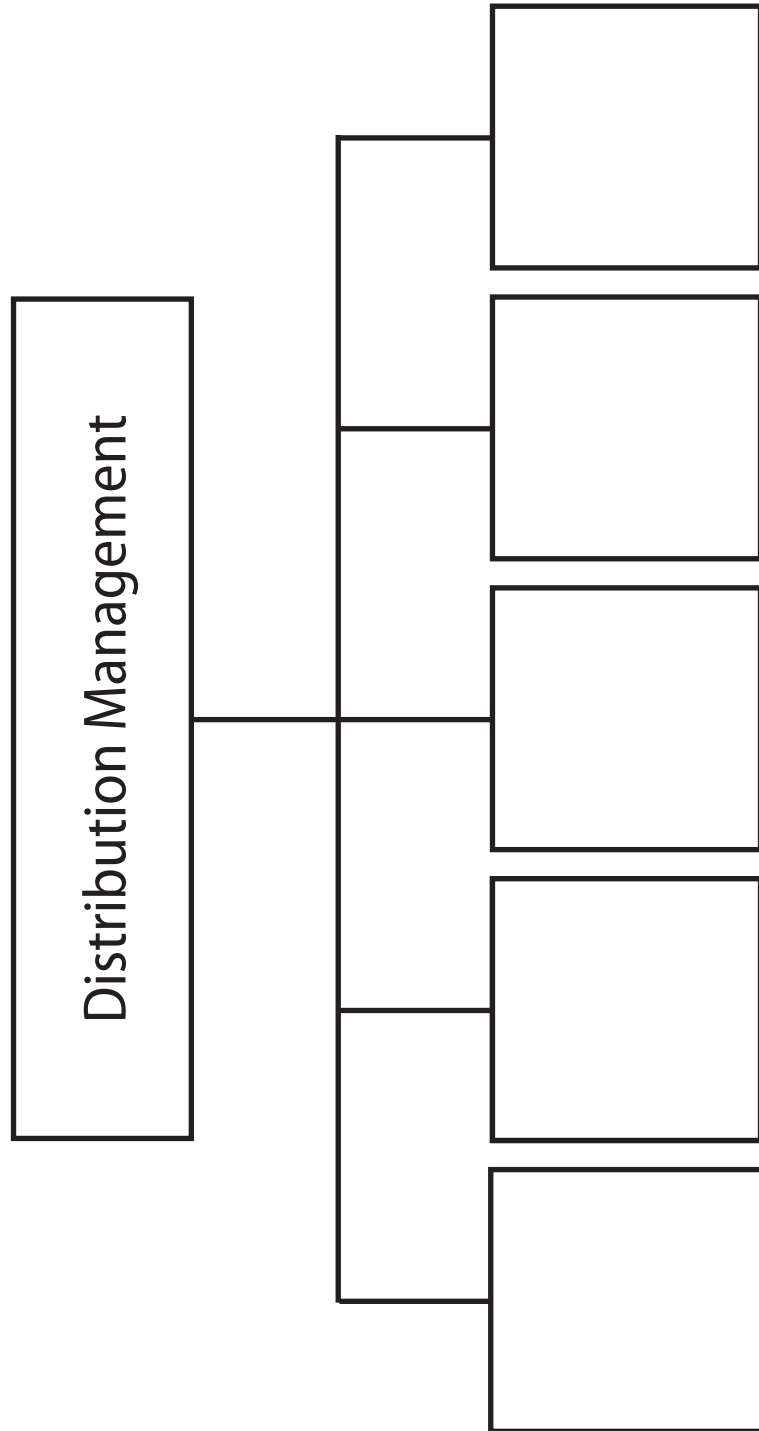
Production Management and Distribution

CHAPTER

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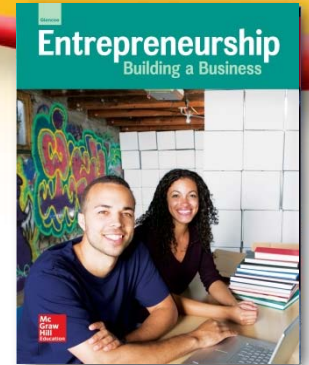
Section 16.2 Production and Distribution

Directions Write the five components of distribution management..



CHAPTER
16

Production Management and Distribution



Section

16.1

From Idea to Product

Section

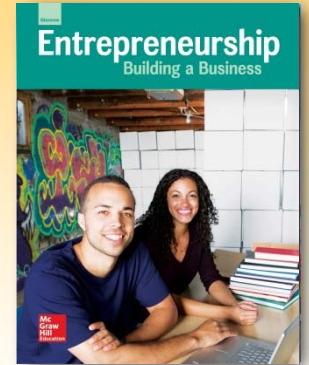
16.2

Production and Distribution

SECTION

16.1

From Idea to Product



Product Development for Entrepreneurs

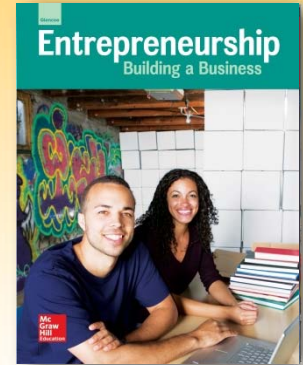
The transformation from idea to marketable product is a lengthy process.

Entrepreneurs must learn how to develop new products with limited resources.

SECTION

16.1

From Idea to Product



What is Product Development?

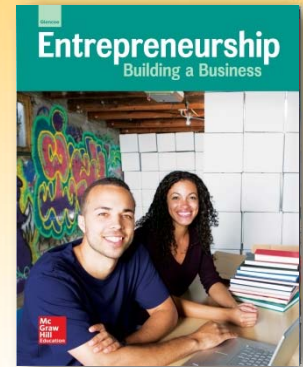
Some people consider **product development** to be the riskiest part of start-up of a new small business.

product development
the process of creating new or improved products

SECTION

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From Idea to Product



Outsourcing Product Development

No matter what they are producing, entrepreneurs can use **outsourcing** to reduce the cost of product development.

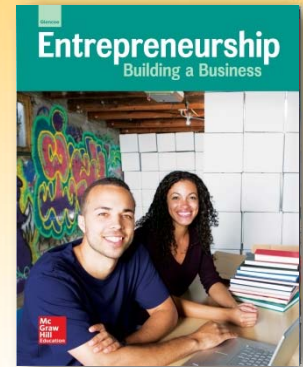
outsourcing

hiring people and/or other companies to handle tasks a business cannot do or chooses not to do itself

SECTION

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From Idea to Product



The Product Development Process

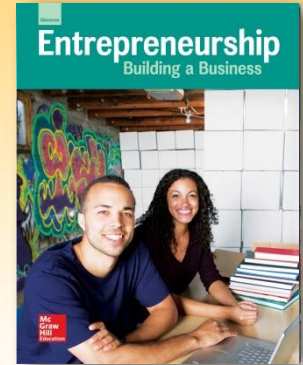
The four steps of product development are:

1. opportunity recognition
2. concept investigation
3. product design
4. prototype building and testing

SECTION

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From Idea to Product



The Product Development Process

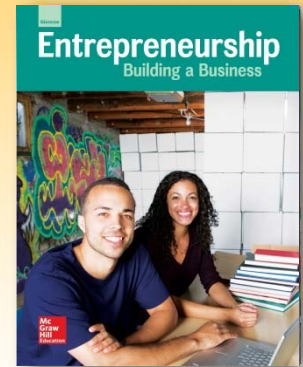
Product development is not a linear process.

An entrepreneur may start developing a product and along the way discover something new that changes the direction of development.

SECTION

16.1

From Idea to Product



The Product Development Process

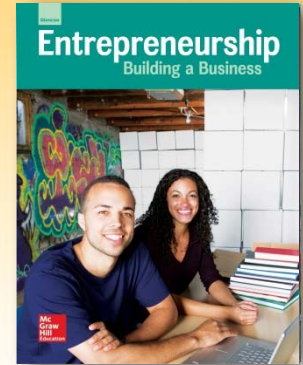
A **prototype** may not look like the final product, but should work like the final product.

prototype
a working model of a product

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16.1

From Idea to Product



Designing It Right the First Time

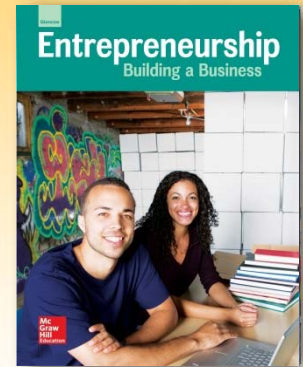
There are three good reasons for designing a product right the first time:

1. the cost of the design
2. the quality and marketability of the product
3. the time to launch

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From Idea to Product



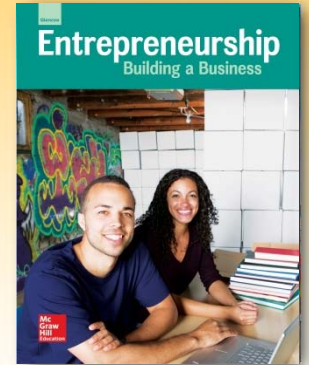
Production Management

Once you have developed a prototype, you are ready to plan production.

SECTION

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From Idea to Product



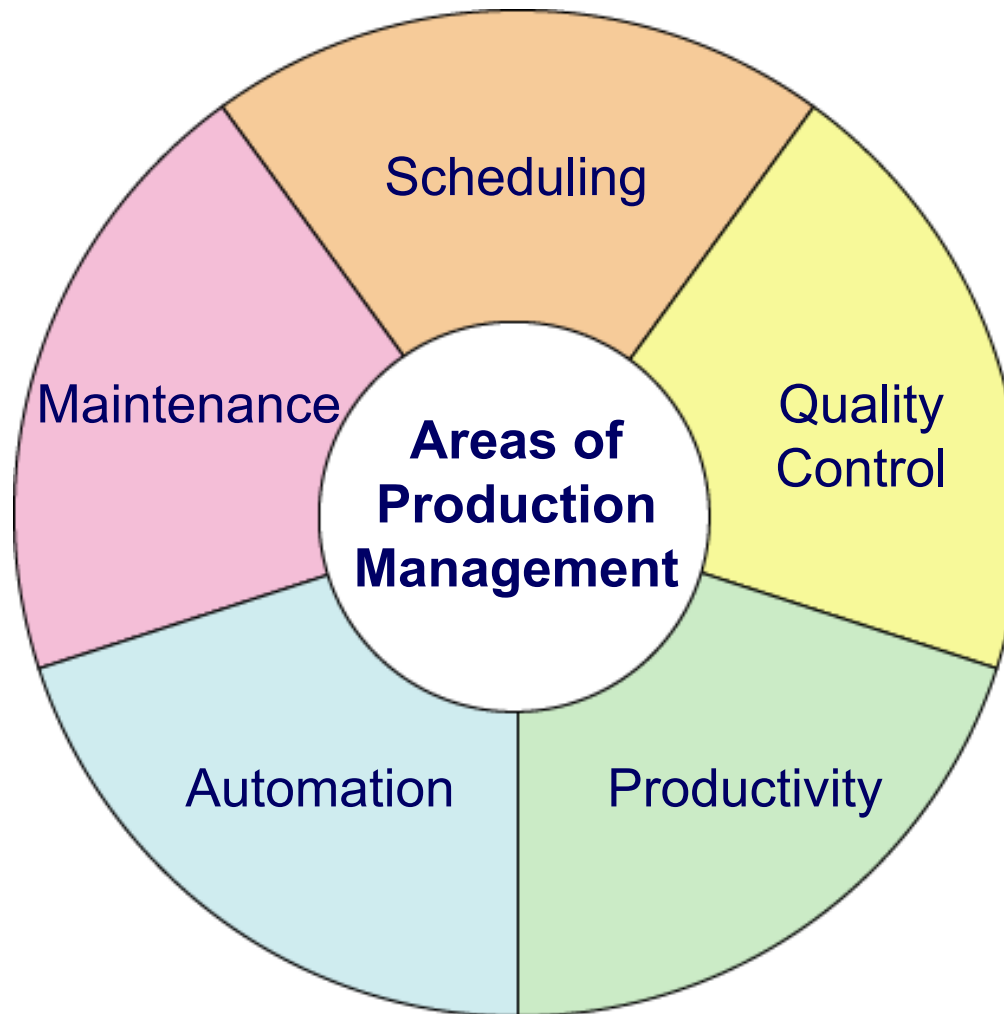
Production Management

Production management involves three functions:

1. acquiring the resources needed to create a product,
2. planning how to convert those resources into products, and
3. making sure the products meet the standards set for them.

Graphic Organizer

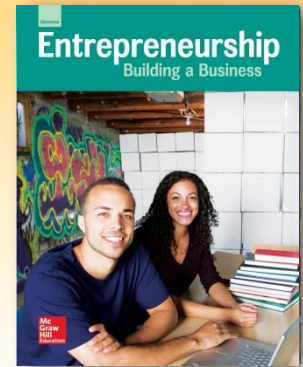
Production Management



SECTION

16.1

From Idea to Product



Scheduling

Businesses plan their production by making schedules.

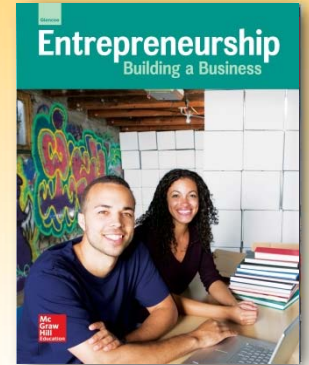
These schedules describe each activity that must be completed to produce goods or services.

SECTION

16.1

From Idea to Product

Scheduling



A **Gantt chart** is an effective way to depict basic information about a project.

Gantt chart

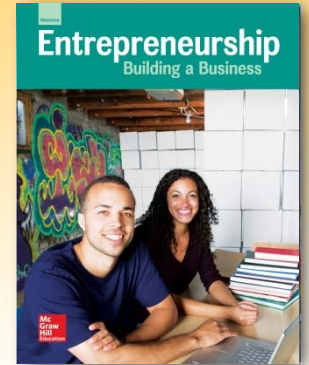
a graphic schedule of a project's phases, activities, and tasks plotted against a timeline

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Scheduling



The longest path through a **PERT diagram**, the critical path, dictates the length of time needed to complete a project.

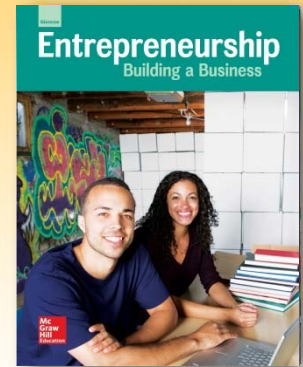
PERT diagram

a project schedule that is arranged in a diagram, used for scheduling complex projects

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From Idea to Product



Controlling Quality

Quality control takes time and costs money, but it is a way to ensure customer satisfaction.

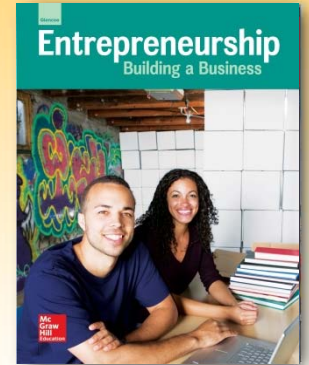
quality control

the process of making sure the goods or services a business produces meet certain standards, such as appearance, performance, and consistency

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From Idea to Product



Controlling Quality

A **quality circle** is an effective way of improving quality because it requires employees to be responsible for their work.

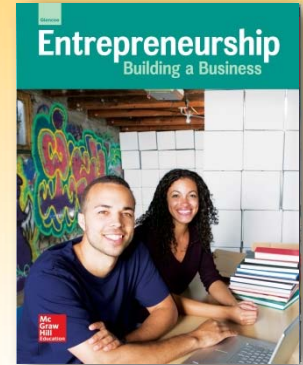
quality circle

a small group of employees who do similar jobs and meet regularly to identify ways to improve the quality of what they do

SECTION

16.1

From Idea to Product



Managing Other Areas of Production

Businesses use **productivity** rates to measure and improve performance.

Automation can cut production time, reduce errors, and simplify procedures.

automation

the use of machines to do the work of people

SECTION

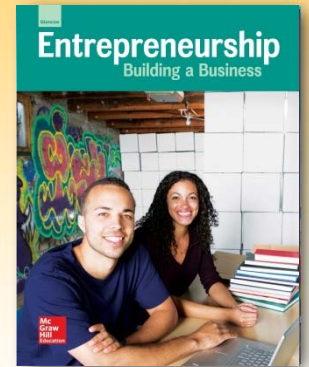
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From Idea to Product

Distribution Management

Distribution management includes:

- transportation
- shipping and receiving
- storage and warehousing
- materials handling
- delivery terms

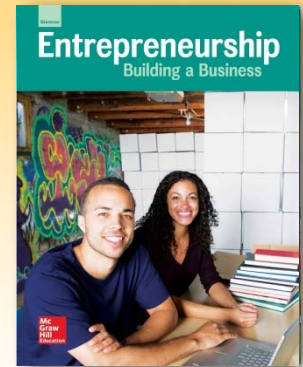


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From Idea to Product

Transportation



Logistics involves figuring out how to move a product from the producer to the customer.

logistics

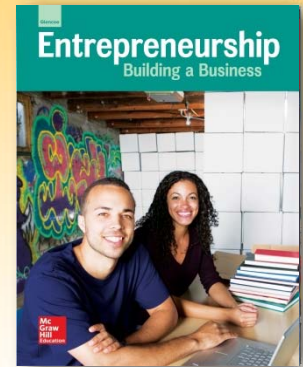
the planning, execution, and control of the movement and placement of people and/or goods

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From Idea to Product

Transportation



A **common carrier** is hired by businesses to transport products.

common carrier

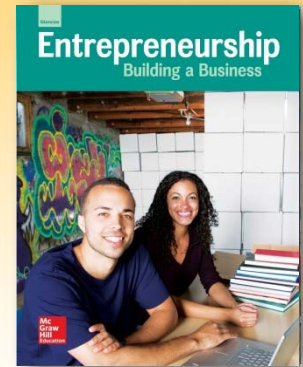
a firm that provides transportation services at uniform rates to the general public

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Transportation



A railroad is a **contract carrier**.

contract carrier

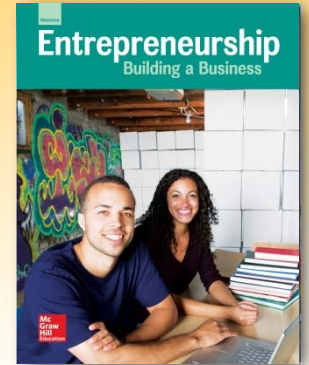
a shipping company that transports freight under contract with one or more shippers

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From Idea to Product

Transportation



A **private carrier** is a privately owned and operated delivery vehicle.

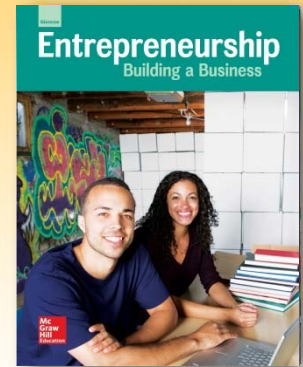
private carrier

a business that operates its own vehicles for the purpose of transporting its own products and materials

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From Idea to Product

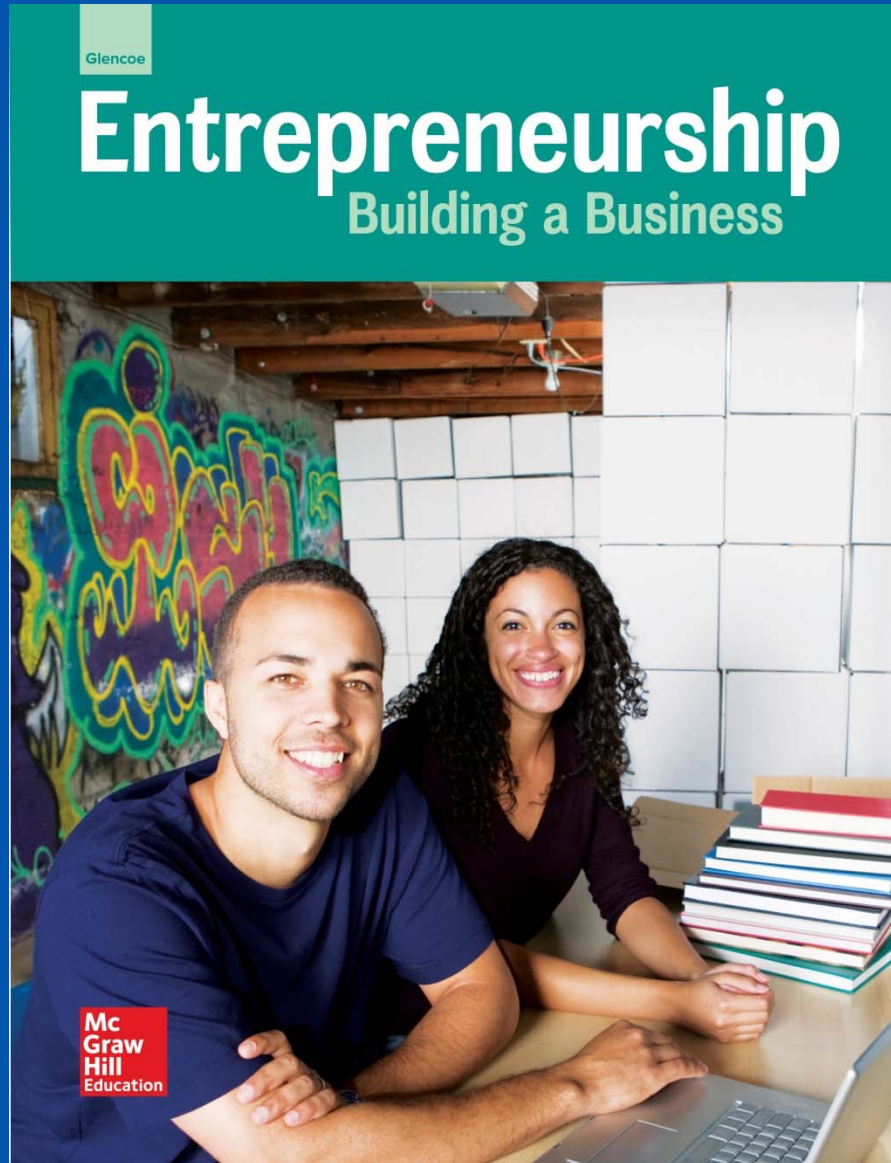


Delivery Terms

The most favorable delivery term for a small business is **free on board (FOB)**.

free on board (FOB)

a delivery term that designates a shipment as delivered for no additional charge to a buyer



End of

Chapter 16

Production Management and Distribution

Chapter 16 Production Management and Distribution

Academic Integration Activity



English Language Arts Reading Skills

Directions Circle the letter next to the word or phrase that best completes the sentence.

1. A working model of a product to test with actual customers is called _____.
 - a. product development
 - b. a prototype
 - c. a Gantt chart
 - d. quality control
2. Federal Express and United Parcel Service are examples of _____.
 - a. contract carriers
 - b. logistics
 - c. common carriers
 - d. private carriers
3. Received shipments are checked for _____.
 - a. discrepancies in quantity, price, and discounts
 - b. damage
 - c. a Gantt chart
 - d. delivery terms
4. A market research company being contracted to do customer tests of another company's prototype is an example of _____.
 - a. timing the launch
 - b. opportunity recognition
 - c. outsourcing
 - d. concept investigation
5. It is useful to schedule complex projects in the form of _____.
 - a. a quality circle
 - b. a Gantt chart
 - c. a prototype
 - d. a PERT diagram
6. Using machines to do the work of people is called _____.
 - a. outsourcing
 - b. automation
 - c. machinery maintenance
 - d. logistics

Chapter 16 Production Management and Distribution

Case Study Activity

Increasing Production

Directions Read the *BusinessWeek* Case Study feature in this chapter. Then read the scenario and complete the table.

Assume you are a production assistant for Optimo Fine Hats. As Optimo plans to ramp up its production from 36 to 100 hats per week to stock its new stores, your job is to give a rough estimate of the increased weekly production expenses.

First, calculate the percentage increase from 36 hats to 100 hats: _____

Use the calculated percentage to complete the table.

| Expense | Original Cost per Week | Multiplied by | New Cost per Week |
|------------------------|------------------------|---------------|--------------------|
| Straw (for straw hats) | \$775 | | |
| Wool felt | 1,050 | | |
| Peachbloom felt | 1,425 | | |
| Fur felt | 1,540 | | |
| Machinery upkeep | 275 | | |
| Labor | 12,300 | | |
| Transportation | 1,835 | | |
| Store rent | 2,000 | | |
| Storage | 230 | | |
| Total | \$21,430 | | \$59,575.40 |

Chapter 16 Production Management and Distribution



Test Prep

Understanding Essay-Test Words

Directions Read the tips for understanding essay test words, then answer the questions.

UNDERSTANDING ESSAY-TEST WORDS

Verbs are key words in essay-test questions and directions. Note the differences between the meanings of these verbs, and keep them in mind when completing an essay test or assignment:

- To *evaluate* means to look at the limitations and contributions of an idea.
- To *explain* means to make the meaning of an idea clear.
- To *justify* means to give reasons why an idea was stated.
- To *outline* means to list the main points of an idea.
- To *summarize* means to give a shortened version of an idea.

1. Explain why the product development process is considered by some the riskiest part of starting a business.

2. Outline the questions small business owners need to consider when deciding whether to handle logistics themselves or outsource it.

3. Summarize why using a Gantt chart can help an entrepreneur get through a project.

4. Justify a decision by a company that provides bungee jumping to enact a quality control program.

Entrepreneurship Chapter 16 Study Guide

Indicate the answer choice that best completes the statement or answers the question.

1. Private companies that ship their own goods are called
 - a. common carriers.
 - b. private carriers.
 - c. contract carriers.
 - d. postal carriers.
2. A process that includes managing transportation, storage, materials handling, and delivery terms.
 - a. distribution management
 - b. time management
 - c. total quality management
 - d. situational management
3. Carriers the general public can use.
 - a. private carriers
 - b. FOB
 - c. contract carriers
 - d. common carriers
4. A system for verifying and maintaining the desired standards in a product or service is called
 - a. quality circle.
 - b. inspection.
 - c. automation.
 - d. quality control.
5. A working model of a product is called a
 - a. profile.
 - b. carrier.
 - c. product development.
 - d. prototype.
6. A key factor in production management is
 - a. materials handling.
 - b. machinery maintenance.
 - c. transportation.
 - d. storage.
7. The details of a product's movement from the manufacturer to the customer are called
 - a. automation.
 - b. prototype.
 - c. logistics.
 - d. outsourcing.
8. Carriers that have a contract with a particular shipper to handle their goods are called
 - a. contract carriers.
 - b. common carriers.
 - c. postal carriers.
 - d. private carriers.

Enter the appropriate word(s) to complete the statement.

9. Small business owners can reduce the cost and risks involved with product development by _____.
10. _____ development is considered the highest risk part of start-up for a small business.
11. The three functions of _____ are acquiring the resources needed to create a business's products, planning how to convert those resources into products, and making sure that the products meet the standards set for them.
12. Quality circles and _____ are two ways to ensure quality products.
13. Businesses use _____ and PERT diagrams to schedule production.

Name: _____ Class: _____ Date: _____

Entrepreneurship Chapter 16 Study Guide

14. The four steps in product development are opportunity recognition, _____, designing the product, and prototype building and testing.

15. The _____ involves managing productivity, automation, and preventative maintenance.

16. _____ is the physical movement of the product from the manufacturer to the customer.

Match each item with the correct statement below.

a. PERT diagrams

b. outsourcing

c. automation

d. FOB

e. quality circles

f. product development

g. Gantt chart

h. productivity

17. scheduling chart that shows tasks to be performed on the vertical axis and time required on the horizontal axis

18. groups of employees who meet to solve problems involving product quality

19. the process of taking an idea, designing it on paper or computer, building a model, and testing it

20. a measure of how much a business can produce

21. the use of machines to do the work of people

22. the hiring of people and companies to handle tasks a business doesn't have the ability to do

23. the seller pays all freight costs

24. scheduling diagrams that show a project's major activities in sequence

Write a 100-word paragraph that answers the following:

25. Discuss the four steps in product development.